

**GIOFAM SEBRIGHT QUARRY
APPLICATION UPDATE AND
COMPREHENSIVE RESPONSE TO
PUBLIC AND AGENCY COMMENTS**

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P/N 05-2019

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Revised Concept Plan March 11

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1.0 INTRODUCTION

This document has been prepared to provide an update on the status of the applications for the Proposed Giofam Sebright Quarry under the Planning Act and the Aggregate Resources Act, and to respond to the public and agency comments received by the City of Kawartha Lakes and the applicant through the processing of the applications for Official Plan and Zoning By-law Amendments.

The responses have been prepared by the applicant and its consulting team. They include all of the information provided by the applicant to the objectors under the Aggregate Resources Act (ARA) licence process in March, April and May 2011. The responses are provided in order from the issue or group of related issues cited in the most comments to those issues noted in the least number of comments.

During the process of addressing the objections to the ARA application, including those related to species at risk, a number of revisions were made to the technical reports and the proposed Site Plan. The Revised Concept Plan March 2011, is included as Appendix A.

- The proposed site entrance was relocated as recommended by the City of Kawartha Lakes to provide better sight distances and a safer intersection.
- The area to be extracted was reduced from 4 phases on 50 hectares to 2 phases on 23 hectares following additional study regarding Species at Risk.
- Provisions for protection of wildlife with specialized fencing, and seasonal operational restrictions and cautions were added to the Site Plan.
- Increased fencing of the southerly boundary of the site was added, and rehabilitation of the quarry slopes was revision the Site Plan in response to MNR's comments.
- The hours of operation were revised to conform to the City of Kawartha Lakes Noise By-law, and to prohibit shipping of aggregate on Friday after 3:00 pm and all day Saturdays, Sundays and holidays.
- The "related uses" were relocated from lands adjacent to Monck Road to within the licence.
- A Dust Management Plan was prepared for the operation and implemented on the Site Plan.
- All additional recommendations of the revised technical reports were added to the Site Plan as required under the Aggregate Resources Provincial Standards.

In addition, in correspondence to the City of Kawartha Lakes dated April 19, 2011, the applicant confirmed: *"The requirement for improvements to Monck Road through a Haul Route Agreement with the City has been identified on the Site Plan. We will continue to work with the City to identify the terms of the Agreement and the design parameters for the improvements."*

2.0 APPLICATION STATUS AND NEXT STEPS

2.1 Application Chronology

The table below provides a summary of the steps that have been completed to date relative to the applications.

	Aggregate Resources Act Licence Application	Planning Act Applications for Official Plan and Zoning By-law Amendments
March 29/06		Pre-application meeting with City of Kawartha Lakes (CKL)
October 26/07	Site visit with Ministry of Natural Resources (MNR)	
April 10/08		Pre-application meeting with CKL
October 14	Application Submitted	Application Submitted
November 28		Applications deemed Complete
February 13/09		Notice of Public Meeting
March 11		Statutory Public Meeting
April 7		Peer Review received
May 23	Information Meeting with neighbouring residents	
May 26	Circulation/Notification	
June 8	Application posted on Environmental Bill of Rights Electronic Registry (EBR)	
June 17	Public Information Session	
July 10	End of Notification/Circulation Period	
July 23	End of comment period on EBR	
September 4		Update on status and response to the Peer Review to CKL
November 12		Update on status to CKL
April/10 – October	Field work on Species at Risk	
October–March/11	Preparation of draft application for ESA Permit	
March 31	First response letter to Objectors	
April 19	Second response letter to Objectors	
April 28	Recommendations and 20 day notice to Objectors	
May 20	End of 20 day notice period – more than 30 letters with unresolved objections received	
June 6	Revision to Site Plan to address MNR comments April 17/11	
June 14	Required documentation sent to MNR	

The applicant's requirements under the ARA have been completed.

No decisions have been made by the City of Kawartha Lakes on the applications under the Planning Act.

An application for a Permit under Section 17(2) the Endangered Species Act has been prepared and submitted to the MNR. Posting of the application on the Environmental Bill of Rights electronic registry by MNR is anticipated in the near future.

2.2 Next Steps

When the Permit under the Endangered Species Act is issued, the applicant will request that the City of Kawartha Lake proceed with decisions on the Official Plan and Zoning By-law Amendment applications.

Given the outstanding objections to the ARA application, MNR has advised that the application will be referred to the Ontario Municipal Board (OMB) once the City of Kawartha Lakes has made a decision on the Zoning By-law.

If the City's decisions are appealed to the OMB, a joint hearing of the MNR referral and the appeals will be requested.

3.0 RESPONSE TO COMMENTS

3.1 Traffic and Haul Route

The proposed haul route for the quarry is along Monck Road, and Simcoe County Roads 45 and 169, which are all designated Arterial roads in the relevant Official Plans. This is the most direct route to the provincial highway system.

In correspondence to the City of Kawartha Lakes, the Township of Ramara commented that traffic from the proposed quarry should use the B-C Concession, a designated Haul Route in the Township. County staff expressed support for this comment in the May 12, 2009. The B-C Concession Road was constructed by and for the aggregate operations located within approximately 3 kilometres of County Road 169. There is approximately 4.5 kilometres of that road allowance that is not open and travelled as a public road. Therefore, at this time it is not a viable option for the proposed quarry. In addition, at the Public Information Session held on June 17, 2009, and in letters of objection, residents of Sebright and the City of Kawartha Lakes Council expressed concerns about traffic being routed onto the B-C Concession within Sebright, and about the potential for a connection to Monck Road east of Sebright due to the environmentally sensitive area around Young Lake.

The original Traffic Impact Study (March 2008) and Revised Traffic Impact Study (April 2011) use the accepted practices relative to background traffic counts and Ministry of Transportation criteria. The Revised Study includes traffic data from Simcoe County for 2008 and 2010 for Monck Road. The data indicates a general decline in traffic volume on the haul route over the last decade. The predicted traffic of 71 truck trips per day represents an increase of approximately 7% on Monck Road, and 3% on County Road 45 over the calculated average daily traffic volumes for 2012.

The City of Kawartha Lakes Operations Division reviewed the original Traffic Impact Study, March 2008, and provided comments that were presented at the Statutory Public Meeting March 11, 2009. The comments confirmed the proposed haul route. No deficiencies in the capacity or design standard of Monck Road to accommodate the predicted traffic volume were identified. We were advised at a meeting with City of Kawartha Lakes Operations Division staff in July 2009 that the City's comments related to additional pavement depth on the 2.0 kilometre section east of Sebright was to be addressed through stimulus funding from senior levels of government.

The requirement for an east bound left turn lane and a west bound acceleration lane at the entrance, along with a Haul Route Agreement was also identified. Although the traffic volumes do not warrant a left turn lane, in the interests of everyone's safety, Giofam intends to enter into an agreement with the City of Kawartha Lakes related to the required improvements to Monck Road at the proposed entrance.

To address concerns related to potential impacts on tourist traffic, the hours of operation specified on the Site Plan have been revised so that no shipping will occur after 3:00 pm on Friday, or on Saturdays, Sundays and holidays.

Giofam retained Church and Trought Inc. in 2009 to prepare a Dust Management Plan for the quarry. Recommendations of the Plan related to the access road include: paving from Monck Road to 200 metres north; maintenance of the road to minimize the accumulation of fine material; a maximum speed limit; and the application of dust suppressant as necessary. The recommended mitigation measures are shown on the Operation Plan Dwg. 2 of 5 and on the Details Dwg 5 of 5.

The provision of turning/acceleration lanes on Monck Road at the entrance will provide a wider pavement surface for turning trucks, reducing travel on the shoulders which generates dust.

The access road will be utilized for stacking of trucks when necessary and will be posted "No Idling" to minimize emissions.

3.2 Natural Environment, Wildlife and Endangered Species

Biologists that are employed by RiverStone Environmental Solutions Inc. have been working with Giofam Investments Inc. since October 2003 on the proposed development of a Category 2, Class A quarry near Sebright Ontario. During the field investigations conducted between 2003

and 2011 (hours and dates detailed in Table 2 and Appendix 5 of the Natural Environment Report), it was determined that several significant natural heritage features and functions occurred on the subject property. The features identified include species of conservation interest (fish, Endangered and Threatened species, and Special Concern species). Any identified significant features, and species of conservation interest along with their associated habitat, were evaluated with respect to the potential for impacts from the proposed quarry. The recommendations contained within this report (summarized below and under QE II Wildlands Park) are intended to mitigate the potential negative impacts on the identified features and their associated ecological functions.

The key findings contained in the Natural Environment Report, dated April 2011, as well as additional comments are as follows:

- The three main watercourses (Watercourses 1 and 2 and the Cranberry River) and the southern Monck Road drainage features can be protected by implementing the recommended mitigation measures. Maintaining the quality and quantity of water within the watercourses throughout the life of the quarry can be ensured by following the monitoring protocols provided in the Updated Performance Monitoring Plan.
- The fish habitat identified on the subject property corresponds to a forage fish community in the smaller watercourses (1 and 2) and open-water portions of the online wetlands, and a warmwater fishery in the Cranberry River. Fish and fish habitat will not be affected by the proposed development provided the recommendations contained in this report are implemented (i.e., maintenance of riparian buffers, blast monitoring, control of water quality and quantity, and compliance with the federal and provincial legislation relating to fish and fish habitat).
- A considerable portion of the subject property either functions, or has the potential to function, as habitat for Endangered and Threatened species. Consequently, extensive studies were conducted to determine how the proposed quarry could be developed in a manner that would ensure the continued use of the subject property by the identified species. These studies have resulted in substantial changes to the proposed quarry. In addition to ensuring the resident populations of Endangered and Threatened species remain viable, measures to achieve an “overall benefit” for affected species have been proposed as part of a permit application under the provincial Endangered Species Act.
- With regard to those species designated Special Concern (i.e., the third level within the Species at Risk group), detailed evaluations were also completed. Regarding the question of whether the habitat of some of these species would qualify as Significant Wildlife Habitat, and thus invoke consideration under policy 2.1.4 of the PPS, it is RiverStone’s opinion that it would not, as per the methodology outlined in the most recent Natural Heritage Reference Manual (OMNR 2010). Based on these evaluations, it is RiverStone’s conclusion that as long as the recommendations made in this report are implemented, any

impacts on these species and their habitat will be acceptable given the relevant legislation and policy requirements.

- As detailed and mapped in this report, a wetland system with high natural heritage value and ecological function occurs on the subject property. None of the wetlands has been evaluated using the Ontario Wetland Evaluation System; therefore, none of them has been designated Provincially Significant (i.e., a PSW). Despite this lack of formal evaluation, the natural heritage features within this wetland system, as documented by RiverStone, indicate that the wetlands within the subject property and adjoining lands would be designated provincially significant if evaluated. Accordingly, RiverStone has evaluated potential impacts on the wetland system, and made recommendations to ensure its protection following the policy requirements that would be in effect if the wetlands were formally designated provincially significant.
- No other ecological communities recognized as being provincially or locally rare were identified on the subject property or adjoining lands. Botanical survey results are included in the Natural Environment Report (RiverStone 2011) in Appendix 8.
- The final rehabilitation plan for the quarry will provide open water habitat for waterfowl. The rehabilitation plan has also been developed to include some areas of shallow habitat for aquatic, semi-aquatic, and terrestrial species via slopes and ledges. The final plan will also preserve the surface water drainage patterns to Watercourses 1 and 2 through the careful placement of lake outlets.

Based on the findings presented in the Natural Environment Report, including the review of relevant environmental policy and legislation at federal, provincial, and municipal levels, RiverStone is of the opinion that the proposed quarry development plan will conform to these policies and provisions provided the recommendations contained herein are implemented. The required Official Plan and Zoning Amendments will allow for the proposed land use, while still preserving the Significant Natural Heritage Features identified on the subject property.

Detailed field work was completed between 2009 and early 2011 to address Endangered and Threatened species on the subject property. Species and their habitat that were identified to have the potential to be adversely affected by the quarry activities were studied using species-specific methodologies on the property by qualified professionals. Consideration and review of reasonable alternatives to address Endangered and Threatened species was completed with Giofam Investments Inc., and changes have been included in the Site Plan to try to achieve avoidance. The changes are significant and include the removal of two phases of extraction from the original Site Plan that covered a large area of granite. Additional measures have been included in the Site Plan to minimize adverse effects. For those species likely to be adversely affected by the proposed quarry activities, an application for a Permit under Section 17 (2)(c) of the Ontario Endangered Species Act (ESA) has been submitted to MNR for review. This application proposes measures to achieve overall benefit for the affected species. Due to the sensitivity of the information collected as part of the detailed studies, material has been provided only to the MNR for screening. The application will be posted on the Environmental Registry by

MNR. We are advised that a licence under the Aggregate Resources Act will not be issued until the Permit is approved. The Permit will not be issued unless the approval committee is satisfied that actions will be taken to ensure overall benefit to the relevant Endangered and Threatened species.

3.3 Groundwater and Water supply

Monitoring of groundwater elevations on and adjacent to the site has been ongoing since 2004, to establish base line conditions. Monitoring well elevations were surveyed to a geodetic elevation which allowed for an effective establishment of the direction of groundwater and surface water movement, and hydraulic gradients. Based on this information, and the information collected with respect to local wells by Jagger Hims, now Genivar, it is anticipated that potential detectable drawdown should not extend more than 50 metres from the extraction areas. “Worse-case conditions’ are predicted only south of Phase 2 for a distance of about 1 km from Phase 2.

The ‘worse case’ scenario is based on a 1 m reduction in the natural water table level, test results at one well location that were notably different than at the other locations tested, and did not account for the positive influence of the groundwater divide between the proposed quarry and Monck Road. For most drilled wells a 1 m reduction in the water table level will not have a detectable effect on the well use. Therefore, as noted in the Updated Hydrogeological Evaluation, detectable drawdown effects beyond the quarry property boundary are not anticipated. Performance monitoring, which includes wells within 1 km of the proposed quarry property, will allow for an ongoing assessment of the predictions and, if there is an adverse effect to water well use, a new or deeper well and ancillary equipment would be installed at the cost of the operator.

Water use for the quarry will initially be minor as no dewatering will be required. As extraction will progress with time, the monitoring will allow for the assessment of operations prior to extraction below the surrounding watercourse elevations and then as the quarry progressively becomes deeper and larger. In the event an adverse effect to water resources as a result of the quarry is detected, contingency measures are identified that can be implemented to re-establish baseline conditions, including modification of the quarry operations.

Water required for operational water management such as dust control and aggregate washing will be obtained from the Settling Pond or an on-site production well. Most water from the Settling Pond will be reused with about 84% to 98% of water used for operations returned to the Settling Pond. No water would be removed from watercourses or wetlands. If insufficient water is available for operations, quarry operations would be modified, aggregate washing would be delayed, and/or alternative dust suppressants used.

On-going monitoring of monitoring wells on the site and adjacent Giofam properties will allow for an assessment of any quarry effects. Monitoring of wells on adjacent properties within 1 kilometre of the licence boundary will be completed on an annual basis with the owners’ permission, and the monitoring information provided to the owners. The proposed 1 km

monitoring radius is based on 'worse-case' conditions. It is predicted that the detectable drawdown should not extend more than 50 m from the extraction areas. Through the monitoring of dedicated on-site monitoring wells and private water wells within 1 km of the quarry, monitoring at a greater distance is not technically required.

The extraction will commence in Phase 1, approximately 400 metres from the closest wells, and move toward the north. Several years of monitoring data will be collected from the on-site monitoring wells and the adjacent property wells providing an opportunity to identify changes in groundwater levels prior to the extraction moving toward the south.

The amount of water proposed for dewatering will progressively increase from an average of about 131,000 L/day during the removal of the rock knobs (Phase 1A) up to 390,000 L/day upon completion of the quarry (Phase 1/2). Operations could require an average water use of between 34,000 L/day to 265,000 L/day. About 87% to 98% of this water will be reused. The small percentage that is consumed is lost to evaporation during dust control and material washing. No water table effects to the park are predicted, and the predictions will be monitored and evaluated on a regular basis as quarry operations progress. Contingency measures are identified and could be implemented if required.

Based on the hydraulic testing completed for the proposed quarry the natural bedrock conditions will limit the movement of groundwater into the extraction areas. A low permeable barrier is a contingency only where zones of greater water movement occur, such as fracture zones. As these zones would be localized, if present, and best identified during actual extraction, the consideration of the low permeable barrier in response to findings during extraction and monitoring is recommended.

Quarry operations do not represent a water contamination source. The majority of nitrates that are present within blasting material are consumed in a blast, with any residual meeting regulatory limits. Dust that becomes suspended within water used on the quarry will be removed through the use of the Settling Pond. Water dewatered from the base of the quarry will also be discharged into the Equalization Pond or into the upper reaches of Watercourse 2, with water quality testing required in the Updated Performance Monitoring Plan prior to direct discharge. Fuel storage and equipment maintenance is detailed in the Site Plan. The details are in accordance with standard industry practice and regulatory requirements.

No effects to water quality at BH03-5 or other wells are predicted. If a spill was to occur at BH03-5 that affected groundwater quality, the movement of groundwater to the quarry extraction area as a result of dewatering would allow for the monitoring, and if required, collection and treatment of the water.

The Updated Performance Monitoring Plan is included on Page 5 of 5 of the Site Plan. This Plan provides contingency measures in the event of adverse effects from the quarry. For example the Plan indicates that if a well on an adjacent property is impacted, a temporary potable water

supply could be provided, and the well deepened or replaced with a suitable groundwater supply as a long-term contingency measure. A potable water supply represents water of sufficient quantity for use and quality that meets the Ontario Drinking Water Quality Standards (2006).

By provincial regulation, if the quarry operator receives a well complaint the operator must immediately notify the MOE and respond to the satisfaction of the MOE. If the source is the quarry, a permanent water supply would be provided through the installation of a new well and associated equipment at the cost of the quarry operator. MOE regulations require that quarry impacts be addressed, and the MNR can suspend or withdraw the quarry licence.

Access to an existing well located on lands owned by Giofam by an adjacent land owner will be maintained.

3.4 Location of Entrance

In response to the comments of the City of Kawartha Lakes Operations Division and members of the public, the location of the proposed entrance from Monck Road was reassessed. The proposed entrance from Monck Road has been relocated to approximately 1.1 kilometres east of Lake Dalrymple Road at the location identified by the City. This location provides sight distances that are well in excess of the minimum required by the Ministry of Transportation. The access road will traverse Giofam's property from Monck Road to the south east corner of the quarry licence.

3.5 OP Conformity/Zoning

The current Official Plan and Zoning By-law for the City of Kawartha Lakes designates the subject lands "Rural" and zones them Rural (RU) and Environmental Protection (EP). This designation and zone do not permit aggregate extraction.

Under the Planning Act, the owner of land may make application to amend the municipal Official Plan and/or Zoning By-law. In considering the applications the municipality must be satisfied that the proposed amendment(s) would be consistent with the Provincial Policy Statement (PPS), and in conformity with any other Provincial Plans as well as the policies of the municipal Official Plan or Plans applicable to the lands.

Giofam has made applications to the City of Kawartha Lakes for amendments to the Official Plan and Zoning By-law. As described in the Technical Background Report, revised April, 2011, these amendments are consistent with PPS and in conformity with the Growth Plan for the Greater Golden Horseshoe and the current Official Plan of the City of Kawartha Lakes. The relevant policies of the adopted Official Plan have also been considered. These amendments must be approved by Council of the City of Kawartha Lakes before the licence under the Aggregate Resources Act can be issued.

Aggregate extraction operations must be located where the resource exists. A significant resource has been identified on this property. Given that the subject lands are more than 600 metres from the closest residence or open public road, and approximately 400 metres from closest boundary of the Queen Elizabeth II Park, and given that the natural heritage features on and adjacent to the site will be protected, the use is appropriate to, and compatible with, the rural landscape.

3.6 Damage to Farmland and Impacts on Farm Operations

The lands to be licenced for the quarry are not suitable for farming as they have steep topography and shallow soil cover over bedrock. The relocation of the entrance to the quarry and access road approximately 400 metres east increases the separation between the quarry road and the existing farms to the west. Although the access road will be located on lands currently used for pasture, it is anticipated that this use will continue, as will other agricultural uses on the lands between the quarry and Monck Road. Potential impacts relative to conflict between farm vehicles and truck traffic have been addressed under “Haul Routes and Public Safety”. No impacts on farmland are anticipated.

3.7 Dust, Silica Dust and Air Quality

The Aggregate Resources of Ontario, Provincial Standards set out the operational standards that apply to all Licences. These standards require that dust be mitigated on the licenced property. The Site Plan requires the use of water or other Provincial approved dust suppressant on internal roads and external access roads as often as needed to control dust.

Crystalline silica, a component of quartz, is one of the most common minerals on earth and is found in granite, and beach sand. It is a health hazard where workers are exposed to crystalline silica dust in activities including blasting, crushing and loading rock materials, such as in a quarry. Giofam will be responsible for the health and safety of the workers in accordance with applicable legislation.

In response to the comments and objections with respect to impacts due to dust, in particular silica, Giofam retained Church and Trought Inc. to prepare a Dust Management Plan. This Plan will be implemented through the Site Plan and as part of the overall Performance Management Plan.

Mitigation measures include:

- paving of the access road from Monck Road north for 200 metres;
- having equipment for application of dust suppressants on site at all time;
- maximum speed limits for trucks in the quarry and on the access road;
- spray bars on processing equipment;
- monitoring of weather and conditions and suspending operations when necessary to prevent off site impact; and
- protocol for response to complaints.

The Blast Report recommendations, including primary and secondary dust collection systems for the rock drill, and wetting down of the pit floor prior to blasts, have also been implemented on the Site Plan.

Dust created by trucks entering and exiting the site from Monck Road will be minimized by the provision of turning lanes to provide a wider pavement surface, and by application of dust suppressant along the shoulders in the vicinity of the entrance.

Section 3.3 of the Updated Hydrogeological Evaluation (Genivar, 2011) indicates that water required for dust control may initially be obtained from an on-site water well capable and permitted to provide up to 200 m³/day of water or from the Settling Pond.

Crushing and screening plants and power plants (diesel generators) will operate under an Environmental Compliance Approval (ECA), formerly Certificate of Approval (C of A) (Air), from the Ministry of the Environment where required. These ECA's will address noise and dust generated by this equipment.

3.8 Surface Water

Through the operation of the water management plan there will be no adverse effects to surface water flow leaving the proposed quarry property. In addition, the prevention of adverse effects to groundwater levels will maintain the contribution of groundwater to existing surface water ponds and watercourses beyond the proposed quarry property. Monitoring will allow for a regular evaluation of the predictions, and if required, the implementation of contingency measures.

Surface water, including watercourses and wetlands adjacent to the Site, will be protected by the installation of sedimentation controls prior to clearing and stripping on the Site to prevent siltation of adjacent lands and water bodies, including the Cranberry/Head River. The sedimentation controls will be maintained until adjacent areas are extracted below the elevation of the limit of extraction, or throughout the life of the quarry as necessary.

The Settling and Equalization Ponds will be installed prior to any extraction on the Site. Runoff from the operational areas of the site will be directed to the Ponds or be contained within the excavation. The Settling Pond and quarry sump will contain sediment from site operations prior to discharge into the watercourse. The monitoring that is ongoing will continue and will be enhanced for points of water discharge from the Site to provide water quality testing prior to, and during, discharge. If an unacceptable water quality effect is detected, contingency measures are identified that can be implemented to re-establish baseline conditions, including modification to the quarry operations.

The Updated Hydrogeological Assessment addresses the potential impacts on surface water bodies and concludes that, with implementation of the water management plan, the dewatering of

Phases 1 and 2, and controlled discharge to the tributaries of Cranberry River will not have a detectable effect on pre-extraction total surface water flow rates. It is predicted that the flow rates in the watercourses will be similar or may increase slightly (0.002 to 0.006 m/s) during dewatering. No notable change in flow rates in the Cranberry River will be detectable.

Potential effects to groundwater levels will be within the proposed quarry property, with the possible exception of to the south where effects may extend toward Monck Road up to about 1 kilometre from the property. The proposed quarry will have no detectable effect on surface water flow within the Cranberry River. Most of the water that is removed from the quarry for dewatering will be returned to the surface water system where it will continue to contribute downstream to the Head River with no detectable effects on water quantity or quality. Upon quarry rehabilitation to a lake, evaporation will remove some water, but runoff will continue to contribute to Cranberry River. Therefore, no groundwater or surface water effects to Young Lake are predicted. Water monitoring will be completed around the property to evaluate this prediction, and if required, contingency measures could be completed.

Watercourse 1 currently contributes runoff to the Cranberry River. This feature and function will be retained. The change in the surface water flow within Watercourse 1 is predicted to be not detectable in consideration of current surface water flow conditions. Most flow will continue to occur during the spring months as a result of snowmelt and precipitation, with less flow or dry conditions during the summer months.

Monitoring protocols provided in the Updated Performance Monitoring Plan will ensure that the quality and quantity of water within the watercourses will be maintained throughout the life of the quarry. Contingency measures are identified for implementation if required.

Trigger mechanisms and response actions for the protection of water resources are provided in Table 2 of the Sebright Quarry, Updated Performance Monitoring Plan (Genivar, 2011) and are included on the Site Plan. Draft assessment processes and timeframes are attached as Figures 1 to 4 to this response and proposed as additions to the Performance Management Program.

3.9 Noise

Provincial Standards require a noise impact study where processing will occur within 150 metres of a sensitive receptor. A sensitive receptor is defined as a use such as a residence, school, hospital, or nursing home. This Standard was developed in the early 1990's through consultation between MNR and MOE. It was agreed that the noise impact due to processing equipment would not exceed provincial guidelines where the receptors were more than 150 metres from the site.

We note that for Environmental Compliance Approval (ECA), formerly Certificate Of Approval (C of A), applications, the distance that triggers a noise assessment is 500 metres from sensitive receptor. The closest residential receptor to the Site is more than 600 metres to the south, while

the QE II Provincial Park, which may include overnight camping is at minimum 500 metres from the quarry operation.

There are number of features of the property location and requirements on the Site Plan which will further reduce any impact due to noise on nearby properties including the maintenance of existing tree buffers around the extraction and processing areas and existing higher topography between the closest residences and the extraction and processing areas.

Crushing and screening plants, and power plants (diesel generators) will operate under Environmental Compliance Approvals from the Ministry of the Environment (MOE) where required. Ontario Regulation 419/05 Air Pollution – Local Air Quality does not differentiate between mobile and permanent crushing plants operated above grade in a licenced pit or quarry. However, mobile crushing and screening plants equipment operated below grade, such as in a quarry excavation, is exempt from the regulations.

The “noise” due to blasting, also called overpressure, will be perceptible but not harmful in any way to humans, animals or buildings. Several studies are available with respect to the effects of blasting on domesticated and wild animals – general conclusion is temporary startle with little effect on behaviour.

The hours of operation are limited by the Site Plan and are in compliance with the City of Kawartha Lakes Regulation of Noise By-law 2005-25.

3.10 Blasting

MOE Guideline limits vibration at the nearest sensitive receptors to ground vibration of 12.5millimetres per second and air overpressures of 128dB. At these levels, vibrations are grossly insufficient to damage any form of structures or residential water wells, and resulting damage has never been scientifically observed at these low levels.

The recommendations of the Blast Impact Study have been implemented on the Site Plan on Dwg 2 of 5, Notes Section H and I, and in the Performance Management Plan on Dwg 5 of 5.

These include the following.

- An attenuation study shall be undertaken by an independent blasting consultant during the first 12 months of operation in order to obtain sufficient quarry data for the development of site specific attenuation relations. This study will be used to confirm the applicability of the initial guideline parameters and assist in development of future blast designs.

- All blasts will be monitored for both vibration and overpressure at the closest privately owned sensitive receptor adjacent to the property with a minimum of one (1) digital seismograph. Monitoring practices shall conform to industry standards.
- Orientation of the aggregate extraction operation will be designed and maintained so that the direction of the overpressure propagation and flyrock from the face will be away from structures as much as possible.

The original Blast Impact Analysis was peer reviewed by the City of Kawartha Lakes' consultant and a response to the peer reviewers comments provided. No further correspondence has been received to date. The Revised Blast Impact Analysis includes Revised Site Plan and the response to the Peer Review comments, and recommends an increase in the time period for the initial monitoring to one year.

The Site Plan restricts blasting to a maximum of 3 blasts per week, only between 8:00 am and 4:00 pm Monday to Friday. Blasting will not occur on Saturdays, Sundays or Statutory Holidays. Generally, blasting occurs once a day and will rarely occur on consecutive days. The irritation from ground vibrations and noise from a blast last well below 10 seconds in duration.

For clarity, blasts will not be less severe on clear days. On overcast days or in the presence of temperature inversions, air overpressures are more difficult to control. Notwithstanding, the quarry still must remain compliant with MOE guideline limits regardless of the environmental condition. The vibration results produced from the digital seismographs cannot be altered and consequently can only provide an impartial result from each blast.

The recommendation that there should be no blasting whatsoever is impractical in today's society. Blasting is the only method to extract this rock. In Ontario alone, aggregate usage exceeds 170 million tonnes per year or an average of 14 tonnes per resident. If all blasts are monitored and the blasting remains below MOE guidelines for ground vibration of 12.5mm/s and air overpressures of 128dBL there is no chance of adverse impacts from blasting vibrations.

Ammonium Nitrate Fuel Oil (ANFO) will be used as an explosive on site. ANFO is mixed in such a way as to be oxygen balanced; the product is over 99% consumed in the explosive process. Greater than 97% of the by-products generated are N₂ (nitrogen), H₂O (water vapour) and CO₂ (carbon dioxide). The only solid residues are SiO₂ (Silicon Dioxide) and CaO (Calcium Oxide) which are not environmental concerns. Where wet conditions occur, measures will be taken to ensure optimal detonations. It is important to note that the air we breathe is composed of 80% Nitrogen, and 19+ % Oxygen. Trace quantities of CO, argon etc are also present.

Less than optimal detonation results in poor blast performance and will be avoided by using suitable blasting techniques and products for the conditions encountered. All blasting on site is to employ industry standard best practices.

The Updated Performance Monitoring Plan includes water quality testing for nutrients, (including ammonia, nitrate, nitrite and total phosphorus) and BTEX (benzene, toluene, ethylbenzene, and xylenes) within surface water, groundwater, and quarry discharge as detailed in Table 19, Updated Hydrogeological Evaluation (Genivar, April 2011). This testing would identify accumulated residues from the ANFO explosive.

Explosive detonation per period will be adjusted through various design techniques (changes in blast hole diameter, patterns, decking, etc.) to ensure compliance with applicable guideline limits and site plan conditions (DFO, MOE). Ground vibrations and overpressure monitoring will be performed to confirm compliance.

The DFO Guidelines for the *Use of Explosives In or Near Canadian Fisheries Waters* was prepared to address blasting 'in or near' Canadian fisheries waters. Historically, it has been determined that at dry land distances in excess of 30 metres, water overpressure from blasting resides significantly below the DFO Table 1 values. Actual water overpressures experienced can be quantified through the application of hydrophone sensors to confirm theoretical values. Blasting adjacent to habitats, nests, eggs and animals can and has been accomplished in quarries all over Ontario with careful care and consideration of the blast surroundings. The Site Plan requires that blasting plans be compliant with DFO regulations.

With respect to dust, the Blast Report recommendation regarding primary and secondary dust collection systems for the rock drill has been implemented on the Site Plan see Operation Plan Notes, Section H.

3.11 Loss of Use and Enjoyment of Property and Negative Impact on Property Value

The proposed quarry is more than 600 metres from the closest residence. Generally the area of extraction is approximately 300 metres from the closest adjacent property not owned by Giofam.

Potential impacts relative to noise, dust, blasting, traffic and the quarry entrance have been addressed in the studies prepared for the application. Impacts will be mitigated in accordance with applicable Provincial standards and guidelines.

All of the recommendations of the technical studies have been implemented on the Site Plan. The original Natural Environment, Blast Impact Study, the Hydrogeological Evaluation and Performance Monitoring Plan were reviewed by the City of Kawartha Lakes peer review consultant and all comments were addressed. The revised Site Plan includes the recommendations of a Dust Management Plan.

In response to the proposed location of the related facilities (e.g. fuel storage, scales, maintenance building) in the original application, these have been moved to within the licence boundary.

Therefore, no loss of enjoyment of properties or negative impact on property value is anticipated.

3.12 Access to Monitoring information

Monitoring information will be provided to the relevant agencies in accordance with the Updated Performance Monitoring Plan. Giofam is willing to participate in a liaison committee that could establish a process for the sharing of information with the community.

3.13 300 and 500 metre Lines/ 120 metre “Setback”

The 300 metre and 500 metre lines were shown on the original Concept Plan to indicate potential areas of influence. No disturbance to any adjacent lands is proposed. The applications for the Official Plan and Zoning By-law amendments and quarry licence relate only to lands owned by Giofam Investments Inc.

The line labelled “120 metre Setback” is related to requirements of Aggregate Resources of Ontario - Provincial Standards to show information about the use, zoning, surface drainage and drainage facilities, and significant natural and man-made features within 120 metres of the boundary of the area to be licenced.

All quarry related activities will be confined to the area to be licensed for the quarry with the exception of the access road from Monck Road to the quarry, and will be subject ongoing monitoring as described on the Site Plan.

3.14 Wastewater Pumping and Treatment

The water that will be pumped from the site will consist of precipitation, surface runoff and groundwater infiltration into the quarry excavation. This pumping will primarily occur in spring when quarry operations resume after the winter, with less pumping during the drier months. The quality of the water will be tested prior to and during pumping. The water will be directed to the adjacent watercourses to approximate the natural conditions of the site prior to extraction. An Environmental Compliance Approval (ECA), formerly Certificate Of Approval (C of A), issued by the Ministry of the Environment is required prior to any pumping or discharge from the Site.

3.15 Related Uses

Given that the proposed entrance road is to be relocated, the proposed “related uses” including the scales, scale house, fuel storage, etc. have been shown on the revised Site Plan within the licenced area.

That part of the Zoning By-law amendment application on Part of Lot 20, Concession 3 will be withdrawn.

3.16 Well monitoring

A number of comments have been provided to the consulting team relative to the initial water testing program in 2006. Monitoring is on-going and has included additional residential wells where access has been granted. More residential wells within the 1 kilometre radius of the quarry will be added where access is granted prior to quarry operations.

Annual monitoring of wells within 1 kilometre of the Site is recommended and included on the Site Plan.

3.17 QE II Wildlands Park

Although the Giofam property is directly adjacent to Queen Elizabeth II Wildlands Provincial Park, the area proposed for licensing (the Site) is approximately 400 metres away from the nearest extent of the Park; furthermore, the nearest proposed extraction area of the revised Site Plan is a minimum of 470 metres away from the Park. Finally, the area between the Site and the Park has been identified as Endangered and Threatened species habitat in Natural Environment Report; these lands are therefore subject to numerous protective measures detailed within the Permit application under the provincial Endangered Species Act. Consequently, it is not anticipated that there will be any negative impacts on the ecological integrity of the Park; rather this quarry proposal would ensure the maintenance of a substantial buffer (with high ecological function) adjacent to the park in this location.

As indicated in the Natural Environment Report a large natural buffer is provided between Queen Elizabeth II Wildlands Provincial Park and the area proposed for licensing (the Site). All wetland corridors and the associated buffers are being maintained in a natural state with only a small portion of the entire landholding being used for extraction. A fencing system is recommended to keep sensitive species from entering the active extraction area. The maintenance of large natural areas on the subject property combined with the fencing will continue to allow wildlife interchange between the Park and the significant features on the subject property, as well as exclude sensitive wildlife from the active quarry.

Concerning the potential for noise from crushing and screening activities to adversely affect wildlife on the Site and adjacent lands including the provincial park, numerous studies have shown that bird and frog species are able to adapt or develop local “dialects” in response to chronic noise. Thus far, noise that is intermittent has been found to be more problematic for wildlife that rely on sound to communicate (see Cunnington and Fahrig 2010, Slabbekoorn and Peet 2003, Brumm 2006, Fuller et al. 2007, Penna and Hamilton-West 2005, Summers et al. 2011, See References). The majority of the predicted noise would be considered chronic, and blasting events are expected to be infrequent and subject to timing restrictions implemented to protect sensitive bird species known to occur on the subject property (no blasting in May, June and July). Because the Park boundary is a significantly greater distance from the proposed licenced area, these mitigation measures should be adequate to protect breeding birds and frogs in the park. This restriction will also reduce the potential for impact on the recreational activities.

All quarry activities will occur within the licenced area of the Site, with the exception of shipping along the access road from the quarry south to Monck Road. Within the licence, operations will be further restricted to the extraction phases and the adjacent areas in the southern part of the licence which will be used for processing, stockpiling, and related uses. Most of the activities that will create persistent noise, notably the crushing, other equipment and trucking, will be at minimum 500 metres from the Park boundary. Fencing is proposed to delineate the limits of extraction and other operations to prevent unauthorized access to the Site and disturbance to the surrounding areas.

With respect to potential impacts on the recreational use of the Park, noise from the quarry may periodically be perceived within the Park. However, given that the operations will be restricted to day-light, no operations will occur on Saturday, Sunday or statutory holidays, and most of the operations will occur well in excess of 500 metres from the Park, no adverse impact is anticipated.

We note that there are eight active quarries in the Parry Sound District that are located within 400 metres of a boundary of an Ontario park and four quarries are located within Algonquin Park.

3.18 Setbacks

Setbacks in the context of the Aggregate Resources Act are distances between the boundary of a pit and the limit of extraction prescribed by the Aggregate Resources of Ontario - Provincial Standards.

The standard setbacks between the licenced boundary and the limit of extraction are 30 metres where the licenced boundary abuts a public road, land used for residential purposes or restricted to residential use by a zoning by-law when the licence was issued, and 15 metres in all other areas.

Given that the westerly phases of extraction, Phases 3 and 4, which would have extended to within 15 metres of the unopened road allowance between Lots 20 and 21, have been deleted on the revised Site Plan, all of the setbacks will be in accordance with the ARA standards.

3.19 Hours of operation

The hours of operation included on the Site Plan are in compliance with the City of Kawartha Lakes Noise By-law 2005-25. To address concerns related to potential impacts on tourist traffic, the hours of operation specified on the Site Plan have been revised so that no shipping will occur after 3:00 pm on Friday. No shipping will occur on Saturdays, Sundays and holidays.

3.20 Unopened Road Allowance

There will be no impact on the Road Allowance between Lots 20 and 21 given that the extraction originally proposed adjacent to the Road Allowance have been removed from the Site

Plan, the proposed entrance has been relocated to the east, and “related uses” have been relocated to within the licence boundary.

3.21 Lighting

No impact due to lighting is anticipated as the “related uses” have been relocated to within the licence, and operations will occur primarily in daylight hours.

3.22 Historic Buildings, Grave and Archaeological Assessment

There are a number of old buildings on the Giofam lands; however, none will be affected by the licence, or the external haul road.

The grave on the Giofam property is not within the area to be licenced.

The “Stage 1 Archaeological Assessment” and “Stage 2 Archaeological Assessment” completed by Archaeological Assessments Ltd. were submitted to the Ministry of Culture. In correspondence dated April 14, 2008, the Ministry advised that it concurs with the recommendation of the Stage 2 report that archaeological concerns for the subject property be considered to be addressed.

3.23 Property taxes

The property tax assessment for the Site will increase with the proposed change in zoning and land use. No change in taxation ration for the adjacent properties due to the development of the quarry is anticipated.

3.24 Adverse Effect/Compatibility

The potential impacts due to the proposed quarry operations are discussed in detail in the various technical reports. The Provincial Standards under the Aggregate Resources Act require that all recommendations of the technical reports be shown on the Site Plan.

The Site Plan circulated with the application on May 26, 2009 was in compliance with this Standard. Revisions to the Site Plan have been made to reflect the recommendations of studies completed since the circulation and are noted under the specific topics (e.g. dust, noise, etc.) .

3.25 Fines

“Fines” in the context of the proposed quarry is aggregate material less than about 5 millimetres in size, typically sand and finer, which is the by-product of crushing and handling granite. Granite fines are chemically stable.

While some of this material will be retained on Site for use in rehabilitation, most of this material will be utilized for blending with other materials or marketed for other uses such as sand fill, septic sand, etc. All aggregate materials shipped from the site, including fines, are included in the total annual tonnage. Therefore, there will be no additional traffic generated by shipping fines.

As noted in the Site Plan, the Settling Pond will be used to manage runoff from the access, stockpile, and processing area, and wash water from the wash plant. The Settling Pond will function to reduce the suspended solids within water prior to reuse for on-site operations. During periods of discharge from the Settling Pond, the discharge will flow into the Equalization Pond for mixing and further settling prior to discharge into Watercourse 1. No off-site adverse water quality effects are predicted. Monitoring is on-going and will continue to allow for an assessment of water quality to evaluate the predictions, and if required to implement contingency measures. Trigger mechanisms are proposed for total suspended solids and metals. If required, a trigger mechanism can be established for silica based on existing background concentrations.

3.26 Direction of Extraction

The direction of extraction was designed to minimize the potential impacts of the operation on the residents to the south. Extraction from south to north in the north phase (Phase 1) will be mitigated by the existing rock ridge to the south. Extraction of Phase 2 will be from north to south which will mitigate impacts of noise and blasting in that phase relative to the same residences.

3.27 Area of quarry

While the area to be licenced for the quarry is 84 hectares, the area to be extracted has been reduced from 50 hectares on the original Site Plan to 23 hectares on the revised Site plan. All quarry operations will be within the licence boundary except the access road.

3.28 Power Plant

The “power plant” used on the Site will be a diesel generator which will be operated in accordance with an Environmental Compliance Approval (ECA), formerly Certificate Of Approval (C of A) (Air).

3.29 Berms and Fencing

Berms, which are usually constructed to provide visual screening or noise attenuation, are not proposed for this quarry as it is located more than 600 metres from Monck Road and the closest residences. The site will be fenced to delineate the west, north and east limits of extraction, and the licence boundary in the south. The fencing will include warning signage.

3.30 Tourism

The proposed quarry is located more than 600 metres and is well screened from Monck Road. Potential impacts related to noise and dust will be mitigated for the resident population.

The hours of operation related to transportation have been revised to prohibit trucking on Fridays after 3 pm, and all Saturdays, Sundays and Holidays to avoid conflict with tourist traffic.

3.31 Life Expectancy

The quarry as shown on the revised Site Plan has a life expectancy of 94 years, depending on the market for the material.

3.32 Uranium

Mapping obtained from the Ministry of Northern Development and Mining, and from the Ministry of Transportation, showing the location of Uranium deposits does not indicate any deposits in the City of Kawartha Lakes.

4.0 CONCLUSION

We trust that the changes to the application and the responses provided will address many of the concerns expressed by the Council and the public regarding the applications. It remains our conclusion that the proposed Official Plan and Zoning By-law amendments and the proposed licence under the Aggregate Resources Act are consistent with the Provincial Policy Statement, in conformity with the Growth Plan for the Greater Golden Horseshoe, and in conformity with the Official Plan of the former County of Victoria.

All of which is respectfully submitted,
SKELTON, BRUMWELL & ASSOCIATES INC.

per:



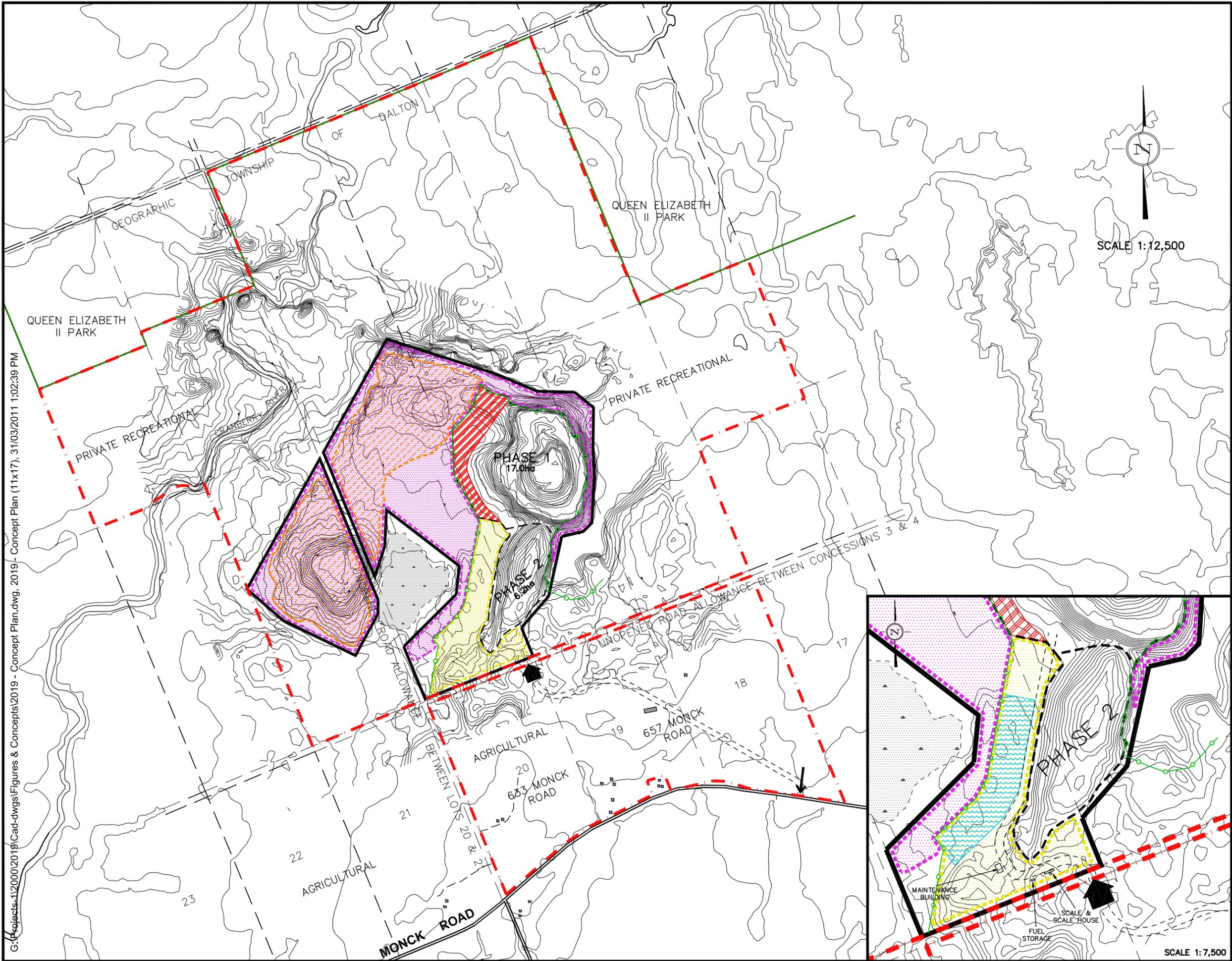
Trudy P. Paterson, CET, RPP
Senior Planner

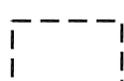
REFERENCES

- Brumm, H. 2006. Animal Communication: City birds have changed their tune. *Current Biology* 16: R1003-R1004.
- Cunnington, G.M. and L. Fahrig. 2010. Plasticity in the vocalization of anurans in response to traffic noise. *Acta Oecologica* 36: 463-470.
- Fuller, R.A., P.H. Warren and K.J. Gaston. 2007. Daytime noise predicts nocturnal singing in urban robins. *Biology Letters* 3:368-370.
- Penna, M. and C. Hamilton-West. 2005. Effect of natural and synthetic noise on evoked vocal responses in a frog of the temperate austral forest. *Animal Behaviour*, 70: 639-651.
- Slabbekoorn, H. and M. Peet. 2003. Birds sing at a higher pitch in urban noise. *Nature* 424: 267
- Summers, P.D., G.M. Cunnington and L. Fahrig. 2011. Are the negative effects of roads on breeding birds caused by traffic noise? *Journal of Applied Ecology* 48: 1527-1534.

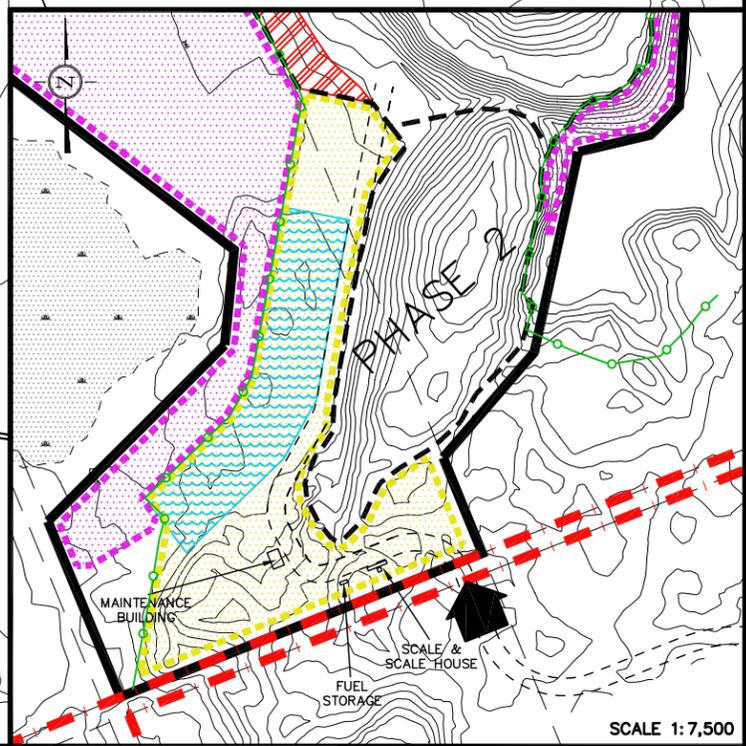
APPENDIX A

Revised Concept Plan March 2011



-  BOUNDARY OF GIOFAM LANDS
-  BOUNDARY OF QUEEN ELIZABETH II PARK
-  PROPOSED QUARRY LICENCE BOUNDARY
-  PROPOSED LIMIT OF EXTRACTION
-  IDENTIFIED AGGREGATE RESOURCE
-  ENDANGERED AND THREATENED SPECIES HABITAT (NOT TO BE ALTERED)
-  ACCESS, PROCESSING AND STOCKPILE AREA
-  AREA ADDED TO PROPOSED LIMIT OF EXTRACTION
-  SETTLING AND EQUALIZATION PONDS
-  QUARRY ENTRANCE
-  BUILDINGS (NOT TO SCALE)
-  LOT/CONCESSION
-  REPTILE FENCE
-  ACCESS DRIVEWAY (APPROXIMATE ROUTE)

SCALE 1:12,500



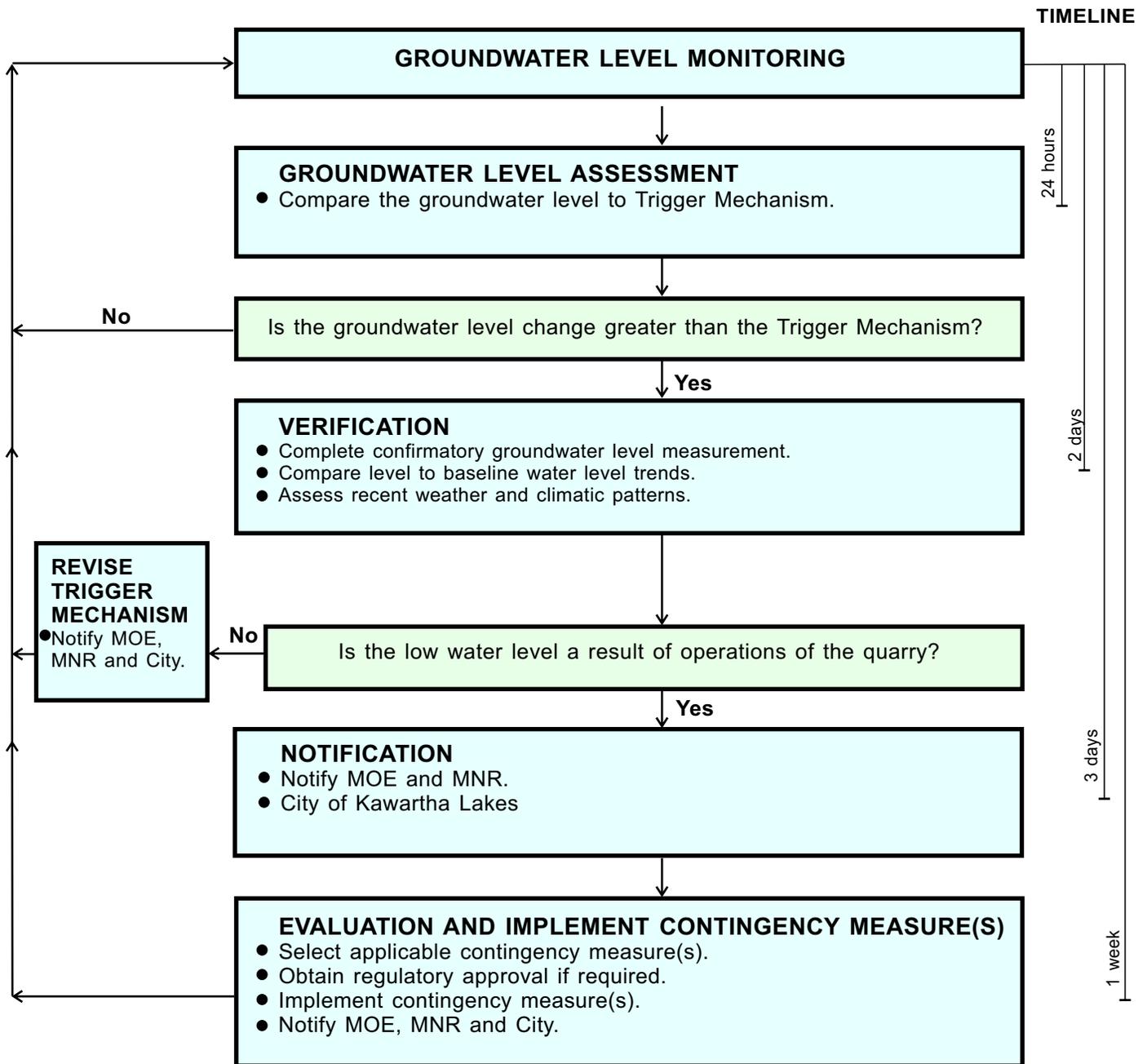
SCALE 1:7,500

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SEBRIGHT QUARRY CITY OF KAWARTHA LAKES	
REVISED CONCEPT PLAN	
Scale: AS SHOWN	
P/N 2019	MARCH 2011
	
CONSULTING ENGINEERS & PLANNERS 93 BELL FARM ROAD, SUITE 107 BARRIE, ONTARIO L4M 5G1 TELEPHONE (705) 726-1141 FAX. (705) 726-0331	

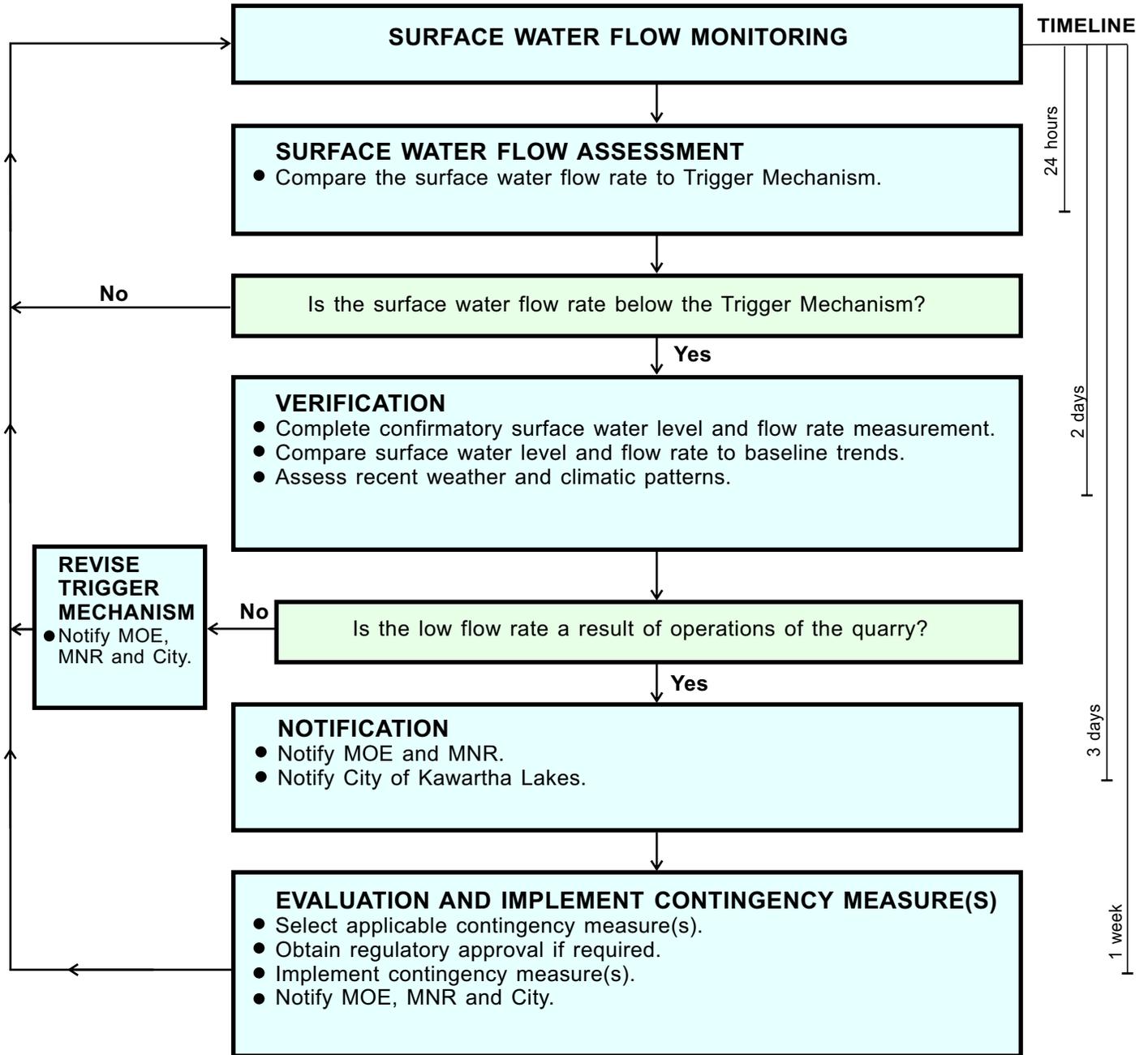
APPENDIX B

Genivar Draft Figures 1 – 4



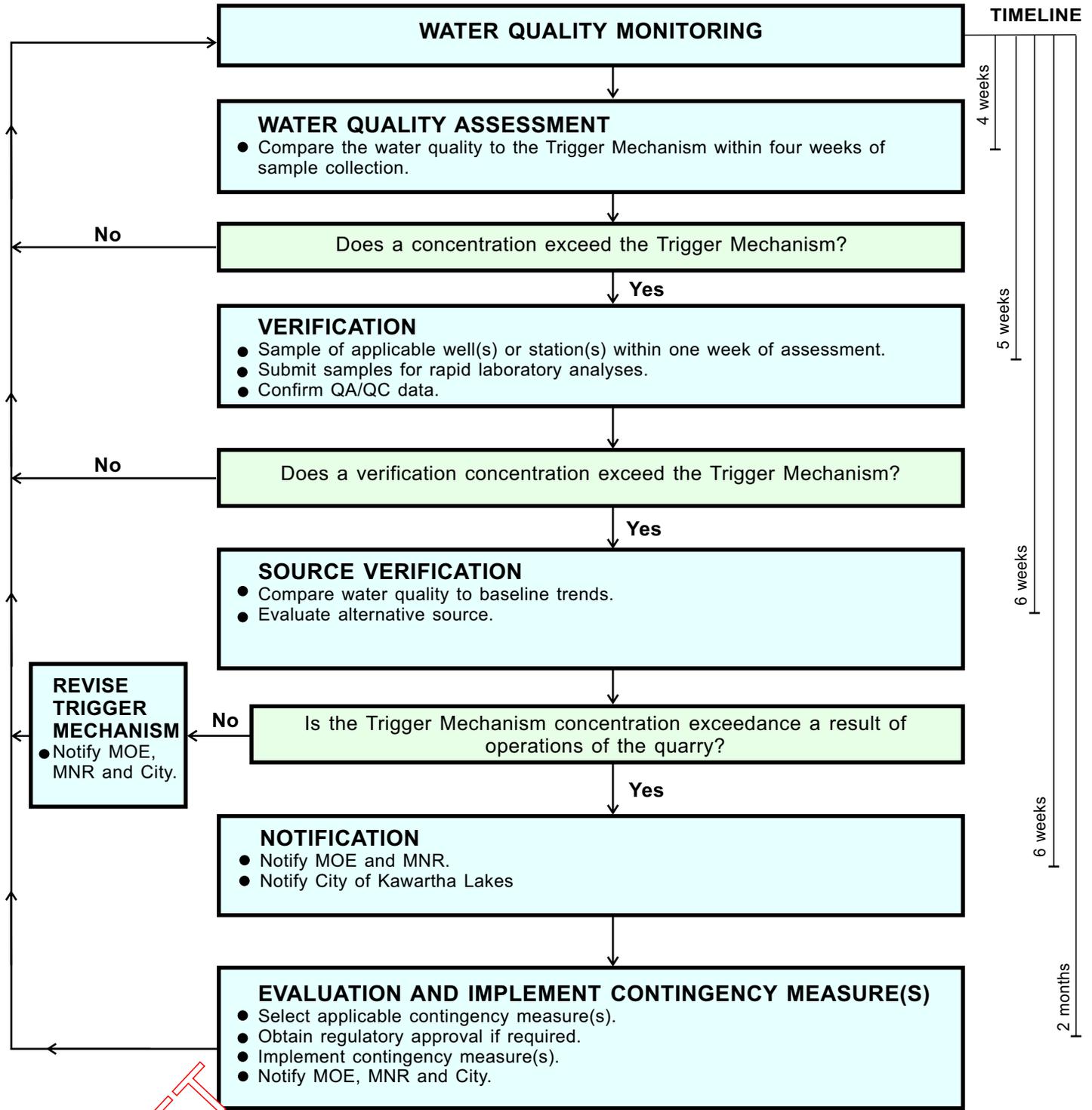
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<p>NOTES:</p> <p>1) MOE denotes Ministry of the Environment. 2) MNR denotes Ministry of Natural Resources.</p>	GROUNDWATER LEVEL ASSESSMENT PROCESS	
	PROPOSED SEBRIGHT QUARRY For Giofam Investments Inc.	
	DATE: JANUARY 2012	REF. NO.: 0-920365.05
	GENIVAR	PROJECT: 0-920365.05
		FIGURE 1



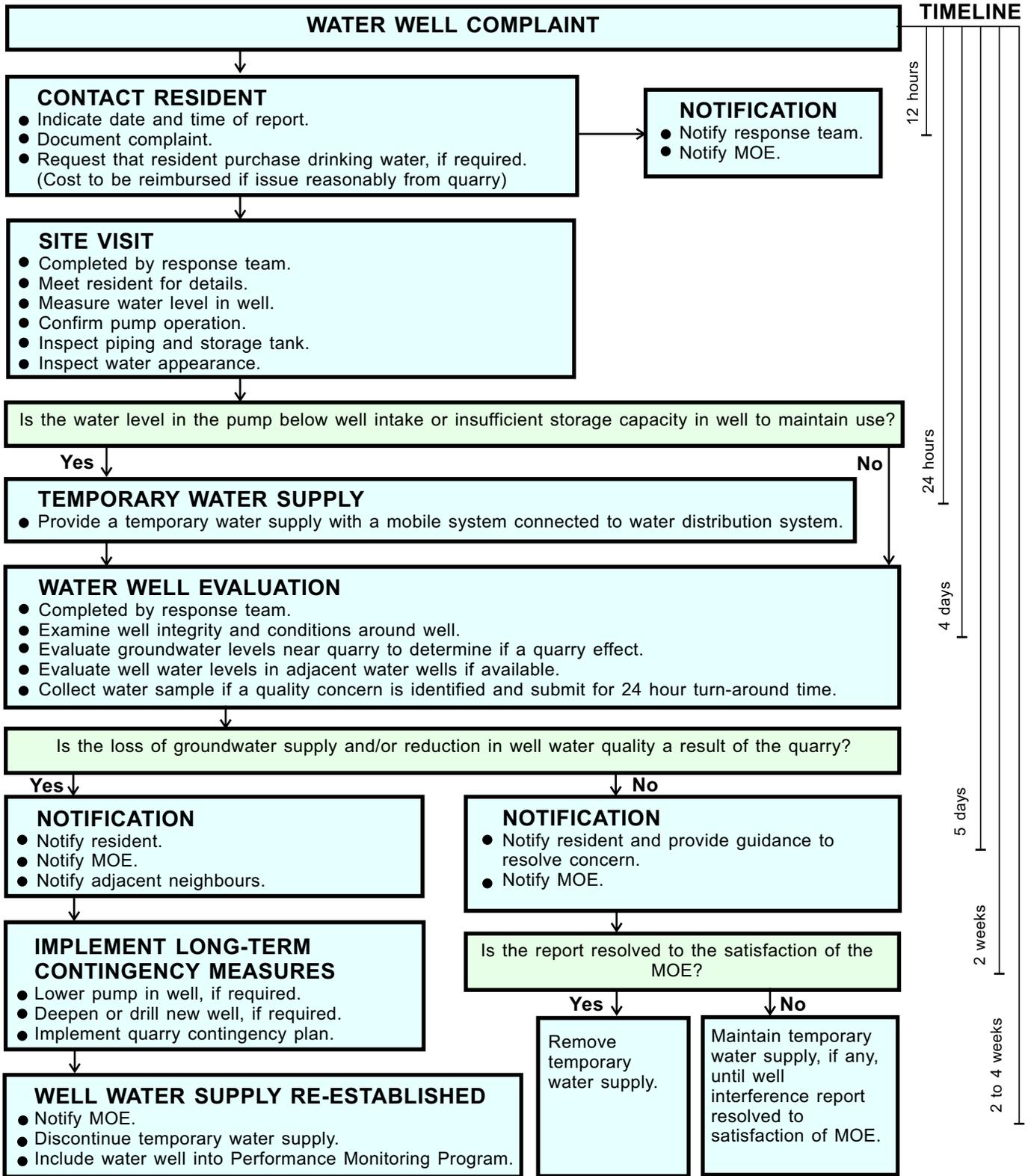
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<p>NOTES:</p> <p>1) MOE denotes Ministry of the Environment. 2) MNR denotes Ministry of Natural Resources.</p>	SURFACE WATER FLOW ASSESSMENT PROCESS	
	PROPOSED SEBRIGHT QUARRY For Giofam Investments Inc.	
	DATE: JANUARY 2012	REF. NO.: 0-9236505F2-SC
	GENIVAR	PROJECT: 0-920365.05 FIGURE 2



DRAFT

<p>NOTES:</p> <p>1) MOE denotes Ministry of the Environment. 2) MNR denotes Ministry of Natural Resources. 3) QA/QC denotes quality assurance and quality control (i.e. blind duplicates, ion balances).</p>	WATER QUALITY ASSESSMENT PROCESS	
	PROPOSED SEBRIGHT QUARRY For Giofam Investments Inc.	
	DATE: JANUARY 2012	REF. NO.: 0-92036505F3-SC
	GENIVAR	PROJECT: 0-920365.05
		FIGURE 3



<p style="color: red; font-size: 2em; transform: rotate(-45deg); opacity: 0.5;">DRAFT</p> <p style="font-size: 0.8em;">NOTE: MOE denotes Ministry of the Environment.</p>	WATER WELL COMPLAINT RESOLUTION	
	PROPOSED SEBRIGHT QUARRY For Giofam Investments Inc.	
	DATE: JANUARY 2012	REF. NO.: 0-92036505F4-SC
	GENIVAR	PROJECT: 0-920365.05
		FIGURE 4