

## "HQ Natural Environment and Agricultural Assessment Reviews"

Note to Reader: The August 10, 2015 CRC Presentation is not a professional review and should not be given any weight when compared to the Professional Peer Reviews undertaken by the agencies and Township.

This Response document was prepared with direct input from GWS Ecological and Forestry Services Inc., RWDI Air Inc., Stovel and Associates Inc., Harden Environmental Services Ltd.

Slide #	Area	Issue Raised	Reponse	Reviewer
1		Title Slide		
2	Natural Environment	Described biological conditions in 2011 and 2012 with reference to earlier 1995-96 study	The GWS Study refers to work done in 1995-1996 as having factually occurred but also details extensive work including 54 site visits conducted in 2011 and 2012 as detailed in Table 1 Site Investigation Record found on page 6 of the Level II Natural Environment Technical Report. Additional visits were done in conjunction with follow up work.	GWS
		38.08 hectares, 1.8 wetlands 35.5 woodlands (coniferous, deciduous and mixed forest: 30-150 years old)	While the naturally established forest that has developed on this site has some trees in it that are quite old, these trees were remnants of former agricultural fields (mainly used for livestock) and hedgerows. Aerial photography found in the GWS report at Figure 3 and more clearly in the Harden Report Appendix I Historical Aerial Photographs indicate that as late as April 9, 1964 the mixed forest was a widely spaced group of individual trees near an active gravel pit. The Gravel Pit area has now naturalized and the areas between the older specimens have filled in to create the mixed woodland that exists on site today. All of the mature deciduous and mixed woodlands are being protected and are not in the extraction area. The vegetation communities are discussed at length in 4.4.1 and Table 2.	GWS
3	Natural Environment	Areas of Natural and Scientific Interest (ANSI) and Environmentally Significant Areas (ESA)		
		GWS 2012 – none on-site or off site	All these areas are discussed in Section 3.1 of the GWS Report	GWS
		Eramosa River-Blue Springs PSW ?	Discussed in Section 5.1.1 and 3.1.2	GWS
		Brydson Springs and Creek Trout Habitat?	The Stream on the Brydson Property is appropriately identified as a cold water stream in Section 3.1.1 and is identified as supporting resident brook and brown trout populations.	GWS
		Wetlands N&E of site?	All wetlands are identified in Section 3.1.2 and on Figures 6 and 7.	GWS
4	Natural Environment	Aggregate Resources Act and Provincial Policy Statement		GWS
		No development allowed within habitat of endangered and threatened species, significant wetlands and significant, coastal wetlands.	MNR has evaluated the site in the context of the Species at Risk Act and has been satisfied that there will be no unacceptable impact.	
		No development and site alteration allowed on lands adjacent to such features or within adjacent to significant woodlands, significant valleylands, significant wildlife features or their ecological functions.	The report has been written and evaluated by the peer reviewers and agencies in the context of development and site alteration on lands adjacent to significant woodlands, valleylands, wildlife features or their ecological functions. All reviewers have indicated that they are satisfied that the application does not present a concern in his regard.	GWS
		Consideration to be given to potential indirect impact on the PSW by change in surface water flow and groundwater levels.	The impact on wetland catchment area and changes in ground water levels have been examined by GRCA and found to be acceptable. Specifically see Harden Response to GRCA dated November 26, 2013	GWS
5	Natural Environment	Large PSWs north and south of site	This is well understood and has been taken into account.	GWS
		Four wetlands on-site. Largest wetland (1.0 ha Cattail Marsh) is a PSW.	This is well understood and has been taken into account.	GWS
		Significant Turtle, fish and bird habitat on-site and adjacent to site.	Onsite and adjacent habitat is well understood and has been taken into account.	GWS
6	Natural Environment	Significant Wildlife Habitat	Section 4.5.7 discusses significant wildlife habitat. MNR has had their comments answered by GWS in correspondence dated May 27, 2013 and has been satisfied in this regard. CRC references the McMartin Study (GAIA) performed by a consultant who illegally trespassed on the property.	GWS

7	Natural Environment	Area-Sensitive Species	All these species are discussed in Section 5.1.6. GRCA and MNR are satisfied with the responses of GWS.	GWS
8	Natural Environment	Landscape Connectivity. Well connected to natural areas to north and west	This is well understood and has been taken into account.	GWS
		Brydson Creek connects the waterway north (Allen wetlands and DeG pond)	This is well understood and has been taken into account.	GWS
		Williams Assoc. On-site woodlands provide important ecological connection to the nearby natural areas.	Williams states in his June 13, 2013 letter that, "While these woodland functions would be temporarily affected by the project, I believe that the basic linkages can be maintained by the vegetated corridors on the north and east side of the property and the stream channel as proposed."	GWS
		Culvert under the highway	Will not be altered by the proposal.	GWS
		Greenbelt connectivity question	Connections will be maintained as stated above. This property not within the Greenbelt Plan.	GWS
9	Agricultural Impact Analysis	Agricultural Impact Assessment: Gaps in Analysis (Format of Survey)		
		Terms of reference not disclosed to residents	The study approach followed standard approach established in the County of Wellington Official Plan.	Stovel
		Reconnaissance-level road-side survey vs other site analysis (visits by hydrogeologist on property)	The type of study determines the type of survey in this case a reconnaissance level survey was adequate to gather information regarding general agricultural land uses in the area. There was an onsite survey completed by ESG to define CLI classifications.	Stovel
		No discussion with farmers about farm businesses or best practices	Given that Minimum Distance Separation 1 (MDS1) is not required, there was no need to conduct surveys with adjacent farmers	Stovel
		Some farm businesses missed (woodlots, sheep, dairy)	The figure presented indicates that while the sheep farm and the dairy farm exist in the wider area, they were outside the defined study area and well removed from the proposed quarry. In any event, it is anticipated there will be no impact on these operations.	Stovel
		Findings based on flawed applicant reports (blasting, hydrogeology, noise, traffic)	The reports that the AIA references have been peer reviewed by a number of agencies and professionals and their conclusions have been signed off on by various agencies including MNR, MOECC and the Grand River Conservation Authority.	Stovel
		Limited geographic scope	The scope of the study was similar to other AIA's and consistent with Official Plan Policy. The scope of the study area was agreed to by the township's consultant prior to commencement.	Stovel
10	Agricultural Impact Analysis	Sketch of Study are showing operations outside of the study area (eg. Sheep, Horse Racing, Dairy Farm)	The figure presented indicates that while the sheep farm and the dairy farm exist, they were outside the study area and well buffered from the proposed quarry. In any event, there is no anticipated impact on these operations.	Stovel
11	Agricultural Impact Analysis	Gaps in Analysis: Dust Impact		RWDI

		No discussion of known dust impact on plants and animals. Multi-million dollar businesses effected.	The air quality assessment has been completed using the relevant MOECC standards and guidelines. These criteria are established using an effects-based process, as described by the MOECC Guideline for the Implementation of Air Standards in Ontario (GIASO). This effects-based process is based on the MOECC's understanding and interpretation of both health and environmental effects. As discussed in the GIASO, these environmental effects include biomagnification and direct toxicity within aquatic ecosystems; contamination of soil, terrestrial vegetation, and surface water; soiling and corrosion of property; effects on vegetation; effects on visibility; and, odour. The MOECC bases the criteria on the most limiting of these effects, as well as potential health concerns, ensuring that the criteria is broadly protective of both the environment and human health. As a result, the use of the MOECC criteria in the assessment is considered valid and appropriate. Furthermore, agricultural operations and aggregate sites coexist in many locations around the world. There will be no impact on the agricultural operations surrounding the site.	RWDI
		Baseline levels of dust should be determined now! What about fine particulate matter air pollution (PM2.5)?	Background PM2.5 levels modelled were based on a 5-year average of the annual 90th percentile hourly concentration measured at the MOE monitoring station in Guelph (14.8ug/m3) The Guelph monitoring station is located less than 15km upwind if the site, and is located in a more urban setting, it is expected to provide a more conservative estimate of background concentrations.	RWDI
		Mitigation measures are not specific to the need of each farm business. Only discusses horse and mushroom farm?	The two operations discussed are the closest operations to the site.	RWDI
		Complaint protocol offered? Too late if dust contamination occurs in mushroom farm factory or on the fields.	The MOECC has authority to deal with dust related complaints and has broad powers to order immediate remedies.	RWDI
		No buffering capacity as the trucks travel on Hwy 7 – trucks produce most of the dust.	As stated elsewhere, the Hidden Quarry will reduce overall trucking in Ontario.	RWDI
12	Agricultural Impact Analysis	Agricultural Impact Assessment Gaps Hydrogeology		Harden
		No impact based on Harden Hydro G report. The quarry floor may be raised?	There is no impact on the issue of raising the floor seasonally due to local high water tables. This was fully assessed by Aercoustics in their August 10, 2015 Addendum No. 1.	
		The water table is predicted to rise on the south side of quarry. Waterlogging of young plants cause poor crop yields. No discussion of this impact,	"The Kettle depression has an estimated minimum elevation of 349 m AMSL according to the one meter contour mapping provided by the GRCA. As shown in figure 3.17 the potentiometric surface has an elevation of 346m AMSL. The predicted water level rise beneath the kettle depression, as shown in figure 4.3 is approximately one metre. Therefore, root zone flooding is not predicted." Hidden Quarry - Harden Response to Township regarding CRC Hunter Queries July 8, 2014. In addition, the static groundwater levels in bedrock wells located along the southside of Hwy 7 are all in excess of eight metres depth and therefore well below the root zone.	Harden
		Drawdowns, precipitation levels, evaporation, temperature all effect soil growth capacity. No detailed discussion of these parameters	There is not expected to be any significant impact of water drawdown on any agricultural property. The parameters of precipitation level, evaporation and temperature are all independent of the impacts of the quarry. The drawdown predicted by Harden Environmental occurs in the bedrock aquifer and not the rooting zone.	Harden

		No analysis of soil drainage in lands abutting quarry site (tiling, soil type?)	There will be no change to soil drainage on lands abutting the quarry. The soil type as obtained from the Wellington County Soil Survey is shown on Figure 3.13 of the 2012 Harden Environmental Report. The soil conditions were confirmed with hand auger sampling (off site) and test pits (on-site). The lands upgradient of the site are underlain by the Dumfries Sandy Loam. the Dumfries Sandy Loam is well drained. The water table measured in monitoring well M2 located at the northern property boundary of site is some 12 metres below ground level. Any small deviation of the water table will not affect drainage of the soils at the ground surface. Where drainage is poor and seasonally wet conditions occur, i.e. in the northern portion of the Allen Farm, the soil contains silt and thus retains moisture. The quarry activities will not affect this soil property or moisture content.	Harden
		Accumulative impacts (new municipal well online).	No significant impact is expected. Measurements obtained by Burnside and Associates confirm that there was no impact of municipal water taking observed at wells on the Hidden Quarry site. The measured impact of water taking by the Mushroom Farming operation is less than thirty centimetres at observations wells on the Hidden Quarry site a clear indication that the significant drawdown in the Mushroom Farm well is rapidly attenuated in the aquifer.	Harden
		Haulage of water into farm not mentioned in mitigation measures.	Any well interference, residential or agricultural, would be remedied immediately according to the well complaint protocol. See Section 6.2.5 Water-Related Effects in the Revised AIA, August 5, 2015.	Stovel
13	Agricultural Impact Analysis	What happened to the class 2 lands?	There are no Class 2 lands present on the site based on the onsite soil survey.	Stovel
14	Agricultural Impact Analysis	Federation of Agriculture (OFA) is demanding the provincial definition of prime agricultural land be expanded to include Canada Land Inventory Class 4 soils, along with Class 1, 2 and 3 soils. The OFA is also advocating that aggregate extraction be prohibited from Canada Land Inventory Class 1, 2, 3 and 4 soils and specialty crop lands.	The Provincial Policy Statement defines Prime Agricultural Land as: "Prime agricultural land: means specialty crop areas and/or Canada Land Inventory Class 1, 2, and 3 lands, as amended from time to time, in this order of priority for protection." As such The subject land is not comprised primarily of CLI Classes 1-3 agricultural soils. Therefore, the proposed mineral aggregate operation will not result in a significant consumption good quality agricultural land.	Stovel
15	Agricultural Impact Analysis	Gaps in Analysis: Economic Impact		Stovel
		Multi-million dollar mushroom operation closed	There are not anticipated to be any significant impacts on the Mushroom operation.	
		Cash crop spoilage	There will be no spoilage of cash crops.	Stovel
		Potential water shortages	Extensive peer reviewed hydrogeology does not predict any impact in water availability to homes and farms. A robust monitoring program followed up by a well complaint response protocol will ensure that any unexpected impacts are mitigated immediately.	Harden
		Livestock and human health concerning dust.	The air quality assessment indicates that the Hidden Quarry will operate within the acceptable levels based on guidelines enforced by the MOECC.	RWDI
		Third party bond?	The MOECC has authority to deal with dust related complaints and has broad powers to order immediate remedies.	RWDI
16	Natural Environment	Natural Environment report must be revised and third party should address significant habitat and wildlife CRC concerns.	Respectfully, the GWS work has been peer reviewed by the MNR, the GRCA and by R.J Burnside and Associates on behalf of the Township.	GWS
	Agricultural Impact Analysis	Agricultural assessment should be updated and extensive interviews with farmers should be completed.	Respectfully, the Agricultural Impact Assessment adequately describes the impact of the Hidden Quarry site on the surrounding agricultural operations.	Stovel