

drainage is westerly toward Sheldon Creek with a small component to the east.

The granular nature of the soils and subsurface materials on these lands allow almost all of the natural rainfall and snow melt to be absorbed into the groundwater system rather than flowing off the site.

## 7. Water Resources

### 7.1 Surface Water

The subject lands are within the Nottawasaga River watershed. Sheldon Creek, a tributary of the Nottawasaga River, runs to the west of the site through the provincially significant Violet Hills Wetland Complex. Local topography indicates most of the site

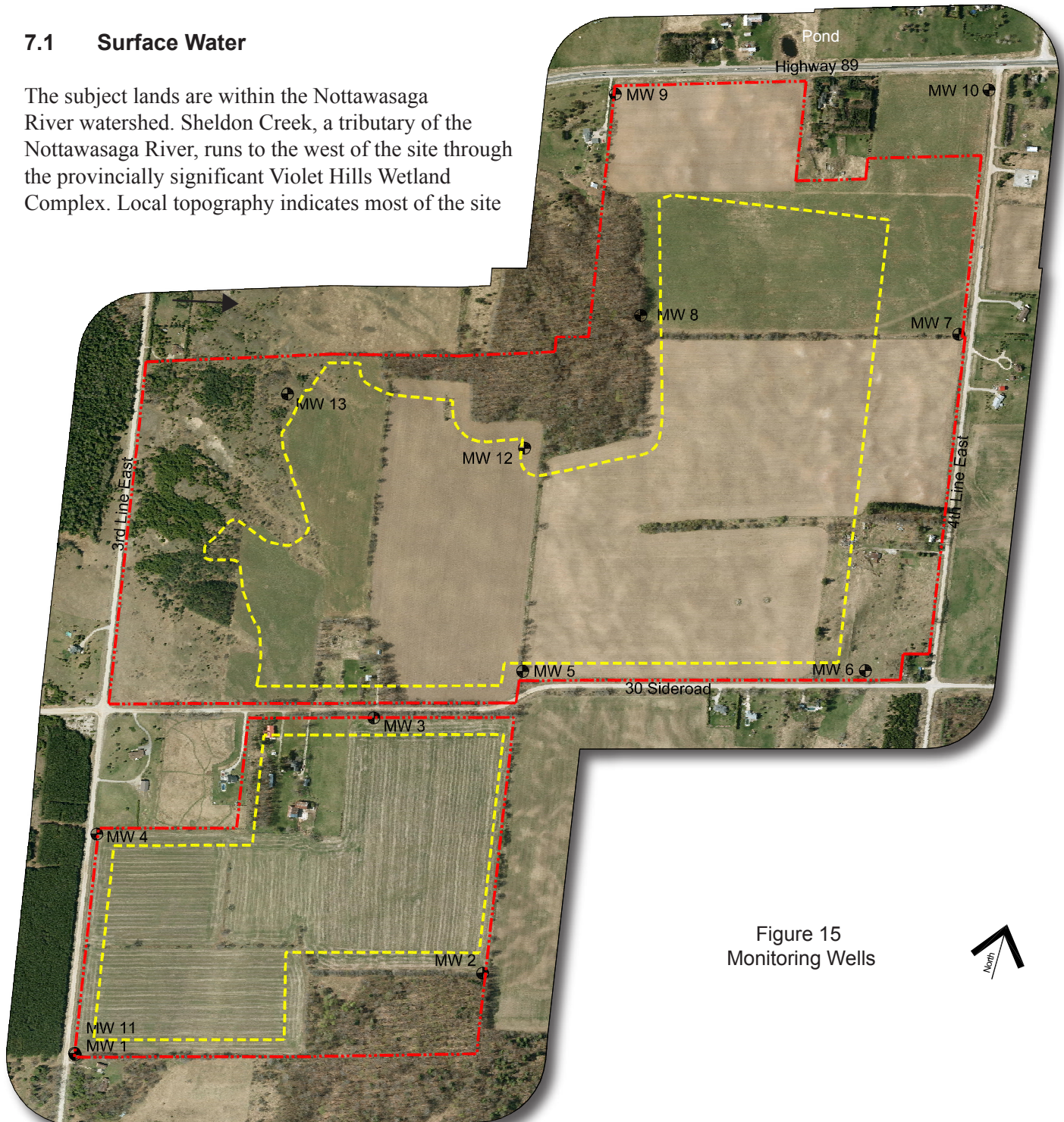


Figure 15  
Monitoring Wells



There is one existing surface water feature on or within 120 metres of this site. The feature is a small pond north of Highway 89 directly across the road from the proposed entrance to the pit. It appears to be associated with the farm buildings at that location. Extractive operations will have no effect on the pond.

Ponds, water courses, wetlands or agricultural drainage systems are not present on the lands proposed for extraction.

Sheldon Creek is found to the west of the site, beyond the 120 metre impact zone. There is one culvert that crosses the 3<sup>rd</sup> Line in the north west area of the Greenwood Aggregate lands that during times of heavy rain may convey run off toward the wetlands associated with Sheldon Creek. There will be no additional discharge of water off site as a result of pit operations.

This licence will have little impact on surface drainage.

## 7.2 Groundwater

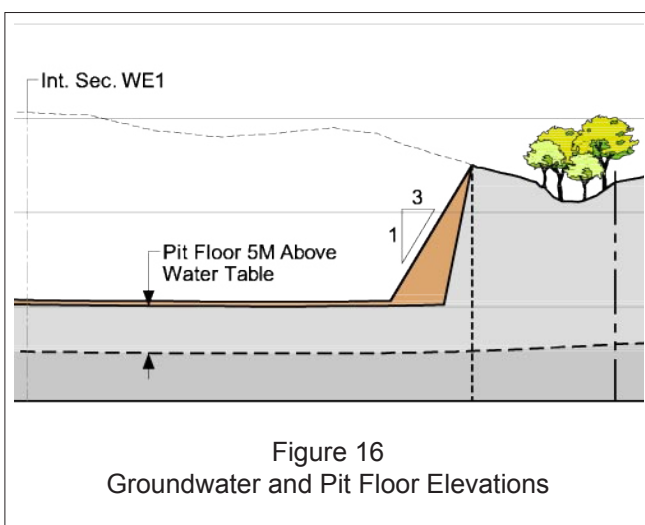
The proposed aggregate extraction will remain 5 metres above the established water table. As a result, no dewatering or water diversion off site will be required to maintain dry operating conditions. The seasonal high water table was established at the site by monitoring groundwater elevations in the overburden

aquifer both manually and with automatic pressure transducers in 13 monitoring wells. The water table elevation across the site ranges between 406.1 masl in the south to 413.5 masl in the north. Due to the geological and hydrogeological conditions, the pit floor will range at elevations between 420 masl and 411 masl.

The extraction of aggregate from 5 m above the water table will not interfere with any existing private water wells.

## 7.3 Aggregate Washing

Site operations will include an on-site washing facility consisting of a lined closed loop system, which will recycle water in ponds isolated above the water table. Appropriate approvals under the Ontario Water Resources Act will be obtained to allow for the use of water in day-to-day operations.





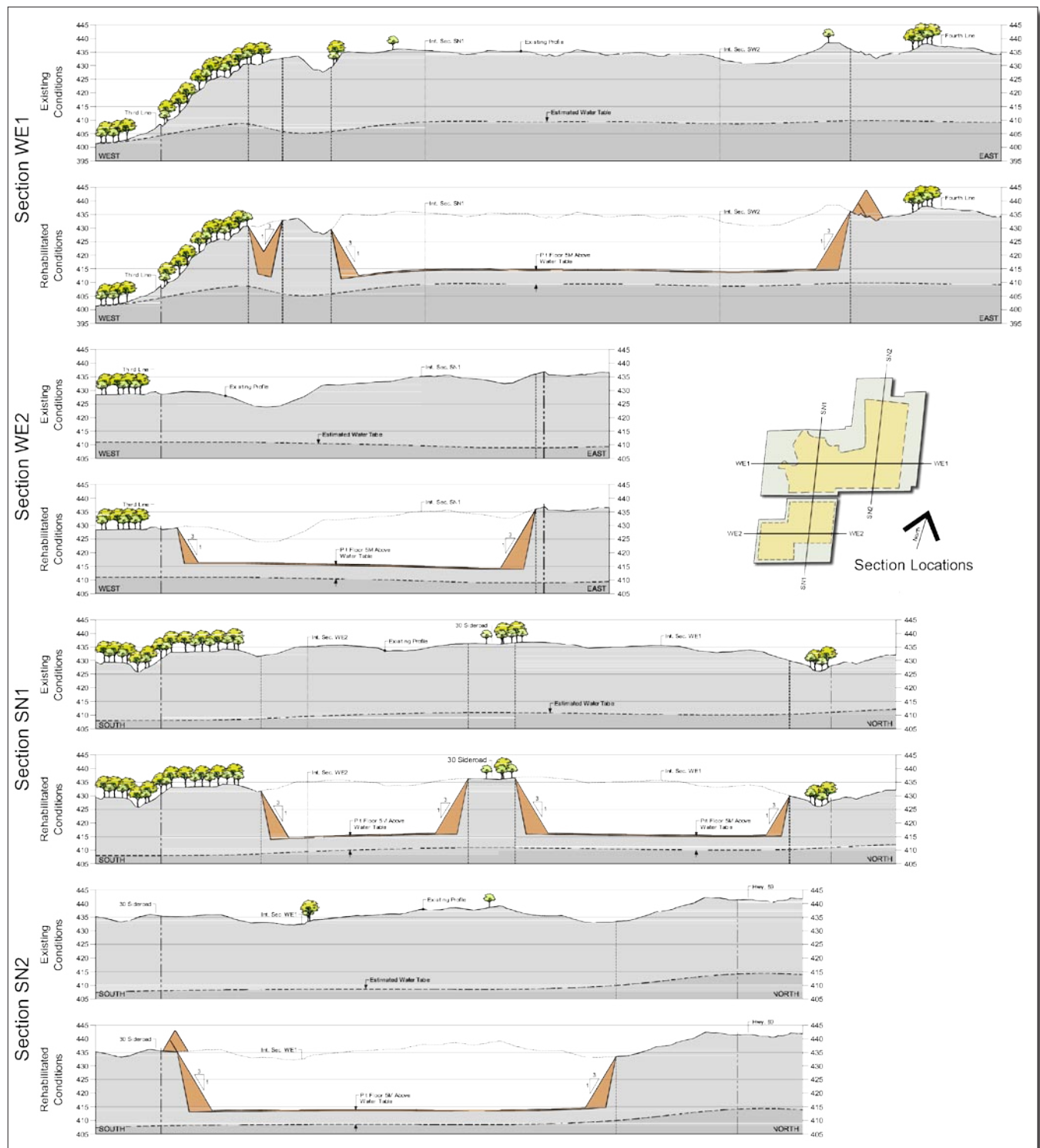


Figure 17  
Site Plan Cross Sections

## 8. Archaeology

Archaeological Consultants & Contractors conducted a study of the potential for archaeological resources on the site, producing two reports: *A Stage 1 and 2 Archaeological Assessment of Part Lot 32, Concession 4 (East of Hurontario Street), Mono Township, County of Dufferin, Ontario* dated April 2013, and *A Stage 1 and 2 Archaeological Resource Assessment of the Proposed Violet Hill Pit, Lot 31 & Part of Lot 30, Concession 4 (East of Hurontario Street), Mono Township, County of Dufferin, Ontario*, dated January 2015.

The studies identified one archaeological site in the extreme north east corner of the property, Violet Hill 1 (BaHa-3), requiring registration with the Ministry of Tourism, Culture and Sport. It is thought the site represents a single-family, early to mid-nineteenth century

domestic occupation. Recommendations for protection include a 20 metre no impact buffer with silt fence, and a 50 metre monitoring zone.

The way the site has been designed, the closest berm will be approximately 150 metres from the archaeological site, and the proposed extraction area is no closer than approximately 200 metres away. As a result, no disturbance will occur. To further ensure the site remains undisturbed, the license limit has been located 100 metres from the archaeological site.

The studies also confirmed that the balance of the proposed license area does not contain archaeological material of significance. Of these lands, Archaeological Consultants & Contractors writes, "... the study area does not require further archaeological assessment," and "should be considered free from further archaeological concern." Refer to Appendix H.

The Ministry of Tourism, Culture and Sport has issued a clearance letter for the portion of the site within Lots 30 and 31. See Appendix I.

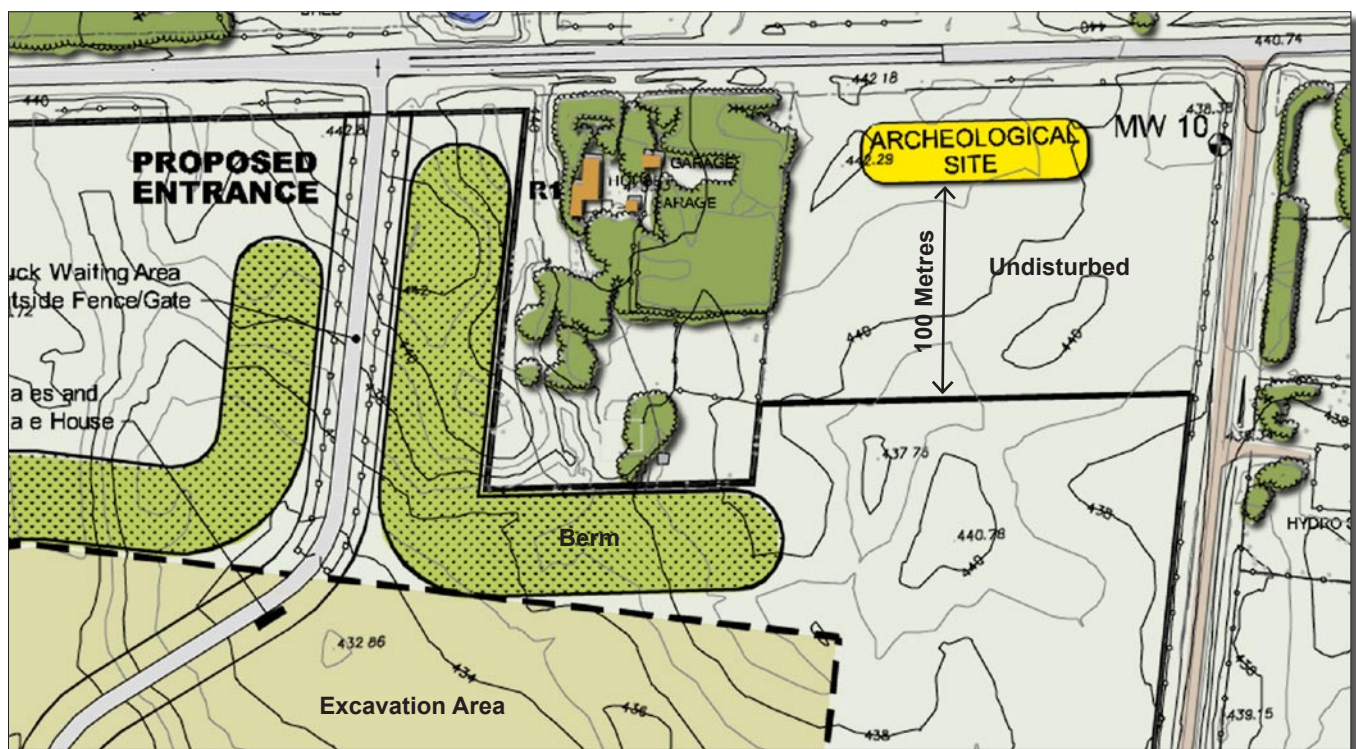
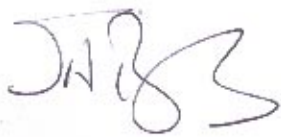


Figure 18  
Archaeological Site Violet Hill 1 (BaHa-3)

## 9. Conclusions

The proposed Violet Hill Pit is consistent with the Provincial Policy Statement regarding protection of mineral aggregate resources and other provincial considerations, and conforms to the policies contained in the Town of Mono Official Plan. This application package, together with the accompanying technical reports and site plans, provides the information required for the consideration of aggregate operations in the Town of Mono Official Plan and the Provincial Standards.

The subject property is located within a Selected Sand and Gravel Resource Area of tertiary significance, as identified by the provincial Aggregate Resource Inventory. Testing undertaken by Greenwood confirms the presence of a suitable quantity and quality of material to warrant extraction. The site fronts directly on Highway 89, meaning no local haul route is required and that there is good access to local and regional markets. The resource on the property will allow Greenwood to secure additional aggregate to meet the demands of the GTA and the County of Dufferin.



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