

**CONSULTANT RECOMMENDATIONS:**

**NATURAL ENVIRONMENT RECOMMENDATIONS: NATURAL ENVIRONMENT LEVEL 1 AND 2 REPORT - NIBLETT ENVIRONMENTAL ASSOCIATES INC. - DECEMBER 2017**

1. PRIOR TO ANY SITE PREPARATION, RETAIN A QUALIFIED BIOLOGIST TO DEVELOP A SPECIES AT RISK MANAGEMENT PLAN AND OBTAIN AN ENDANGERED SPECIES ACT PERMIT (OVERALL BENEFIT PERMIT) FROM MNRF.
2. PRIOR TO EXTRACTION IN PHASE 2, RETAIN A QUALIFIED BIOLOGIST TO DEVELOP A WETLAND COMPENSATION PLAN.
3. RETAIN A QUALIFIED BIOLOGIST TO DEVELOP A RARE VEGETATION SALVAGE PLAN IN CONSULTATION WITH MNRF FOR SALVAGING AND TRANSPLANTING REGIONALLY RARE PLANTS.
4. PRIOR TO THE RELOCATION OF WATERCOURSE 1, RETAIN A QUALIFIED BIOLOGIST TO DEVELOP AND IMPLEMENT A FISH SALVAGE PLAN. THIS PLAN WILL BE SUBMITTED TO THE MNRF AND THE DEPARTMENT OF FISHERIES AND OCEANS (DFO) TO DETERMINE IF A FISHERIES ACT AUTHORIZATION WILL BE REQUIRED.
5. PRIOR TO SITE PREPARATION OF EACH STAGE SHOWN ON SHEETS 6 THROUGH 8, DESIGN AND IMPLEMENT A SEDIMENT AND EROSION CONTROL PLAN.
6. MAINTAIN SURFACE WATER FLOWS TO THE PSW DURING EXTRACTION.
7. ENSURE CLEARING AND GRUBBING OF EACH PHASE OCCURS OUTSIDE THE PEAK BREEDING BIRD PERIOD (APRIL 15TH - AUGUST 15TH). IF CLEARING MUST BE CONDUCTING DURING THIS TIME, A QUALIFIED BIRD BIOLOGIST SHOULD CONDUCT A NEST SEARCH FOR ANY EVIDENCE OF ACTIVE NESTS WITHIN THE AREA TO BE CLEARED.
8. AS EXTRACTION PROCEEDS, PROGRESSIVELY REHABILITATE THE NEW DRAINAGE CHANNEL AS PER THE REHABILITATION PLAN.
9. PRIOR TO CLEARING AREAS WITH BUTTERNUT TREES, ASSESS THE HEALTH OF THE BUTTERNUT TREES. SUBMIT A NOTICE OF BUTTERNUT IMPACT FORM UNDER THE ENDANGERED SPECIES ACT TO THE MNRF FOR THOSE BUTTERNUT TREES IDENTIFIED AS CATEGORY 2 (RETAINABLE). REPLACE BUTTERNUT TREES AS REQUIRED BY THE MNRF PERMIT AT A RATIO OF 1:1 IN THE 50M BUFFER.
10. CUTTING RESTRICTIONS DURING PEAK BREEDING BIRD SEASON (APRIL 15TH-AUGUST 15TH) MAY BE PLACED ON AGRICULTURAL ACTIVITIES IF HAY CROPS ARE GROWN ON-SITE.

**HYDROGEOLOGY RECOMMENDATIONS: LEVEL 1 AND 2 HYDROGEOLOGICAL INVESTIGATION - MTE CONSULTANTS INC. - NOVEMBER 28, 2014**

1. DEVELOP AN ADAPTIVE MANAGEMENT PLAN (AMP) IN CONSULTATION WITH APPROVAL AGENCIES THAT WILL:
  - a. PROVIDE A WELL INTERFERENCE COMPLAINT RESOLUTION PROCEDURE.
  - b. DEFINE TRIGGER MECHANISMS THAT WILL INITIATE A RESPONSE PROCEDURE TO ADVERSE CHANGES IN GROUNDWATER AND SURFACE WATER RESOURCES; AND,
  - c. DEFINE AN ASSESSMENT PROCEDURE FOR MONITORING RESULTS AND PROVIDES STEP-BY-STEP PROCEDURES AND TIMELINES FOR RESPONSES.
2. MAINTAIN THE GROUNDWATER MONITORING PROGRAMS AS DETAILED IN TECHNICAL APPENDIX B OF THE HYDROGEOLOGY REPORT.
3. MAINTAIN THE SURFACE WATER MONITORING PROGRAM AS DETAILED IN TECHNICAL APPENDIX C OF THE HYDROGEOLOGY REPORT.
4. MAINTAIN THE PRIVATE WELL MONITORING PROGRAM, INCLUDING THOSE WELLS LISTED IN TABLE 2 OF THE EXISTING FEATURES PLAN (SHEET 1 OF 8) PROVIDED ACCESS IS GRANTED BY THE RESIDENT.
5. DESIGN SURFACE WATER MANAGEMENT (SWM) PONDS TO SETTLE SUSPENDED SOLIDS ON-SITE. PRIOR TO EXTRACTION PROCEEDING IN PHASE 1B FOR SETTLING POND 1 AND PHASE 2 FOR SETTLING POND 2, OBTAIN AN ECA FOR SETTLING POND 1 AND SETTLING POND 2 AS REQUIRED.
6. PRIOR TO EXTRACTION DESIGN AND IMPLEMENT A SEDIMENT AND EROSION CONTROL PLAN.

7. PRIOR TO SITE PREPARATION DESIGN A SPILLS PLAN.

8. PRIOR TO EXTRACTION DESIGN A PRIVATE WELL INTERFERENCE COMPLAINT PROCEDURE.

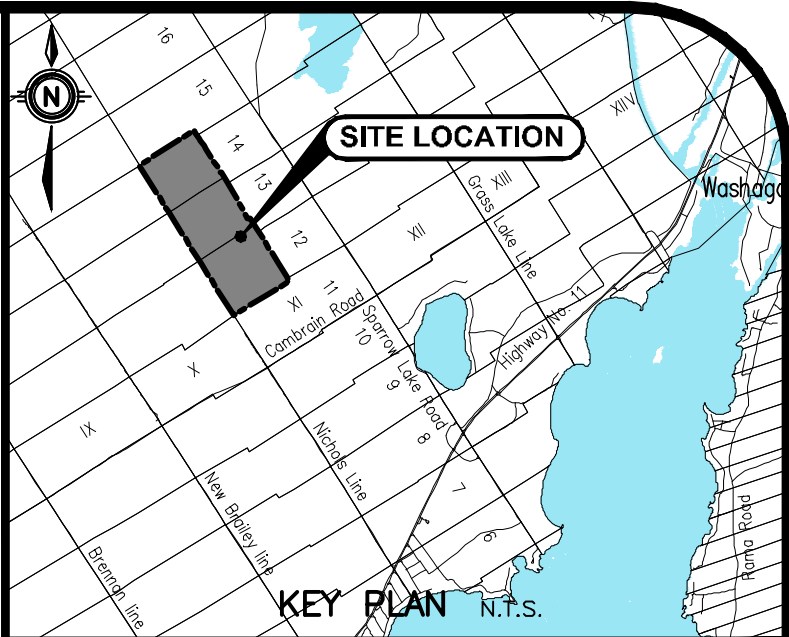
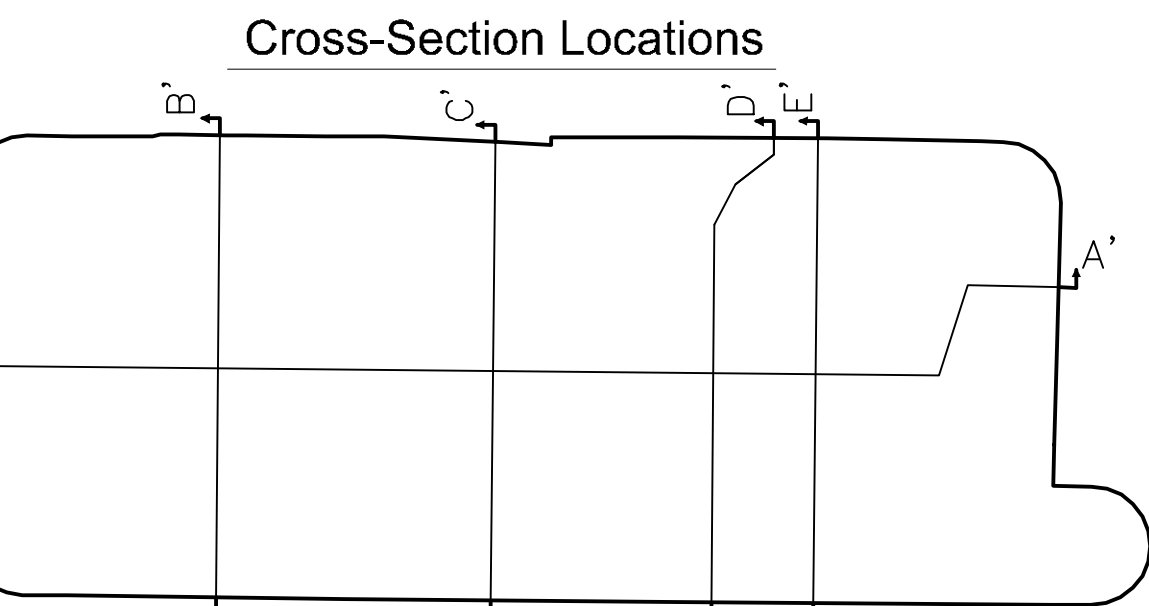
9. MAINTAIN SURFACE WATER FLOWS TO THE PSW DURING EXTRACTION.

**NOISE RECOMMENDATIONS: NOISE IMPACT ANALYSIS - VALCOUSTICS CANADA LTD. - SEPTEMBER 14, 2017**

1. THE SOUND EMISSION LEVEL FOR ALL PIECES OF EQUIPMENT USED FOR CONSTRUCTION ACTIVITIES INCLUDING SITE PREPARATION AND REHABILITATION MUST COMPLY WITH THE LIMITS OUTLINED IN MOECC PUBLICATION NPC-115, "CONSTRUCTION EQUIPMENT".
2. BACK-UP BEEPERS ARE EXEMPT FROM ASSESSMENT BY THE MOECC STATIONARY NOISE SOURCE GUIDELINES. HOWEVER, TO REDUCE OFF-SITE NOISE IMPACTS, WE RECOMMEND ALTERNATIVE TECHNOLOGIES BE USED ON ALL EQUIPMENT OPERATING AT THE SITE. DETAILS REGARDING A POTENTIAL ALTERNATIVE ARE INCLUDING IN APPENDIX C OF THE NOISE REPORT.
3. SOUND EMISSIONS FROM EQUIPMENT TO BE USED ON-SITE SHOULD BE MEASURED TO CONFIRM THAT THEY COMPLY WITH THE LEVELS OUTLINED WITHIN THIS REPORT. FOR THE ROCK DRILL, THE MAXIMUM EMISSIONS LEVEL IS 80 DBA AT 15 METERS.
4. SOUND BARRIERS TO BE CONSTRUCTED ACCORDING TO THE TIMINGS SHOWN ON DETAIL E CORRESPONDING TO THE STAGE OF OPERATION INDICATED ON SHEETS 6, 7, AND 8.
5. MINIMUM 5.0 M HIGH STOCKPILES TO BE MAINTAINED TO THE EAST OF THE PERMANENT PROCESSING PLANT, AS SHOWN ON DETAIL E.
6. ROCK DRILLING AND THE HAULING OF MATERIAL FROM THE WORKING FACE TO THE PERMANENT PROCESSING PLANT NOT OCCUR AT THE SAME TIME WITHIN THE HIGHLIGHTED AREA SHOWN ON DETAIL E (SHEET 4 OF 8).
7. DIMENSION STONE QUARRYING CAN ONLY OCCUR WHEN ROCK DRILLING IS NOT BEING DONE.
8. THE QUARRY CAN OPERATE 7:00 AM TO 6:00 PM MONDAY TO FRIDAY, 7:00 AM TO 12:00 PM ON SATURDAYS. LOADING AND SHIPPING CAN OCCUR 6:00 AM TO 6:00 PM MONDAY TO FRIDAY, 6:00 AM TO 12:00 PM ON SATURDAYS.
9. CONSTRUCTION ACTIVITIES, INCLUDING STRIPPING AND REHABILITATION, SHOULD ONLY OCCUR DURING THE DAYTIME PERIOD 7:00 AM TO 7:00 PM MONDAY TO FRIDAY. THERE SHOULD BE NO CONSTRUCTION ON WEEKENDS OR STATUTORY HOLIDAYS.
10. OFF-SITE NOISE AUDIT MEASUREMENTS TO BE COMPLETED WHEN DRILLING AND PROCESSING ARE BEING DONE ON THE SITE TO CONFIRM THE MOE NOISE GUIDELINE LIMITS ARE MET. THE AUDIT MEASUREMENTS MUST BE DONE BY A QUALIFIED ACOUSTICAL ENGINEER.
11. TO ENSURE NOISE EMISSIONS COMPLY WITH THE RECOMMENDATIONS OF THE NOISE REPORT, SOUND EMISSION LEVELS FROM EQUIPMENT USED ON SITE ARE TO BE MEASURED TO ENSURE THEY DO NOT EXCEED THE LEVELS OUTLINED HEREIN OR, FOR EQUIPMENT BROUGHT TO THE SITE ON AN AS-NEEDED BASIS, THEY HAVE APPROPRIATE C OF AS OR ECA'S.
12. IF OTHER OR NEW EQUIPMENT IS BROUGHT TO THE SITE, THE SOUND EMISSIONS ARE TO BE CHECKED TO ENSURE THE EQUIPMENT IS IN COMPLIANCE WITH THIS NOISE STUDY.
13. IF ALTERNATE NOISE MITIGATION BARRIERS ARE TO BE IMPLEMENTED, THEY BE REVIEWED BY A QUALIFIED ACOUSTICAL CONSULTANT TO ENSURE THE MOE NOISE GUIDELINE LIMITS WILL BE MET.

**STAGE 1 & 2 ARCHAEOLOGICAL ASSESSMENT - DECEMBER, 2007 STAGE 3 ARCHAEOLOGICAL ASSESSMENTS - MAY 2008 -KINICKINICK HERITAGE CONSULTANTS.**

1. IN THE EVENT THAT DEEPLY BURIED ARCHAEOLOGICAL DEPOSITS ARE FOUND DURING CONSTRUCTION, THE LICENSEE SHALL NOTIFY THE HERITAGE OPERATIONS UNIT IMMEDIATELY (416-314-7123):
2. IF HUMAN REMAINS ARE FOUND, THE LICENSEE SHALL NOTIFY THE REGISTRAR OR DEPUTY REGISTRAR OF THE CEMETERIES REGULATION UNIT OF THE MINISTRY OF CONSUMER AND COMMERCIAL RELATIONS IMMEDIATELY (416-326-6404).



PRE-EXTRACTION WATER TABLE  
POST-EXTRACTION WATER TABLE  
(Based on the Numerical Groundwater Flow Model completed by MTE Consultants Inc. (2014))

216.5 FINAL REHABILITATED SURFACE  
216.0 FINAL QUARRY FLOOR

WETLAND AREA  
AGRICULTURAL  
OPEN FIELD MEADOWS  
FOREST CORRIDOR

**SITE PLAN AMENDMENTS**

NO.	REVISION	BY	DATE



Engineers | Scientists | Surveyors

www.mte85.com

David W. Kennedy

**V.E. ROWE**  
LICENSED PROFESSIONAL ENGINEER  
04/20/18  
PROVINCE OF ONTARIO

**DECLARATION OF PURPOSE**  
THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS 'A' LICENCE, CATEGORY 2.

**PROJECT**  
**CUMBERLAND QUARRY**  
LICENSEE: SEVERN AGGREGATES LIMITED  
151 WHITERHALL DRIVE,  
MARKHAM, ONTARIO  
L3R 9T1

**DRAWING**  
**CROSS SECTIONS AND CONSULTANTS RECOMMENDATIONS**  
WEST HALF LOTS 12, 13 AND 14, CONCESSION 11  
GEOGRAPHIC TOWNSHIP OF ORILLIA, NORTH DIVISION  
TOWNSHIP OF SEVERN, COUNTY OF SIMCOE

Project Manager J. Flanagan	Project No. 33876-300
Design By	Checked By
Drawn By K.X.M.	Checked By
Surveyed By	Sheet No.
Date April 24, 2018	<b>3</b>
Scale 1:4000	Sheet 3 of 8

80 0 80 160 240 metres  
SCALE 1:4000