

PROPOSED DOLOSTONE QUARRY

PART OF LOT 1, LOTS 2 AND 3
CONCESSION 11
GEOGRAPHIC TOWNSHIP OF
EAST FLAMBOROUGH
CITY OF HAMILTON

**3 of 6
OPERATIONAL PLAN**

LEGEND

- BOUNDARY OF AREA TO BE LICENSED
- BOUNDARY OF AREA TO BE EXCAVATED
- 15m <— EXCAVATION SETBACK AND WIDTH
- 310 — EXISTING 1m CONTOURS
- 307.0 — EXISTING SPOT ELEVATIONS
- SHED BUILDING AND USE
- EXISTING TREE COVER
- EXISTING FENCE LINE
- PROVINCIAL SIGNIFICANT WETLAND
- EXISTING ENTRANCES & EXITS
- DIRECTION OF EXCAVATION
- STOCKPILE
- ACOUSTIC BARRIER
- BERMS
- x250 — MAXIMUM DEPTH OF EXCAVATION

NOTES

1. AS EXCAVATION PROCEEDS, TOPSOIL AND SUBSOIL WILL BE STRIPPED AND STOCKPILED IN SEPARATE SCREENING BERMS AND/OR STOCKPILES AND PRESERVED FOR USE DURING REHABILITATION.
2. THE OPERATION SEQUENCE MAY VARY DUE TO QUALITY OF MATERIAL, SITE HYDROLOGY/HYDROGEOLOGY OR MARKET DEMAND, SUBJECT TO WRITTEN APPROVAL BY THE MINISTRY OF NATURAL RESOURCES.
3. HAUL ROAD (RAMP)S WILL BE DEVELOPED TO SUIT OPERATING CONDITIONS. THE HAUL ROAD WILL BE PAVED FROM THE ENTRANCE TO THE EASTERLY LIMIT OF PHASE 2.
4. PUMPING WILL BE REQUIRED TO DEWATER THE QUARRY FLOOR. THE COMPANY WILL COOPERATE WITH THE MINISTRY OF THE ENVIRONMENT TO MAINTAIN EFFLUENT WATER QUALITY, DRAINAGE, SETTLING POND, PUMPING AND RECHARGE FACILITIES IN ACCORDANCE WITH APPROVED PERMITTING.
5. THE EXISTING BUILDINGS IN LOT 1 WILL REMAIN. A PORTABLE PROCESSING PLANT WILL BE ESTABLISHED, AS INDICATED, SURROUNDED BY AN UNEXCAVATED ROCK BARRIER OF 17 M MINIMUM HEIGHT. THE SCALE AND SCALE HOUSE WILL BE INSTALLED AS SHOWN.
6. STOCKPILES WILL BE LOCATED ON THE QUARRY FLOOR. NOT EXCEEDING 20 M IN HEIGHT.
7. THE PROPOSED BERMS WILL BE CONSTRUCTED AS EXCAVATION PROCEEDS THROUGH EACH PHASE, AS SET OUT ON DRAWING 4 - STAGING AND PROGRESSIVE REHABILITATION. BERMS WILL BE SEEDED AND VEGETATED. BERM AND BUFFER VEGETATION WILL BE MAINTAINED FOR THE DURATION OF THE LICENSE.
8. EQUIPMENT NORMALLY USED ON SITE WILL INCLUDE BULDOZERS, SCRAPERS, LOADERS, DRILLS, BACKHOES, TRUCKS, A FULL-SCALE PORTABLE PLANT AND FUTURE PERMANENT PLANT, WITH OTHER ACCESSORY AND ASSOCIATED EQUIPMENT, AS REQUIRED.
9. HOURS OF DRILLING AND PROCESSING PLANT OPERATION WILL BE FROM 7:00 TO 2:00, MONDAY TO FRIDAY. LOADING AND SHIPPING WILL OCCUR FROM 6:00 TO 2:00, MONDAY TO FRIDAY, BOTH EXCLUDING HOLIDAYS.
10. THE MAXIMUM NUMBER OF TONNES OF AGGREGATE TO BE REMOVED FROM THE SITE SHALL NOT EXCEED 3 MILLION PER YEAR.
11. REFER TO DRAWING 4 FOR DETAILS OF PROGRESSIVE REHABILITATION AND TO DRAWING 5 FOR FINAL REHABILITATION AND EDGE STANDARDS.
12. WATER FROM QUARRY DEWATERING, DRAINAGE AND STORMWATER WILL BE PUMPED TO THE SURFACE AND DISTRIBUTED FOR RECHARGE TO GROUNDWATER, STREAMS AND WETLANDS.

PRESCRIBED CONDITIONS

1. PROVINCIAL STANDARDS UNDER THE AGGREGATE RESOURCES ACT, FOR A CATEGORY 2, CLASS A QUARRY BELOW WATER.
2. DUST WILL BE MITIGATED ON SITE.
3. WATER OR ANOTHER PROVINCIAL APPROVED DUST SUPPRESSANT WILL BE APPLIED TO INTERNAL HAUL ROADS AND PROCESSING AREAS AS OFTEN AS REQUIRED TO MITIGATE DUST.
4. PROCESSING EQUIPMENT WILL BE EQUIPPED WITH DUST SUPPRESSING OR COLLECTION DEVICES, WHERE THE EQUIPMENT CREATES DUST AND IS BEING OPERATED WITHIN 300 METRES OF A SENSITIVE RECEPTOR.
5. ANY RECOMMENDATIONS AND/OR RECOMMENDED MONITORING PROGRAM IDENTIFIED IN THE TECHNICAL REPORTS WILL BE DESCRIBED ON THE SITE PLAN AND ALL RECORDS WILL BE RETAINED BY THE LICENSEE AND MADE AVAILABLE UPON REQUEST BY THE MINISTRY OF NATURAL RESOURCES FOR AUDIT PURPOSES.
6. A SPILLS CONTINGENCY PROGRAM WILL BE DEVELOPED PRIOR TO SITE PREPARATION.
7. FUEL STORAGE TANKS WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE GASOLINE HANDLING ACT. IF REQUIRED, A CERTIFICATE OF APPROVAL WILL BE OBTAINED FOR THE DISCHARGE SYSTEM SHOULD WATER BE DISCHARGED OFF SITE.
8. IF REQUIRED, A CERTIFICATE OF APPROVAL WILL BE OBTAINED FOR PROCESSING EQUIPMENT TO BE USED ON SITE.
9. IF REQUIRED, A PERMIT TO TAKE WATER WILL BE OBTAINED FOR UTILIZING GROUND AND/OR SURFACE WATER.
10. THE LICENSEE WILL MONITOR ALL BLASTS FOR GROUND VIBRATIONS AND BLAST COVER PRESSURE AND WILL OPERATE TO ENSURE COMPLIANCE WITH CURRENT PROVINCIAL GUIDELINES.
11. BLASTING WILL NOT OCCUR ON A HOLIDAY OR BETWEEN THE HOURS OF 6 P.M. ON ANY DAY AND 8 A.M. ON THE FOLLOWING DAY.
12. ALL BLAST MONITORING REPORTS MUST BE RETAINED BY THE LICENSEE AND MADE AVAILABLE UPON REQUEST BY THE MINISTRY OF NATURAL RESOURCES FOR AUDIT PURPOSES.

OPERATIONAL SEQUENCE

PHASE 1 OF QUARRY DEVELOPMENT INCLUDES CLEARING AND EXCAVATION FOR THE PROPOSED HAUL ROAD. PHASE 1 WILL BE ESTABLISHED WITH A PORTABLE PROCESSING PLANT AT THE FIRST LIFT ELEVATION OF 288 M. EXCAVATION WILL PROCEED FROM THE SINKING CUT NORTHERLY TO THE LIMIT OF EXCAVATION. WHEN THE FIRST LIFT OF PHASE 1 HAS BEEN COMPLETED, THE NORTHERLY HALF OF PHASE 1 WILL BE EXCAVATED TO THE LOWER LIFT ELEVATION OF 250 M. BERMS AND OTHER ACOUSTIC CONTROLS WILL BE CONSTRUCTED IN STAGES, AS SHOWN ON DRAWINGS 4 AND 5. THE SEQUENCE OF OPERATIONS FOR PHASE 2 TO 4 ARE DETAILED ON DRAWING 4. FINAL REHABILITATION DETAILS ARE PROVIDED ON DRAWING 5.

ENVIRONMENTAL MANAGEMENT

ARCHAEOLOGY
SHOULD DEEPLY BURIED ARCHAEOLOGICAL FINDS BE ENCOUNTERED ON THE PROPERTY DURING PIT DEVELOPMENT ACTIVITIES, THE MINISTRY OF CULTURE SHOULD BE NOTIFIED IMMEDIATELY.
IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED DURING DEVELOPMENT, THE LICENSEE SHOULD IMMEDIATELY CONTACT THE DESIGNATED AGENCIES.

DUST CONTROL

DUST FROM QUARRY OPERATIONS WILL BE MITIGATED AND CONTAINED ON THE SITE BY CLEANING/SWEEPING PAVED SURFACES AND APPLICATION OF WATER OR APPROVED SUPPRESSANTS TO INTERNAL HAUL ROADS, ACTIVE QUARRY AREAS, STOCKPILES AND PROCESSING EQUIPMENT, AS REQUIRED.

NOISE CONTROL

NOISE CONTROLS SHALL BE DEVELOPED SEQUENTIALLY CONSISTENT WITH THE STAGING OF QUARRY OPERATIONS AS SET OUT ON DRAWING 5.

WATER MANAGEMENT

WATER FROM QUARRY DEWATERING, DRAINAGE AND STORMWATER WILL BE PUMPED TO THE SURFACE AND DISTRIBUTED FOR RECHARGE TO GROUNDWATER, STREAMS AND WETLANDS.
GROUND WATER WILL BE MONITORED ONSITE AND AT NEIGHBOURING WELLS, WHERE PERMISSION IS GRANTED. MONITORING WILL INCLUDE QUARTERLY WATER LEVELS AND ANNUAL QUALITY TESTING FOR GENERAL CHEMISTRY, TOTAL PETROLEUM HYDROCARBONS AND VOLATILE ORGANIC COMPOUNDS. AN ANNUAL REPORT WILL BE PREPARED BY EACH APRIL.
DEWATERING RECORDS WILL BE MAINTAINED AND INCLUDED IN AN ANNUAL REPORT IN ACCORDANCE WITH THE PERMIT TO TAKE WATER.
DRAINAGE AND STORMWATER WILL BE TREATED BY SETTLING, PRIOR TO DISCHARGE FROM THE SITE, WITH FLOW RECORDING, PRE-RELEASE TESTING AND ANNUAL REPORTING, IN ACCORDANCE WITH THE CERTIFICATE OF APPROVAL.

TRAFFIC

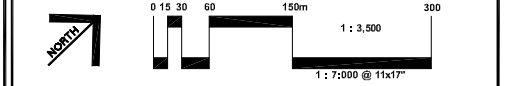
THE PROPOSED ENTRANCE AND RELATED IMPROVEMENTS TO MILBROUGH LINE WILL BE COMPLETED TO MUNICIPAL STANDARDS. CONCESSION 11 ENTRANCES WILL BE USED ONLY FOR INSPECTION, LANDSCAPE MAINTENANCE AND MONITORING VEHICLES.

SITE PLAN VARIATIONS

THE FOLLOWING CONDITIONS ILLUSTRATED ON THIS DRAWING VARY FROM THE OPERATIONAL STANDARDS, 1997.

SECTION	CONDITION
FILE: \Lowham\Bases plan.dwg	
DRAWING: T.M.L. (in AutoCAD)	
CHECKED: R.J.L.	
PLOTTED: 16 SEPTEMBER 2004	
AMENDMENT NO.	

No.	DATE	DESCRIPTION	APP'D
AMENDMENTS			



AREA TO BE LICENSED
153.8 HA., 380 AC.

AREA TO BE EXCAVATED
96.4 HA., 238 AC.

