

HUNSBERGER PIT

APPLICANT: HUNDER DEVELOPMENT LTD.
c/o BOB HUNSBERGER
R.R. 1 BRESLAU, ONT.
NOB 1M0

LEGEND

- PROPERTY BOUNDARY
- LICENSED BOUNDARY
- LIMIT OF EXTRACTION
- LOT AND CONCESSION LINES
- EXISTING HYDRO WIRES
- FINAL CONTOUR (1m INTERVAL)
- CROSS SECTION LOCATION
- EXISTING TREELINE
- EXISTING TREE
- GRCA FLOODLINE
- GRCA REGULATION LIMIT
- EXISTING WETLAND
- EXISTING HYDRO TOWERS (230,000 volts)
- SURFACE DRAINAGE

REHABILITATION NOTES

1. EXTRACTION WILL CEASE AND THE FINAL PIT FLOOR LEVEL FOR EACH PHASE WILL BE ESTABLISHED AT THE ELEVATIONS NOTED ON THE OPERATIONAL PLAN, UNLESS SUBSEQUENTLY ADJUSTED UPWARDLY AS A RESULT OF ONGOING GROUNDWATER MONITORING.
2. THE SIDESLOPES OF THE EXTRACTION AREA WILL BE BACKFILLED TO A FINAL SLOPE OF 30% TO 1% WHICH HAS A SUFFICIENTLY GENTLY SLOPE FOR AGRICULTURAL EQUIPMENT AND FUTURE CROPS. THE LICENSEE MAY BACKFILL THE PIT SLOPES USING ON-SITE OVERBURDEN OR IMPORTED MATERIAL THAT IS CLEAN INERT AGGREGATE MATERIAL AS DEFINED BY THE MINISTRY OF ENVIRONMENT (MOC). IF IMPORTED MATERIAL IS USED, THE LICENSEE MUST ENSURE THAT THE MATERIAL IS TESTED AT THE SOURCE, BEFORE IT IS DEPOSITED ON SITE, TO ENSURE THAT THE MATERIAL MEETS MOE PARAMETERS UNDER TABLE 1 OF MOE'S SOILS, GROUNDWATER, AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT. SAMPLING RESULTS WILL BE PROVIDED TO THE MINISTRY OF NATURAL RESOURCES UPON THEIR REQUEST.
3. AS EACH EXTRACTION PHASE IS FULLY EXTRACTED, THE PIT FLOOR WILL BE WORKED USING A BUILDERS GRADER EQUIPPED WITH A ROLLER TO ALLEVIATE COMPACTION OF THE PIT FLOOR AND TO IMPROVE SUB-SURFACE DRAINAGE. THE EQUIPMENT WILL WORK THE PIT FLOOR IN A CROSS-CROSS PATTERN TO ENSURE ALL AREAS ARE ADEQUATELY RIPPED TO A MINIMUM DEPTH OF 0.3 METRES.
4. THE PIT FLOOR WILL BE PRE-GRADED TO SLOPE GENERALLY IN THE DIRECTION NOTED ON THIS REHABILITATION PLAN TO ENSURE THAT THE POST-EXTRACTIVE SURFACE WATER FLOW WILL GENERALLY REPLICATE THE PRE-EXTRACTION DIRECTION.
5. THE DEPTH OF TOPSOIL AND SUBSOIL THAT IS TO BE RE-APPLIED IS TO BE GENERALLY EQUAL TO THE DEPTH REMOVED WHICH WILL BE A DEPTH OF TOPSOIL BEING +115-20 CENTIMETRES AND A DEPTH OF SUBSOIL BEING +140-50 CENTIMETRES. THIS ACTIVITY WILL OCCUR BY USE OF SCRAPERS AND OTHER EARTH MOVING EQUIPMENT.
6. PROGRESSIVELY, AS EACH PHASE IS PRE-GRADED AND THE SUBSOIL AND TOPSOIL IS RETURNED, THE LANDS WILL BE PLANTED WITH A LEGUME CROP AND ONCE MATURE, PLOUGHED UNDER. THIS CYCLE SHOULD OCCUR FOR SEVERAL YEARS TO IMPROVE THE SOIL NUTRIENTS OF THE TOPSOIL, ESPECIALLY FOR THOSE PHASES WHERE THE RE-APPLIED TOPSOIL HAD BEEN TEMPORARILY STOCKPILED MORE THAN TWO YEARS. MAINTENANCE OF THE VEGETATION OF PIT SLOPES, AND OTHER REHABILITATED AREAS WILL BE CARRIED OUT THROUGHOUT THE LIFE OF THE PIT. IF ANY VEGETATION DIES, IT WILL BE REPLACED IMMEDIATELY DURING THE PROPER PLANTING SEASON.
7. FINAL GRADING OF THE TOPSOIL AND SUBSOIL WILL BE NECESSARY TO ENSURE THAT THE FINAL DIRECTION OF SURFACE WATER AS NOTED ON THE REHABILITATION PLAN IS IN PLACE.
8. DURING THE REHABILITATION OF PHASE 1A, PORTIONS OF THE HAUL ROUTE CORRIDORS WILL BE MAINTAINED TO PROVIDE ONGOING ACCESS TO PHASES 2 AND 3. AS EXTRACTION WITHIN PHASES 2 AND 3 ARE COMPLETED, THE APPLICABLE PORTIONS OF THE HAUL CORRIDORS WHICH WERE SUBJECTED TO COMPACTION FROM HEAVY EQUIPMENT WILL ALSO BE RIPPED TO ENSURE EFFECTIVE DRAINAGE.
9. THE FINAL LAND USE FOR THE SUBJECT LANDS WILL BE AGRICULTURE, AND THEREFORE, THE REHABILITATED PIT FLOOR AREAS AND SIDESLOPES WILL BE SEEDED WITH A GRASS/LEGUME SEED MIXTURE (E.G., COMPRISING OF WHITE CLOVER, TIMOTHY, AND PERENNIAL RYE GRASS). A COVER CROP OF OATS OR RYE GRASS MAY BE APPLIED WITHIN THE INITIAL YEAR TO HELP PREVENT EROSION.
10. DURING THE ONGOING EXTRACTION OF THE SITE AND DURING THE REHABILITATION PHASE, THE LICENSEE WILL CONTINUE TO MONITOR AND MAINTAIN THE VEGETATION AND IF ANY SIGNIFICANT PORTIONS OF THE REHABILITATION VEGETATION DIES, IT WILL BE REPLACED IMMEDIATELY DURING THE PROPER PLANTING SEASON. IN ADDITION, IF ANY OF THE RE-SEEDING DOES NOT ESTABLISH ITSELF ON THE PIT FLOOR OR FINAL SIDESLOPES, IT WILL BE REPLACED IMMEDIATELY DURING THE PROPER PLANTING SEASON.
11. IF ANY SIGNIFICANT EROSION OR GULLING OCCURS ON PORTIONS OF THE SIDESLOPES OR PIT FLOOR AT ANY TIME, THE LICENSEE WILL REPAIR THE AREA AND RE-SEED AS NECESSARY.
12. FINAL SURFACE WATER FLOWS WILL BE DIRECTED IN THE DIRECTION NOTED ON THE PLANS AND THE SURFACE WATER WILL PERCOLATE INTO THE UNDERLYING GRAVEL STRATUM TO IMPROVE GROUNDWATER RECHARGE.
13. ALL EXISTING FENCING AND GATES ARE TO REMAIN AFTER THE AGGREGATE HAS BEEN REMOVED.
14. THE FINAL LAND USE IS PROPOSED TO BE AGRICULTURE AND THE FINAL AREA TO BE REHABILITATED WILL BE 59.9 HECTARES.
15. FINAL CONTOURS ARE APPROXIMATE AND ACTUAL FINAL GRADES MAY VARY SLIGHTLY.
16. NO HAUL ROAD WILL REMAIN AFTER THE AGGREGATE HAS BEEN REMOVED.

REVISIONS PRIOR TO APPROVAL

NO.	DATE	BY	DESCRIPTION
1			
2	FEB 26 2010	DRS	AS PER MNR REVIEW COMMENTS
1	APR 01 2009	DRS	AS PER MNR COMMENTS

DESIGN	D/SISCO	CHK'D	D/SISCO	DATE
				MARCH 2009

SCALE
40 20 0 50 100 150 1:3000 (m)

THESE SITE PLANS ARE CERTIFIED BY THE UNDERSIGNED BY THE AUTHORITY OF MINISTRIAL APPROVAL AS SPECIFIED IN THE AGGREGATE RESOURCES ACT SECTION 8 (4) FOR A CLASS A, LICENCE CATEGORY 3 PIT.

MARCH 2009
DATE

IBI GROUP

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TOWNSHIP OF WOOLWICH
REGIONAL MUNICIPALITY OF WATERLOO

HUNDER DEVELOPMENT LTD.
c/o BOB HUNSBERGER
R.R. No. 1 BRESLAU, ON.
NOB 1M0

RONON FARMS LTD.: 1081 HUNSBERGER ROAD
PART OF LOT 6 EAST OF GRAND RIVER
BROKEN FRONT CONCESSION, CROOKS TRACT
WOOLWICH TOWNSHIP
REGION OF WATERLOO

C.G. SNYDER LTD.: 128 KATHERINE STREET S.
PART OF LOT 5 EAST OF GRAND RIVER
BROKEN FRONT CONCESSION, CROOKS TRACT
WOOLWICH TOWNSHIP
REGION OF WATERLOO

REHABILITATION PLAN

D.P./R.P. No. n/a IBI FILE No. 19672 (KP-2053) SHEET No. 3 OF 4