Port Colborne Quarries Inc. Pit 3 Extension

City of Port Colborne Statutory Public Meeting Tuesday March 7th, 2023

Official Plan Amendment D09-02-21 Zoning By-law Amendment D14-09-21







Introductions







IBI GROUP

Shawn John

John MacLellan

Sean McFarland

David Sisco

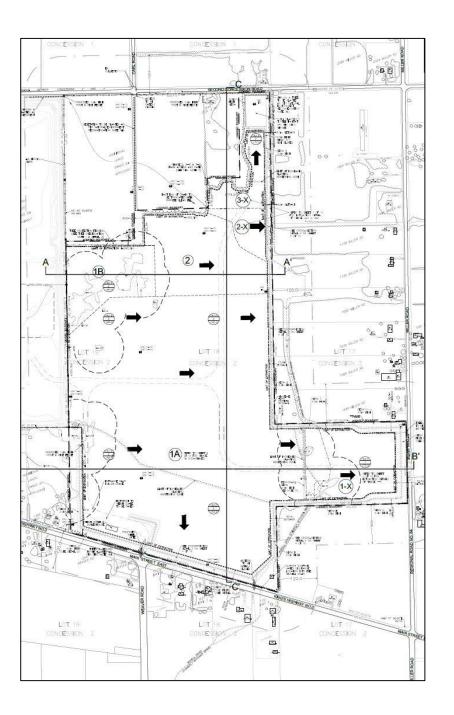
Aerial Image of PCQ Inc. Pit 2 & Pit 3



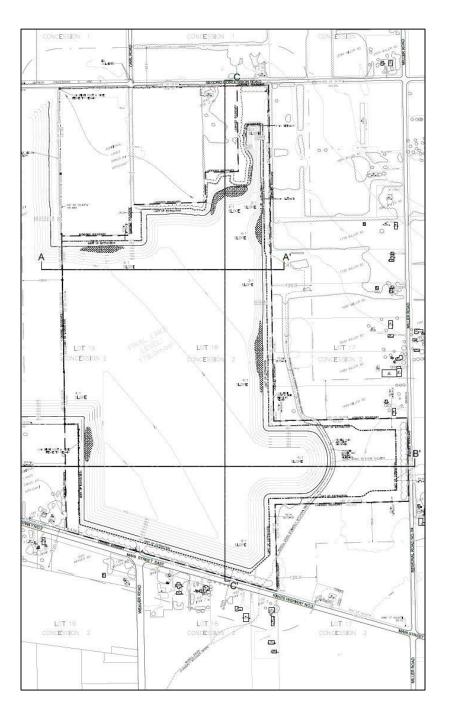
Aerial Image of PCQ Inc.
Pit 2 & Pit 3 and Proposed Pit 3 Extension



Operational Plan



Rehabilitation Plan



Comprehensive Rehabilitation



Location of Objectors



Submission Documents

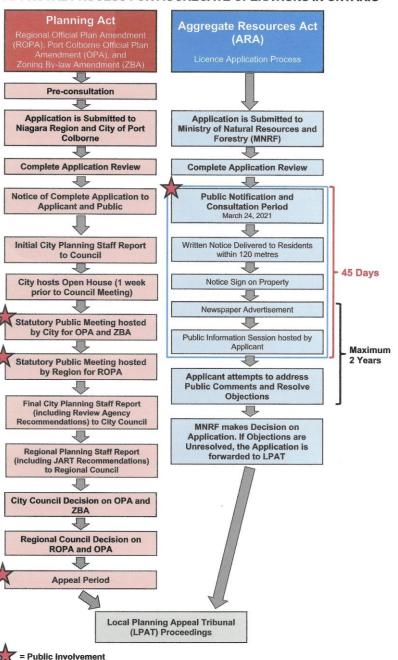


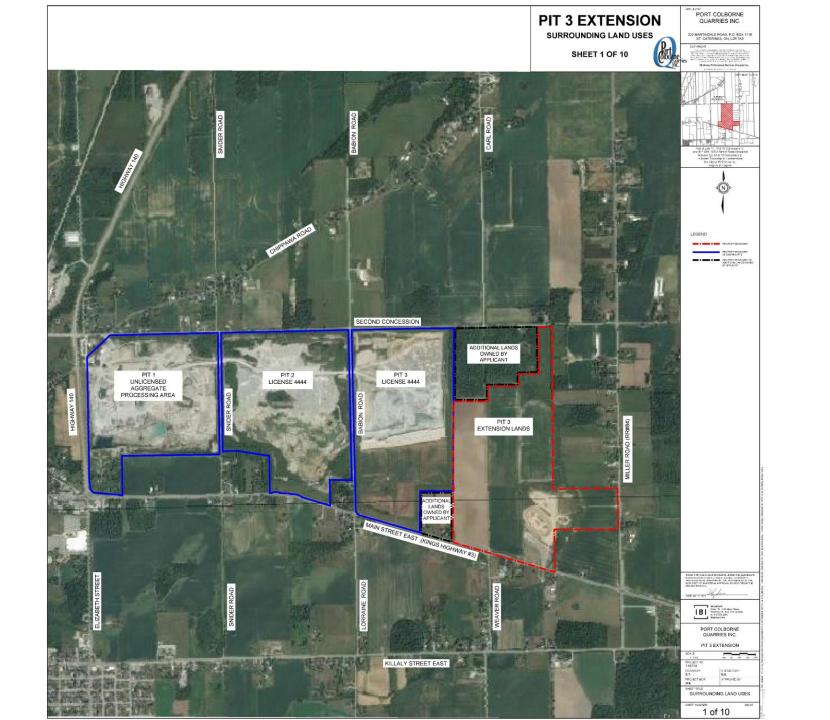
Project Status

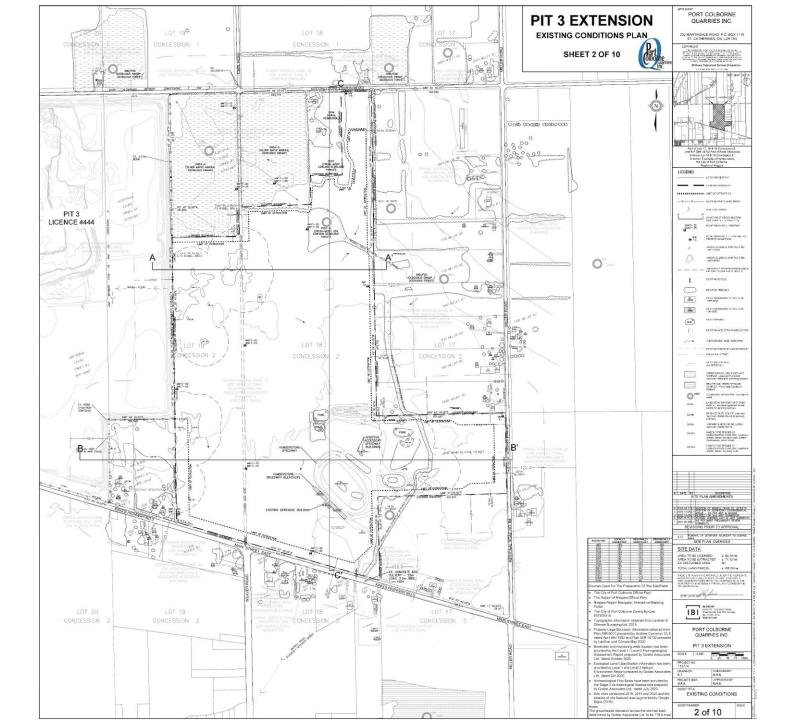
Summary of next steps

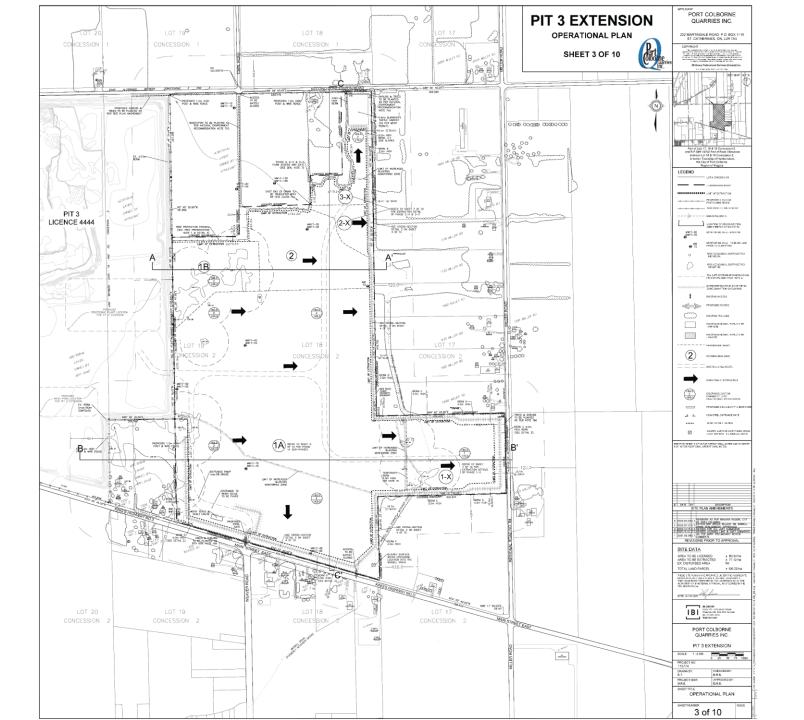
Questions

APPROVAL PROCESS FOR AGGREGATE OPERATIONS IN ONTARIO









GENERAL OPERATIONAL NOTES

Tonnage: It is a condition of this licence that no more than 1,000,000 tonnes of material shall be removed from this property annually and no more than 1,815,000 tonnes of material annually combined with Licence 4444, which is also operated by Port Colborne Quarries Inc. The area to be extracted is 71.1 hactains.

2. House of Operation: A plant John St. American St. A

estrictions to the operational hours for drilling/blasting

3. Fenong and Gates: a) Prior the sirpping and extraction, a minimum 1.2 metre high post and wire fence shall be in place along it setmed boundaries to ensure the site is secure. Site Plan Variance of Operational Standard 5.1 provides that the vest boundary abuting ARA Lorence 4444 is not required to be fenced since those slends are also overed by Port Cohomo Guarries.

nc.
3) A gale will be erected at the main quarry access onto the Highway 3 entrance/exit and be locked at all times when the quarry is not operational.
3) The existing entrance/exit at.
a. Humberstone Specelway onto Highway 3 will be permanently closed.

b. Former Call Road onto Second Concession Road will be permanently closed. Refer to Note 5 for farm equipment access and gates.) There Protection Feeting shall be installed around the northern woodlots, (SWD-2 and WD3-2) as per the Recommendations from the Tree Preservation Plan (See Sheet 5 of

Existing Buildings.
The timing of the removal of the following buildings will occur during Phase 1A:
 Spectator viewing stand at the Humberstone Speedway.
 All ancillary buildings and structures at the Humberstone Speedway.

5. Size - Common processing and the second s

 Entrance/Exit: Once the Highway 3 entrance/exit has been established:
 A road sweeper will be maintained on-site (or within Licence 4444) and used on a rear-round basis as required. The entrance and associated paved shoulders will be wept to pick up and dispose of quarry related debris at least once per week, and as

inequently as conditions warrant. b) A steel grating system will be installed at the weigh scale area, and cleaned regularly. c) The scale entry and exit areas will be paved for a minimum distance to the weigh scale.

Internal Haul Road: Internal haul routes will be constructed and disbended as required to access the active quarry face. The location of the internal roads shown on the Site Plans are general and anticipated but will vary depending on changing site conditions and truck traffic flow requirements.

9. Weigh Scale: The weigh scale to be used for this Licence will initially be located off-side at the Port Colborne Quarries Inc. Pix 1. During Phase 1A extraction, once a new processing plant is relocated to Licence 4444 (Pi 3), a weigh sold and scale house will be established near the Highway 3 entrance/exit generally as shown on the Site Plans. Groundwater Status: The groundwater elevation across the site has been determined y Golder to be approximately 178,0 masl.

Scrag: No scrap will be stored on-site but will be stored either in the Port Colborne buarries Inc. Pit 1 or within Licence 4444 (Pit 3).

12 Fuel Storage: Fuel Storage: There will be no on-site fuel storage. Fuel storage will continue to be located in the Port Colborne Quarries Inc. P2.1. Portable equipment within the quarry (i.e., crushers, screeners, generators, cat;) will be refueled by a mobile fuel truck or equivalent and follow all applicable Liquid Fuels Handling code requirements. 3. Equipment Site preparation, extraction and rehabilitation on the site will be

undertaken using scrapers, front-end loaders, haul trucks, dozers, excavators, drill-rigs etc. as necessary. As well, portable crushers, screener may be used on occasion at the

4. Tree Removal: Any trees removed within the Limit of Estraction will be either:

1. Chipped with the material distributed within proposed vegetation zones.

8. Burned on-lise subject to an applicable managing burn permit.

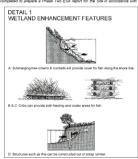
18. Cut and re-located to the quarry sidealopes within the squate habitat littoral zones to facilitate post-extractive fish habitat.

Topsoil/Subsoil/Overburden Stripping: In advance of extraction, a sufficient area of topsoil, subsoil and overburden will be

DETAIL 2

apped to allow for approximately 2-3 years of extraction. The stripped topsoil, subso d overburden will be used for: Berm construction
 Rehabilitation of final quarry slopes

Once operations cease for the Humberstone Speedway and PCQ is prepared to begin opment of the property as a limestorie quarry, there will be an intrusive investigation leted to prepare a Phase Two ESA report for the Site in accordance with O. Reg.



SKETCH OF BERM ABUTTING BOTH

HIGHWAY #3 AND MILLER ROAD.

ALIGNMENT OF WIGNELL DRAIN -DURING PHASE 1-X EXTRACTION

153/04, which will be used to update the Final Soil Management Plan such that it is

"1500", which mil the used to update the Frail SSM Management Phins such that if a consistent with the Colle and Excess Side Management Regulation. Or Reg. 40971.8, a wall as any father amendments of the Projection that may be added by the BECOP The BBC Characteristics Report will be responsed as pro. Chap. 40019, and the conclusions of the Conceptual Sol Management Plant (Jun 28, 2021), and will include, but not instead to, a discreption of the sol mentions which may be received when the Site for the solid conceptual Sol Management Plant (Jun 28, 2021), and will include. Use the solid control of the Solid Management Plant (Jun 28, 2021), and will include that not instead to, a discreption of the solid means which may be researed when the Site for the solid control of the Solid Management Plant (Jun 28, 2021), and will include the materials are present at the Site which require a separate engage deposition of the Solid Management Site of Included Solid Solid

requirements. "Discoverable Soli Management Plain - Page 6)

If Plannature Limina. "Permitter bears with the constructed to provide attituding of controls during state of visual impacts. The cose of the bears will be constructed of voluntation of control from the size of their an exercise of color and topical specials." The latest the terms. The cose of the bears will be constructed the size of the control from the size of the size of the size of the control from the size of the size of the size of the control from the size of t Setback distances between the drilling rig / blasting and receptors will be determined/confirmed through the blast monitoring program.

Berm construction parallel to the upper reach of the realigned Wignell Drain will be as per Detail 3 on Sheet 4 of 10 to accommodate ongoing maintenance of the ditch by the municipality.

17. Quarry Sidesippes.
a) Final Quarry sidesippes will vary from a maximum 2:1 slope and increase to 3:1 - 4:1 slope generally eithin those areas shoen on the Plan.
b) The Licensee will create the side slopes by:

iii) On-site overbuiden

is <u>vegetation:</u>

a) All berms shall be seeded as per the Level 1 and 2 Natural Environment Report. Recommendations (See Sheet 5 of 10).
a) All rehabilitated side slopes are to be vegetated with native, non-invasive seed mixture

Considing reason.
 Consideration of restrict, water action reason.
 Consideration of restrict, water action reason.
 Consideration of restrict reason.
 Consideration of reas

12. As noted in General Note 5b), during the extraction of Phase 1A, a new processing plant will be located within Pit 3 (License 4444) for which the Licensee has completed or Nose impact Assessment (NN) based on a specific plant configuration and equipment if the final plant configuration differs, or alternate equipment is used, the Licensee shall update the NN. Shreet firstingle to create a long-term shade canopy. The tree stock at the time of planning shall be of conference and the conference of the conference and the conference between minimum of 6 mm call.

• for conference between minimum of 6 mm call.

• the conference between minimum of 6 mm call.

• the first of the query and fair wegstation dies, it will be replaced immediately (during the report planning season).

19.<u>Benching:</u> The maximum blasting depth will be 8.0 metres resulting in two (2) excavation benches. In locations where the rock continues deeper, a shallower third. bench may be required.

20.Direction of Extraction: Extraction of each phase shall be in the direction as shown on he plan, with an intent to be working towards the nearest sensitive receiver

It Aggregates Processing. Aggregate processing will intellige occur of this in the Puri-coloron Dustries to P.E. During Places I Acetration. The processing plant and sharp plant will be relocated to License 4444 (Pl. 3) and to accommodate this, a Site Plant plant will be relocated to License 4444 will be relocated. A conveyor system may be used to considered may be used on occasion at the quarty fixed but any sufficient additional social plant p

22.Stockpiles: Aggregate stockpiles will be located primarily off-site however, when limited processing does occur at the quarry face, it shall occur on the lowest quarry floor available and be adjacent to the active quarry face and not exceed 20.0 metres in height 23.On-Site Equipment: Proposed extraction equipment to be used on site is defined by the Noise Assessment as noted under the Technical Recommendations.

24.Recycling: Recycling of asphalt and concrete will not be permitted on this site 25. Dust Control: Dust will be mitigated on-site as per the Air Quality Assessment as

26.Blasting: Blasting impacts will be mitigated as per the Blast Impact Analysis as noted under the Technical Recommendations. Blasting will occur as required to provide a suitable inventory, but on average approximately twice per week. 8. Erosion/Vegetation Monitoring: If there is any substantial areas of erosion that would 5. Erosonnvegetation homotomy: If there is any substitute allerest devices from the treat the increased levels of administration either during the quarry operation or during the progressive rehabilitation stage, toos areas shall be segraded and measurements of the residency of the residency

27. Final Quarry Elevation: The final quarry floor will vary from 162.0 masi at the south limit to 169.0 masi at the north. The quarry floor will blend in with the quarry floor for Licence 4444 which will be at approximately 166.0 masi.

28.Extraction Area: The total area to be extracted is 71.1 hectares 29 Refer to Sheet 6 of 10 and 9 of 10 for cross sections.

30.Refer to Sheet 6 of 10 and 7 of 10 for progressive extraction and progressive

31.Extraction will follow the following phasing schedule;
• Phase 1A-i, Phase 1A-ii, Phase 1A-iii

* Project on Committee (Committee Committee Co

Subject to the above noted approval, Phase 1-X will be undertaken in advance of Sub-phase 1ii) and 1 iii). Phase 2-X will be undertaken after Phase 2 and Phase 3-X will be undertaken after Phase 2-X.

SLOPES SEEDED WITH NATIVE HERB

-/ GRASS SEED MIX TO PREVENT EROSION OF THE BERM SURFACE

-30.0m SETBACK-

Noise (Acoustical) Impact Study, Golder Associates Inc., dated December 2020.

vil be implemented prior to advisation: A 4 meter left (above sixtling grade) berm along the south property line. A minimum 2 metro high (above oxisting grade) berm along the east and north property lines of the extension area.
effer to Visual timpact Assessment Recommendations for maximum berm heights.

2. The Incation of the herms is shown on the Operational Plan. In addition to 1 above

2. The location of the berms is shown on the Operational Plan. In addition to 1 above, specific berm requirements, including additional required berm heights, will be determined through both noise and blast monitoring as the areas of extraction move towards the Points of Reception (PORs) as shown on the Operational Plan within the Increased Blast Monitoring Zobe.

3. Areas requiring additional and/or specific noise controls and/or quieter types of southernst are shown on the Operational Plan as Noise Zone 1. Noise Zone 2 and Noise Zone 3. The local barrier height and alternative controls required to achieve compliance with applicable noise limits within the identified areas are noted below;

Noise Zone | Equipment Specific Noise Control PIT 3 EXTENSION Orill - local barrier extending 2.0 m above major noise source associat Orli - ottal barrier extending 2.0 m above major mass monte seasonance with the drift. Orli - local barrier extending 3.0 m above major noise source associated with the drift. Orli - attenuated equipment (i.e. reduced noise emissions or replace with

guieter equipment)

Source Description

Screen 115E - Upper deck wes Screen 115E - Lower deck west Screen 115E - Upper deck east

Screen 115E - Lower deck east Impact Crusher 177 - west

Jaw Crusher Norberg Impact Crusher 154 Wash plant 155E – west screen top Wash plant 155E – west screen wall

Wash plant 155E - east somen to

4. Extraction and processing operations will occur only during the daytime period (7:00

All existing on-site/ external perimeter berms shall remain in place for the Port Colborne Quarries inc.: Pit 1, Pit 2 and Pit 3 lands.

8. Extraction equipment will not exceed the following Overall Sound Power Levels

Agricultural Impact Assessment, Colville Consulting Inc., dated September 2020

Excess topsoil not required for berm construction or post-extractive rehabilitation and which would be otherwise displaced, shall be available for rouse to improve the agricultural conditions for cultivation at other locations where opportunities exist.

2. Lands not immediately required for extraction shall remain available for agricultura

3. The licensed boundary area should be aligned with existing property boundaries

When agricultural vehicles utilize interior quarry roads to access agricultural lands, a safety protocol will be developed to ensure the safety of all farm traffic through the licensed area, or alternate access shall be provided.

6. Perimeter fencing shall be established to minimize the potential for trespass and

Monitoring of all vegetation within the setbacks and on berms will continue throughout the life of the quarry and if any vegetation dies, it will be replaced immediately (during the proper planting season).

9. The groundwater monitoring program shall identify and monitor any changes related to ground water resources surrounding the query operation to ensure farm operations dependent on ground water are not impacted. If any well interference issues are identified, the Licensee shall ensure that adequate water supply is available for adjacent

10. The Licensee shall ensure that quarry signage on Main Street (Highway 3) includes a phone number for neighbours to call if any issues should arise.

11. The Licensee shall ensure that all MOECC standards regarding blasting, noise and

Om 5.3m KING WIGNELL DRAIN

12. The Licensee shall use non-invasive, native plant species for berm plantings and

other landscaped features surrounding the quarry operation

DETAIL 3

Air Quality Assessment, Golder Associates Inc., dated December 2020 All duality assessment, uoder Associates Inc. dated becomes 2009

1. The amount of explosive used will be reduced to fees than 6,160 kg when meteorological conditions require it such as wind guists exceeding 40 km/hr, and/or when the extraction face is within 30 meters of sensitive receptors. The actual reduced amount of explosive will be determined through the blast monitoring program.

SKETCH OF BERM ABUTTING PROPERTY

BOUNDARY WITH WIGNELL DRAIN.

4. Appropriate buffering abutting agricultural lands shall employ such things as: a) Vegetated barms, which can offer both visual and physical buffers, b) Dust suppression techniques and noise management according to appropriate

Levels (dBA)

6. The general extraction progression to be followed is shown on the Operational Plan

OPERATIONAL NOTES PLAN

SHEET 4 OF 10

3. The licensee shall use water as a dust suppressant to control fugitive emissions

essary and during dry periods

4. The Rest Management Practices Plan for the Control of Fuolitive Dust (RMPF posted in the on-site pit administration office. Compliance with the SMPP is deemed to a Site Plan condition.

eological Assessment, Stage 1 and 2, Golder Associates Inc., dated July 2020 Antheniopieal Assessment, Steps 1 and 2, Colder Assessment (e., Sent Liby 2020).

The archaeological assessment (e., Sent Liby 2020).

The archaeological assessment (e., Sent Liby 2020).

Antheniopieal (e., Sent entative sample of artifacts, and aid in determining the need for Stage 4 mitigation

2. Uses such time that Location 1 (MSC-056), Location 17 (MSC-956), Location 30 (MSC-957), Location 30 (MSC-956), Location 31 (MSS-958), Location 32 (MSC-958), Location 32 (MSC-958),

3. Should the Stage 3 archaeological assessments of Location 1 (ARG-296), Location 17 (ARG-296), Location 30 (ARG-396), Location 31 (A a long-term avoidance and protection plan to prever the set inscribed. Or everleptime in implementation of an archaeological excession plan to recover and document the period of the site to be impacted. The development of any Stage 4 mitigation strategy must involve the engagement of interested Indigenous communities.

4. The protected sites must be fenced (post and wire) prior to commencing extraction

5. All alterations are prohibited within the limits of the protected areas of the sites un such time that the MHSTCI has entered a report(s) in the Ontario Public Register of Archaeological Reports where the report(s) recommends that the archaeological site is of no further cultural heritage value or interest.

Any archaeological site that is of further cultural heritage value or interest that remains within the licensed area at the time of surrender of the licence will be protected through a

7. Overall Quarry Site. Should previously unknown or un-assessed deeply buried archaeological resources be uncovered during the development. Bey may be a new The appointed or perior discovering the exchaeological resources must cees element of the site immediately and engage a licensed achselogical to carry out archaeological relations, in compliance with section 4(f) of the Outnote interruipe Act.

Any person discovering human remains must immediately notify the police or conser-and the registrar of cametaries, Maistry of Government Services. All work in the vicinity of the discovery will be suspended immediately. Other spectrement staff may be contacted as appropriate, however, media contact shall not be made in regard to the

Blast (Vibration) Impact Assessment, Golder Associates Inc., dated July 2020

other to ordinal proper researchers, outer researchers, is sent yet yet.

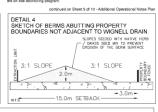
The Intella sent of the blasts, counting with approximating on more of the sent yet of the yet of yet of the yet of yet o

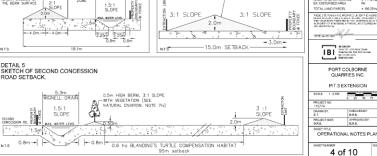
Routine monitoring of all blasting operations shall be carried out in the vicinity of the closest receptor to the proposed blasting operations. As extraction continues with the quarry and blasting operations move, the actual monitoring sits shall be routinely and regularly reviewed so that the closest receptor is always being monitored for ground and

Maintained a record of all blasting details including a seismic record of the ground and
air vibration monitoring results. The blast details and monitoring results shall be made
evalable to the Ministry of Natural Resources and Forestry (MNRF) and the Ministry of
Environment, Conservation and Parks (MECP) upon regievat.

4. Prohibit blasting on Saturdays. Sundays and Statutory holidays.

 When bissting within approximately 300.0 metres of adjacent residences, (as shown on Sier Pleass as 1 limit of Increased Blist Montroling) the quary shall regularly review their blast procedures in conjunction with the blast montroling results to assess when it is necessary to reduce the maximum explosive weight detonation per data period with the blast. The termination point for the blasting operations will be governed by the results of Sier and Sier a the on-site monitoring program





222 MARTINDALE ROAD, P.O. BOX 1118 ST. CATHERINES, ON, L2R 7A3 The amount of material handling at the extraction face will be reduced to less tha 4.500 kg per day when meteorological conditions require it, such as wind gual exceeding 40 km/hr, and/or extraction face appreaches the property line and/or sensitive.



CT MOTON OF MOSE REPORT NOTE 12

THE WARD TON THE JANT SUBMISSION

S E.T. SCHOOL DESIGNATION OF A LART COMMENT

± 100.29 N

REVISIONS PRIOR TO APPROVAL SITE DATA

AREA TO BE LICENSED # 80.34 ha
AREA TO BE EXTRACTED # 71.12 ha
EX DISTURBED AREA
NI

QUARRIES INC.

PORT COLBORNE

QUARRIES INC.

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- 5. Detailed blast records shall be maintained and shall include the following:
- Location, date and time of the blast: Dimensioned sketch including photographs, if necessary, of the location of the blasting operation, and nearest point of recention:

 -) Sub-soil conditions, if known;
 - Prevailing meteorological conditions including wind speed in m/s, wind direction, air temperature in "C, relative humidity, degree of cloud cover and ground moisture
 - Number of drill holes
 - Pattern and pitch of drill holes: Size of holds

 - Depth of toe-load:
 - Weight of charge per delay:
 - The results and calculated value of Peak Pressure Level in dBL and Peak Vibration in

 -) The excess, if any over the prescribed lim

 - vrock Assessment by Golder Associates Inc., dated December, 2021 The Licensee shall undertake an assessment of proposed blast design(s) for flyrock obtential using an industry standard flyrock model which must be conducted:
 - Following requir
 - The Licensee shall ensure that the orientation of each blast is to direct flyrock away
 - . The Licensee shall provide training of drilling and blasting to crew(s) to ensure they rstand the PCQ's approach to flyrock prevention The Licensee shall provide quality control of drilling and blasting operation by:
 -) Prior to loading any shot, blast designs shall be reviewed and approved by

 - is engineer with experience in quarties and blasting.

 Drilling accuracy and deviation will be monitored. The use of face mapping sols (e.g., laser contouring) is required to ensure that face burdens are controlled
 - The use of high-speed video is required to enable estimation of the fragment launch slocity which will be used in the refinement of flyrock models (i.e., bench top and bench
 - Detailed drill logging program will be designed. Anomalies indicating potential roblematic zones will be recorded and communicated to the blasting supervisor so that neasures can be taken to prevent the potential impact of those zones. The blast site will be reviewed to ensure compliance with the detailed drill program
 - All blasts will be videoed and reviewed to ensure blast performance quality Periodic third-party audits must be carried out twice per year, to complimen
 - All monitoring requirements with respect to the quarry discharges and the receiving system will be regulated by the Industrial Sewage Works Environment Compliance Approval, (MECP) to be amended prior to the dewatering of Pit 3 Extension.
 - The increased runoff under operational and rehabilitated conditions will be directed to be east and west branches of the Wignell drain, increasing the annual flows within these
 - hydrogeological Study by Golder Associates Inc., dated October 2020
 - The following existing on-site monitoring wells shall be monitored with groundwater evels taken monthly and water quality samples taken every five years. Groundwater quality parameters to be tested for inducts.
 - pH, EC, TDS, Hardness Total ammonia, Nitrate, Nitrite, DOC, Orthophosphate utrients/Organic Indicators:
 - Major and Minor lons: Alkalinity, calcium, chloride, magnesium, potassium, sodium, sulphate, anion sum, cation sum. issolved Metals
 - socium, supnate, amoin sum, caron sum.
 aluminum, antimony, arsenic, barium, beryllium, boron,
 cadmium, chromium, cobalt, copper, iron, load,
 manganese, molybdenum, nickel, phosphorous,
 selenium, silicon, silver, stronsium, thallium, ttanium,
 uranium, vanadium, zino.
 - Monitoring Well Number
 - MW17-1S, MW17-2S, MW17-3S, MW17-4S, MW17-5S, MW17-6S, MW17-7S, MW17-8S, MW17-9S, MW17-10S. MW17-1D MW17-2D MW17-3D MW17-4D MW17-5D MW17-6D, MW17-7D, MW17-8D, MW17-9D, MW17-10D

 - 3. The results of the Groundwater Quality Monitoring will be used to evaluate potential changes in water quality as the proposed quarry expands. The groundwater level monitoring will be used to assess the groundwater level of developments assessed as the quarry expands. The monitoring program will be used to develop the processed of the proposed program will be used to valuate potential preacts on surrounding wats and used as part of the hydrogeological water processes of the processes of th
 - . In order to implement appropriate response actions in a timely manner, the Licensee ill retain qualified personnel in the areas of hydrogeology and will have water well ontractors and a plumbing contractor on retainer in the event that the need for these

 - rivate Well Complaints Response Program
 - he following description provides the decision process to be followed when a well
 - The well will be inspected by a Hydropeologist and/or a Licensed Well Contractor to nitially evaluate the complaint. An analysis and impact assessment will then by industed by a Hydrogeologist to evaluate potential impacts for groundwater level rawdown to affect the water supply of the well. An assessment of the well system
 - If it is determined by a Hydrogeologist that there is a significant potential for interruption of the water supply of the well or the water supply of the well has been interrupted, then the water supply restoration program will be initiated. If the initial measures are not auccessful, then miligation measures will be implemented in the interim until a successful response is achieved. This could involve the implementation of
 - If there is no significant notential for the interruption of water supply then no b. If other is no applicant potential to the interruption of water supply, shall no estoration action will be undertaken, and the temporary water supply will be secontinued. The scions and responses undertaken, as determined by a hydrogeologist, will be documented for the annual report, and reported to the agencies.

- here are several mitigation strategies that could be implemented to affect the supply of urrounding water wells, to counteract the effect of quarry-related groundwater level revokers. If required, based on the results of the emothering and complaints resones
- . Well Deepening: This would be effective, for example, for shallow bedrock wells that o longer have a sufficient water column due to quary-related groundwater level ravidown. The results of the hydrogeological program indicate that well deepening is basable, since water supply is obtained from duplicate private water wells and municipal

clavey materials to line the fractures on the quarry wall

- 6. Low Permeability Sid Slopes: The quarry walls could be sloped with low permeability
- The requirement for any of these mitigation measures would be determined based on the results of the groundwater monitoring program. The results of the monitoring and response program will be incorporated into a report that will be submitted to the MECP on an annual basis as part of the fature requirements for a site-wide Permit to Take Wetter
- Permit to Take Water

 1. Any future Permit to Take Water (PTTW) application by the Licensee to MECP and

annual monitoring reports, shall be subject to peer review by the Regional Municipality of

- Natural Environment Report, Golder Associates Inc. dated October 2020
- Setbacks: All extraction setbacks for Phases 1B, 2 and 3 shall be clearly demarked where they are contiguous to environmental features and specifically those identified as CVR4, FOD7. CUM1-1, FOD7-2, SVMD3-2.
- 2. Bird Breeding Habitat: The Licensee shall avoid vegetation removal including apticultural fields during the active breeding season for birds between April 15 and August 15 unless construction disturbance is preceded by a needing survey. If neets are found, a buffer will be installed around the nest and not removed until young have fledged.
- Prior to removal of vegetation in agricultural fields, the Licensee shall confirm that there is no suitable habital for bobolink or eastern meadowlark present. If present, permitting under the ESA may be required to remove the habital.
- permang under the zero may be required to intende the instance.

 All vegetation communities with the potential to provide nesting sites to migratory birds will require nesting surveys if they are removed between April 15 and August 15. This will include the FOD7-2 in extraction area 2, the CUM1-1 in extraction area 3 north of the FOD7-2, and the CUM1-1 in extraction area 7 around the Humberstone Speedway, if areas of the open agricultural lands have transitioned into fallow post-agricultural lands nesting surveys will also be required in those areas if clearing is to take place during the
- 3. Fish Habitat: The noods within the former Humberstone Speedusy lands may contain 3. Fish Hebitat: The ponds within the former Humberstone Speedway lands may contain fish, and if present, they shall be removed prior to develuteing and/or destruction of the ponds. This will require a MNRF permit to collect fish and it shall be obtained prior to relocation to award contravention of the fedural Fisheries Act. Any naive fish present are to be relocated to suitable nearby habitat and non-native fish are to be euchanized.
- Seriment/Frosion Control: Sediment and erosion control measures shall be implemented prior to and during construction, and be implemented throughout the entire site, specifically in areas adjacent to the decisious swamp and the East Wignell Drain. This may include the use of all flening, check dams, states bales, rig-rap and/or other echniques when and where as required
- 5. Noise and Dust Mitigation: Appropriate noise and dust mitigation measures shall be replemented during both site preparation and during the extraction operation
- Wetland Vegetation Monitoring Program: A "Wetland Vegetation Monitoring Program" shall be implemented to monitor the deciduous swamp to accurately monitor any shanges in the wetland community over time and to measure the success of nanagement actions. These long-term monitoring piots and/or monitoring transects shall be established to include a count of the number of stems and percent cover for all plant species present. Baseline monitoring shall be conducted in the year prior to the commencement of extraction of Plass of the 2 with review course first. Monitoring shall be conducted annually at a similar time of year (i.e., late July) for the duration of Plass of 10, and 3.
- exercision or Prisses 15, 2 8/10 3.
 For all plants identified as part of Welfand Vegetation Monitoring Program, they shall be categorized by the witness index based on the Floristic Quality Assessment System.
- The groundwater monitoring program results and specifically the groundwater drawdown levels and surface groundwater monitoring results will aid in demonstrating any potential impacts to the wetland function.
- ing polential impacts to the Westland Vegetation Monitoring Program will be a submitted Annually, the results of the Westland Vegetation Monitoring Program will be a submitted MIRIF prior to December 31 and available to the Region of Niagara. NPCA and City of The monitoring program will also include annual breeding bird surveys and anuran call
- count surveys within the deciduous swamp following the same methods used for the HEL1/12 baseline studies. The purpose of the wildlife monitoring is to document whether the proposed extraction activities negatively impact species diversity and abundance. Identiforing should be conducted for the duration of extraction Phases 18, 2 and 3. Following rehabilitation, anuran call count surveys will be completed within the wetland
- solitat amond the periphery of the extraction area to evaluate the success of these habitat carroid the period por of the extraction are the sources of these features as tree-ling habitat for emphilian. Monitorial por values the sources of these features as tree-ling habitat for emphilian. Monitorial habitat will be evaluated for autibility as example, state fraining entangle floating habitat. Because or cannot be determined how long it may take for snepping turtles to colonize the habitat, the evaluation will focus the substitute of the habitat start the thin about starter than the presence or absence of snapping turtles are supported to the substitute of the habitat starter than the presence or absence of snapping turtles.

- i) Wetland and equatic plants that may be planted in the nearshore or shoreline
- Throughout Vegetam.

 Throughou
- meraid asn corer.

 iii) The segment of Carl Road that bisects the deciduous swamp is to be rehabilitated following the decommissioning of the road. Excavations in three or four areas along the length of the road shall be created to improve surface water drainage. Plantings along this segment of Carl Road shall include the dominant tree and shrub species found in the deciduous swamp including silver maple, pin oak, swamp white oak.
- Invasive shrub species including multiflora rose, common buckthom, and Tantarian honeysuckle have become established in this area and may prevent the successful establishment of the native plantings. These invasive shrubs shall be removed prior to
- iv) The setback area at the north end of extraction area 3-X and east of the iv) The setback sees as the noth end of enterioria research and excellent accordance shared increased 44th beauty-presented with selficioria planting to enterioria excellent accordance and the excellent accordance accordance and the excellent accordance accorda
- v) The area north of the existing quarry (Pit 3) and west of the northern end of the 2. Vite Replacement: This measure could be introduced for wells where well deepening was not soften and offer the properties of the proper

- 5. Grouting: The bedrock along the quarry wall could be grouted to seal the fractures and adapted genetics of the species. Plantings from local sources are likely to be well adapted to the local climate and growing conditions and may have a higher likelihood of successful establishment. Therefore, plantings will be procured from local sources to the
 - vii) All rehabilitated side slopes are to be vegetated with a seed mixture capable of: . Rapid germination and growth,

 - 8. Wignell Drain: Prior to undertaking operational activities that have the potential to impact sish habitat in the Wignell Drain, including drain realignment and stripoinglexexention west of the drain within approximately 30 m, the approxima-ted processing and approximately 30 m, the approxima-agency/agencies shall be contacted, and for required authorizations will be obtained. An acclogist will be retained to determine the approprietic course of action at that time.

- a) To provide compensation habitat for Blanding's turtle, the Licensee shall create a cated / enhanced 0.6 Ha habitat located between Second Concession Road and Phase 3-X. Supplementary compensation habitat will be created within the former Car Road right-of-way where it traverses the Silver Maple Mineral Deciduous Swamp that the nest is no longer utilized
-) The design of the habitat must be approved by the Ministry of Enviro Conservation and Parks (MECP) prior to or concurrently with the removal of the existing Category 2 habitat (i.e., three man-made ponds associated with the Humberstone Speedway lands).
- c) The compensation habitat shall not be designed as an on-line feature of the realigned
- d) Due to the potential for turtles to overwinter in the Humberstone Speedway ponds. removal of Category 2 habitat (equatic habitat) will occur during the active season when turties can be captured and relocated outside of the footprint.
- e) A turtle relocation program will be implemented prior to removal of existing Category 2 habitat. Any Blanding's turtle individuals captured will be relocated to the proposed on-site suitable habitat immediately by qualified individuals in accordance with the Ontario SAR Handling Manual for ESA Authorization Holders. A worker awareness program will be implemented for all personnel traveling or working on the site to mitigate harm to individuals.

Tree Preservation Plan

- 1. All woodlands, forests and hedgerows located beyond the defined proposed extraction limits shall be preserved and protected in their entirety. Tree Protection Fencing shall be installed at minimum of the drip line plus one matrie, per locations and extents noted or the Site Plans.
- 2. Tree Removal: Trees located within FOD7-2 are recommended for removal to permi 2. Iree Kemovet: Teels located within F-007-2 are recommended for removal to permit the Phase 2 extraction work of the proposed quarty expansion. The presence of Elemental Ash Borer damage, high occurrence of Ash trees, ploneer species and possible restoration plantings, within the study area as well as the relatively young age of the trees present on site contribute to a low preservation priority for the FCD7-2 feature. All respective for the properties of the properties

Potential Construction Impacts to Tress

a) <u>Polential Construction Impacts to Treas</u> Treas sea living organisms that react to changes in their environment. Treas can be damaged during construction without showing upon of damage until some years later to the construction of the construction of the construction of the construction of the sea result of its instable; to aboth sufficient water and nutriest. Contained within this section are descriptions of the potential impacts this propert may have on the treas, and impact imgigation entrolled to dail to the implication of impact does not set to the construction of the construction of the construction of the construction.

Soil Compaction and Root Damage in term is compacting of the soil amount she. The leading sause of contention demands in term is compacting of the soil amount she that the soil of the maintaining their continued health. The TPZ is protected and delineated by the T

Mechanical Damage

Mechanical Diamage Equipment can physically damage the trees through strking the trunk, limbs, and/or roots. Felled trees can also cause damage during the tree removal stage of construction. Some damage is unavoidable due to the proximity of adjacent trees, however, finushing the use of proper equipment and best menagement practices the damage can be minimized. The Contractor shall be helid responsible for all avoidable damage to the trees to the contractor shall be helid responsible for all avoidable damage to the trees to the contractor shall be not responsible. during all stages of development. Note: trees shall always be felled away from adjacen

- The success of tree preservation is dependent not only on protecting the root zone from compaction and damage; it is also contingent upon the ability to ensure that the structure roots with in the root plate are not disturbed. Impacts to this area may result in the structural failure of these trees. Excavating soil 1 metre outside a tree's drip line, or within a drip line can damage roots by tearing and splitting back to the stem. This damage ca-later lead to rot that can kill the tree. All work within the drip line of an existing tree sha be approved by an Arborist. When excavating the top 30-90 cm of soil adjacent to trees, care must be taken. Excavation shall clearly sever the roots prior to stripping and removal of soil. Exposed roots with a cliamater greater than 2.6 cm (1 inch) shall be prured back to the soil face to prevent damage to the tree.
- b) Protecting and Managing Trees During Construction

TREE PROTECTION FENCING

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ANY HOLE IS LANCELLS MIGGESTADE TOWAR ARC TO BE HANG PROVED USING PROPER MIGGINGS TANA. PARC TICES.

ARREST NO C TOURSTANCES BRAIL ANY CONSTRUCTION WITERIALS BOURSENT O VENOUS SE PLACED IN THIS THE TREE PROTECTION ZONE.

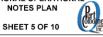
ALL HELL WHO INSTITUTE LINGUISTING IN THE ME. ALMONIC PRICE TO PROJECT HEVE.

TREE PROTECTION FENCE

- ed to provide appropriate free protection and The following recommendations are presented to provide appropriate tree imanagement during the future development and construction of this project
- 1. Tree Protection Fancing (TPF) shall be installed to protect all trees identified for preservation. The Protection shall confirm to City of Pert Collisions shadness', Upon preservation.
 1. The Collision shall be confirmed to the Collision shall be considered to protect the fancing and is all could not priviled to sharl shall be designed to the City. The protect confirmed all remain letter throughout the destinate of the query extraction and relabilitation works. The fancing shall be inappeaded moretty and repaired as required. The letting shall be inappeaded and protection fancing the relational shall be inappeaded and the complete of an electric destination works.
- 2. Linon receiving the necessary project approvals and prior to the comme tree removals, all trees designated for preservation must be flagged in the field. All designated preservation areas must be left standing and undamaged during site works. Removals are to be completed outside of migratory bird nesting season, generally from April 1 to August 31. If removals occur within the restricted activity period, they shall be in accordance with the Migratory Birds Convention Act, 1994. Due diligence me including pre-clearing nest sweeps can be employed to reduce risk to nesting birds and to comply with Migratory Birds Regulations. These surveys will be completed by a qualified person such as a wildfile biologist or om

PIT 3 EXTENSION

ADDITIONAL OPERATIONAL **NOTES PLAN**



PORT COLBORNE

QUARRIES INC.

222 MARTINDALE ROAD, P.O. BOX 1118 ST. CATHERINES, ON, L2R 7A3

- The following is the process that shall be carried out if tree removals are reque-Into eclowing is the process that shall be clarified out if the fremovals are required during the restricted time frame indicated in the Migratory Birds Convention Act.

 I. Contact a qualified individual (i.e., wildlife biologist or omithologist), determine if inestino birds are within the tree removal disturbance and
- i. If the bird specialist has determined that there are nesting birds on site, their no tree removals/chipping conducted within the boundary set out by the specialis emovals can resume within this once the migratory bird specialist has determine
- that the next is no targer utilized.

 If if the bit spocialist determines there are no migratury brits nesting within the distribution area, the contract will here a precidenment clearance window to contract contract and the property of t
- 3. The TPZ is the area around a retained tree that is to be contented by free protect 3. The TPZ is not to be used for any type of storage (e.g. storage of debris, construction material, surplus soils, and construction equipment). No trenching or tunneling for underground services shall be located within the TPZ. Construction equipment thall not be allowed to idle or exhaust within the TPZ.
- 4. Trees shall not have any rigging cables or hardware of any sort attached or wrap 4. Tiese shall not have any righting catrides or hardware of any sort attached or wrapped around freem, nor shall any contaminants be damped within the protective stees. Further, no contaminants shall be dumped of halled where they may come into contact with the necessary is enrowed into contact with the necessary is enrowed into a protection of these after contractacion has commerced, the Project Arborist shall be informed and the proper actions conforming to City Policies and By-Lizes shall be carried out.
- 5. Upon completion of the tree removals, refer to Operational Note 12. Any chipping 5. Upon completion of the time removals, refer to Operational Note 12. Any chipping, cutting or hash clientury as to be completed outside the bird restings passon. If these activities are to occur within the restricted activity period, due dilegence measures, including pre-clienting nest sweeps will be employed to reduce risk to nesting birds protected unifore the Migratory Birds. Convention Act, 1944 and Migratory Birds. Regulations. These surveys will be completed by a qualified birdogsat.
- 6. Excavation adjacent to trees to be preserved must be completed with due care as 6. Extraviolate appears to the early severe the roots pind for to stipping and removal of sol. Should roots be encounted white per severe the roots provided with respect to the stipping and removal of sol. Should roots be encounted during excavation all exposed roots with a diameter greater than 2.5 cm; if inch) shall be pruned both to the sol free to prevent damage or ber. Roots amalter then 2.5 cm; if inch) shall be clearly cut using a sharponed spade or bypass pruners at the limits of excavation.
- Visual Impact Assessment. IBI Group dated December 2020 That Berm A: a 4.0 metre-high berm along the Second Concession frontage be built with a 3:1 slope on the external side and with vegetation plant between the berm and boundary fence as per Naturel Environment Report Recommendation Note 7(v).
- 2. That Berm B: a 2.0 metre-high berm along the northern portion of the eastern of boundary. Where it will be adjacent to the proposed permanent realignment of the Wignell Drain, (Phase 2-X and Phase 3-X; it will be built with a 2-1 slopes, as per Detail 3. The belance (Phase 2) will have 3:1 slopes.
- 3. Berm C: a 2.0 metre-high berm along the northern portion of the 'eastern-tab' built with
- Berm D: a 4.0 metre-high berm along the Miller Road frontage and extending latte for 190.0 metres along the northern and southern property limits of the 'eastern-tab' wa 4.1 alope on the external side and 2.1 on the internal side. Both conferous a directious trees are to be planted between the berm and the Miller Road boundary feel directious trees are to be planted between the berm and the Miller Road boundary feel. (Refer to Detail 2 and also Note 9 helow)
- 6. Berm F: a 2.0 metre-high berm along the eastern boundary of the property extersouth to Main Street and built with a 3:1 slope.
- 7. Barm G: a 4.0 metre-high along the Main Street frontage built with a 4:1 slope on the external side with deciduous and conferous trees planted between the berm and boundary fence (see Detail 2)
- 8. Berm H: a 3.0 metre-high berm along the western property boundary associated
- 9. Temporary Berm: During the extraction of Phases 11 1-18, a temporary berm will be exceled just vest of the Wignell Drain and be 2.9m high with 2: sides slopes. The berm if necessitate only 100 and 19 ments. Card E. to be constructed at their vestion existent. Subject to approval of Phase 1-14, and the completion of Phase 1-14, the temporary berm will be removed and the fall extend of Berms C. D. and E. will be constructed.
- Both coniferous and deciduous trees are to be planted between the berm and fi Highway 3 (Main Street) and Miller Road boundary fence.
- 12. Existing hedgerow vegetation is to be retained where possible.
- That all berms be immediately vegetated with a grass type legume ground cove avoid erosion, sedimentation and dust.

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11.5 E TEC WISE DESIGNED LIVIT & JACT COMME 102.00E 1 AT PICE MARY PRELIMINARY PECUCIO

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g) Side Slopes Once the side-lopes are created, on-site subsoil and topsoil will be reapplied and vegetated as per General Operational Note 13 and additional vegetation will be planted as per NEL 12 as Strepane Prior note? And as shown on the Final Rehabilitation Plan. Phase 1A (Subphases i) - iii) and 1-X) Phase 18 2 me beering but below the stripeng any agenuture of fields or other registrices, refer to NEL 1-2 risks 2 me beering but below. The was to be stripend in advance of emission and reflect temperature of the stripend and PIT 3 EXTENSION PORT COLBORNE Stropping Prior to stripping any agricultural fields or other vegetation, refer to NEL 1 - 2 note 2 no breeding but habitat. The area to be stropped in advisors of extraction will reflect approximately 2-3 breeding but habitat. The same to be stropped in advisors of extraction will reflect approximately 2-3 sembland to be used for primerate breams and share rehabilistation of the quarty wide shorts. During extraction of sub-phase 0, Berns C, D and E (surrounding the eastern-ball) on one need to be fully constructed subject to a tempopary 2 of minip berns broad postureducted as shown on the Plan. QUARRIES INC. sees of entirement contents the entirement content of the entirement c \$577552F LEGEND UNIT OF EXTRACTION we7-30 WONTO'R SWELL - DOD'NO LS CURTOS LIBOU 40 GTM144 AD ADMILLOLAR 2 METT - 40 B3 MBS' 40' DG:00"E ‡ Datackcome N88" 49" 30.00"E MOHOR-TAXONS REFER TO SHEET 7 OF 10 FOR EXTRACTION DETAILS OF PHASE 1-X ONTHOTISCUSE 10725 EXISTING SUI JONG - STRUCTURE - DEF MES Datas of the control SECTION OF - - - HTDI VIL ISUL TOUTE /SELECT. DISTRIS CLEVETION INJURIES OF UP IN PARK INTRACTED BLEVETOR JULIUS MARKENAKAL a) The City of Port Coborne appointed EWA Engineering to prepar a Drainage Report for the Wignel Drain. The Wignel Drain Report will include a Section 19 Exprovements or salign the morty portion of the often account the proceed quarry expension. The Drainage Report will comply with the Drainage Act of Ontario and be subject to this recognition. THT WATE TERTIVE (SE minimum envention of 171. 10 may, whichever is benefit ment up to the processor of the processor within 19. 2 man, shapped to the most set that entimoches or der lightway 2. If Programs Processor of the processor of the processor operation, the operation of set stopes and the processor of the processor of the processor operation of the stopes and blobber slope of 491. 10.9 and set for processor and operation on the Fred Rehabitation Plan. To cross the side allows the Licenses shallows | Description of the processor of the pro 2500 WES Phase 2 MANUAL. Acceptance of the Drain Report will realign the drain from 5+595 to 6+607. to Dispray, Place a stripping are projectured inflow or district regulation, refer to NE. 1 - 7 And 2 Text township and health from a to be stripped in source of estations of estations and estimation and any years of entopleted cereation. The stripped tapsoid and school will be used inventedingly for progressive referibilities of the quarry side strong. In Place 11 and instruct each to the assistant and control to the progression of the property of the processing objects and the produced progression of the progression of the processing experience will be located of these or in pump progression of the processing experience and pump four of all the processing experience will be located of these. 1955. 150.0 THEE ! N0" 49" 20.69"N 181.899 TOTAL ST REFER TO SHEET 7 OF 10 FOR EXTRACTION DETAILS OF PHASE 2-X ME PERSON GROWN 00% 7 W 9407 Mary San 2 DOOR 11.15 S.T. DEWIED LICENSED LIMIT & JART COMMEN 1 2021-02-08-1 AS FER MANY PRELIVE ARY REVEW COMMENTS SITE DATA E NBS' 40' 00:00°E N88" 40" 00:00°K NASY 10" 30:00"0 205.790 IBI State Of HIS Abet Steel REFER TO SHEET 7 OF 10 FOR EXTRACTION DETAILS OF PHASE 1-X 7 1 To Take THE PORT COLBORNE Sir HZ QUARRIES INC. PIT 3 EXTENSION 602.425 BRO BCT NO MATTER. REHABILITATION DETAILS PLAN 6 of 10

