



Project # 042-003/4

**WATER RESOURCES MANAGEMENT PLAN**

---

**Mac-Court Holdings Inc.  
Five Year (2023-2027) Quarry Lease  
Development, Rehabilitation and Closure Plans  
Water Management Plan  
First 5 Years of a 20-Year Quarry Lease (2023-2042)**

**for**

**Quarry File Number 711:12924  
Quarry Permit #144971 (Expiry May.24 2023)  
(4.94 ha Area)  
Terra Nova Quarry**

In Response To:  
**Compliance with the  
Quarry Materials Act, 1998 & Mining Act, 1999  
Government of Newfoundland and Labrador  
Department of Industry, Energy and Technology  
Mineral Lands & Mineral Development Divisions**

---

Prepared for:  
**Mac-Court Holdings Inc.**  
P.O Box 9068  
Clareville, NL  
A5A 2C2

Prepared by:  
**NCD Consulting Limited**  
34 Yellow Wood Drive  
Paradise, NL  
A1L 0X9  
[www.ncdconsulting.ca](http://www.ncdconsulting.ca)

July 13, 2023  
(Revised document submission date)  
August 07, 2023  
(Edit for Water Resource Management date)

**TABLE OF CONTENTS**

	Page
1.0 INTRODUCTION .....	1
2.0 SITE LOCATION AND DESCRIPTION .....	1
2.1 Site Location .....	1
3.0 SURFICIAL GEOLOGY .....	2
4.0 EXISTING SITE PLAN .....	7
4.1 Introduction .....	7
4.2 Current Site Conditions.....	7
5.0 QUARRY DEVELOPMENT .....	8
5.1 Introduction .....	8
5.2 Quarry Drainage During Production .....	8
5.2.1 Introduction .....	8
5.2.2 Site Drainage .....	9
6.0 RECLAMATION & CLOSURE PLANS .....	9
6.1 Introduction .....	9
6.2 Reclamation Method and Description.....	10
7.0 FINANCIAL ASSURANCE .....	10
8.0 CONCLUSIONS AND RECOMMENDATIONS .....	11
9.0 REFERENCES .....	12

**LIST OF FIGURES**

	Page
Figure 1: Project Location Map .....	3
Figure 2: Quarry Lease Location Map .....	4
Figure 3: Detailed Quarry Lease Location Map.....	5
Figure 4: Drone Aerial Survey Area.....	6

**LIST OF MAPS**

Map 1: Quarry Layout Map 1 ..... (end of report)

Map 2: Quarry Layout Map 2 ..... (end of report)

Map 3: Cross Sections A to D ..... (end of report)

Map 4: Quarry Layout Phase 1 ..... (end of report)

Map 5: Quarry Layout Phase 2 ..... (end of report)

Map 6: Quarry Layout Phase 3 ..... (end of report)

Map 7: Quarry Layout Phase 4 ..... (end of report)

Map 8: Quarry Layout Phase 5 ..... (end of report)

Map 9: Quarry Layout Year 6-10 ..... (end of report)

Map 10: Quarry Layout Year 11-15 ..... (end of report)

Map 11: Quarry Layout Year 16-20 ..... (end of report)

Map 12: Reclamation Map ..... (end of report)

**LIST OF APPENDICES**

	<u># of Pages</u>
Appendix A: Site Photos.....	6
Appendix B: Reclamation Cost Estimates, Rates and Volumes.....	2
Appendix C: Current Quarry Permit .....	15
Appendix D: Updated Legal Survey .....	1
Appendix E: Quarry Plans Approval Letter.....	1
Appendix F: Professional Certification .....	1
Appendix G: Digital Data.....	(in back pocket if printed hard copy)

**LIST OF PLATES**

Appendix A Page:

Plate 1: J-1 Quarry access road, looking northeast..... 1

Plate 2: Turn-off from Terra Nova Road, looking towards Mac-Court quarry entrance . 1

Plate 3: Lockable security gate at J-1 quarry entrance, looking northeast ..... 2

Plate 4: Quarry access road along J-1 lease boundary, looking southwest ..... 2

Plate 5: Mac-Court quarry entrance area, looking southwest Over Phases 1 & 2..... 3

Plate 6: Example of current quarry ground conditions showing abundant grubbing ..... 3

Plate 7: Phase 5 production area looking east towards quarry entrance ..... 4

Plate 8: Southwestern quarry area showing Phases 6 - 20 production areas ..... 4

Plate 9: Indication of snow fall amount over quarry area during aerial drone survey .... 5

Plate 10: Tree line visibility barrier to Terra Nova Road ..... 5

Plate 11: Aerial photo of entire quarry area looking northeast..... 6

Plate 12: Aerial photo of entire quarry area looking south..... 6



## 1.0 INTRODUCTION

Mac-Court Holdings Inc. (Mac-Court) is a Newfoundland based civil construction company focusing on the road construction and maintenance industry throughout the province. Mac-Court obtained a quarry permit for their **4.94 ha** sand and gravel quarry (File #711:12924, Permit #144971) located in the Terra Nova region of eastern Newfoundland in May of 2022. Mac-Court plans to develop this quarry area by extracting the present sand and gravel resource material to primarily secure a long-term source of asphalt blending sand for the company's ongoing asphalt production operations. A veneer of overlying glacial till material and minor present gravel material will also be extracted from the lease area and utilized for coarser blend asphalt and to support Mac-Courts general aggregate material supply. As per the conditions for this quarry permit set forth by the Government of Newfoundland and Labrador's Department of Energy, Industry and Technology (DIET), the current quarry permit (#144971) must be converted to a quarry lease upon its May 2023 expiry date. This document is being submitted so that a 20-Year lease for the quarry area can be issued to Mac-Court.

This quarry lease document presents a 5-Year Development, Reclamation and Closure (DRC) plan that includes detailed year-to-year development plans for years 2023 to 2027, as well as development of an additional 15 years of production. Development beyond the first 5 years is presented in 5-year increments with a more detailed set of plans to be provided in early 2028, subsequent to the 2027 construction season. The 5-Year plan includes the total extraction of approximately **~25,000 m<sup>3</sup>** of aggregate resources with the entire 20-Year period planning for a total extraction of **~100,000 m<sup>3</sup>**. Included are the post development plans for the next 5 years (i.e. reclamation & closure plans) which are a component of the requirements for the issuance of a quarry lease under the Quarry Materials Act in Newfoundland and Labrador.

## 2.0 SITE LOCATION AND DESCRIPTION

### 2.1 Site Location

The project is located in the Terra Nova region of eastern Newfoundland, ~2 km east of the Community of Terra Nova and ~2.5 km northwest of the Terra Nova National Park boundary within a domestic cutting area. The quarry site is reached via the currently existing J-1 Contracting (J-1) Quarry (File #711:1787) access road held under a License To Occupy (LTO #129027) issued to the Department of Fisheries and Oceans. The LTO extends beyond the 711:1787 quarry lease to the north. This access road extends from the Terra Nova Road (Route 301) from a turn-off point located ~13 km west of the Trans-Canada Highway (**Figures 1 - 3**). The quarry entrance is secured with a lockable gate and security perimeter berms. Written permission for access through the 711:1787 quarry lease area, to the immediate quarry site, has been obtained from J-1 Contracting.

The 4.94 ha lease area is situated within an area of multiple quarry developments including Penney Paving's quarry (File #711:2777) and J-1 Contracting's quarry (File #711:1787) both of which sit along Mac-Court's northern lease boundary. Dart Enterprises quarry (File #711:12803) and two Station Road Contracting quarries (File #711:7748 & File #711:7670) lie to the south, as shown on **Figures 2** and **3**. A commercial farming area under Crown Title #113935 is located ~1.6 km west of the lease. No water bodies or water courses exist within the lease boundary with the closest water feature being a wetland area adjacent to Terra Nova Lake which is over 160 m from the western quarry boundary.

### **3.0 SURFICIAL GEOLOGY**

The quarry is dominated by glaciofluvial sediments that were most likely deposited as a result of ice flow and melting during the Wisconsinan glaciation event (see Batterson & Liverman, 2000; Dyke, 2004). During this event, the majority of the island portion of Newfoundland was covered with small ice sheets that, together with parallel ice sheets over the Maritimes, are referred to as the Appalachian Ice Complex. Field observations by NCD within the lease boundaries and the surrounding areas indicate the present material is layered (glaciofluvial) and is composed of particles that range in size from fine particles to sand with some minor till and gravel material.

Generally, it is noted that a coarser layer of till material (< 1m) overlies the targeted sand resource material but mixtures and variations in overall material composition occur both vertically and laterally inside the lease. As such, the resource estimations presented in this document include volumes of useable combined till/gravel and sand materials.

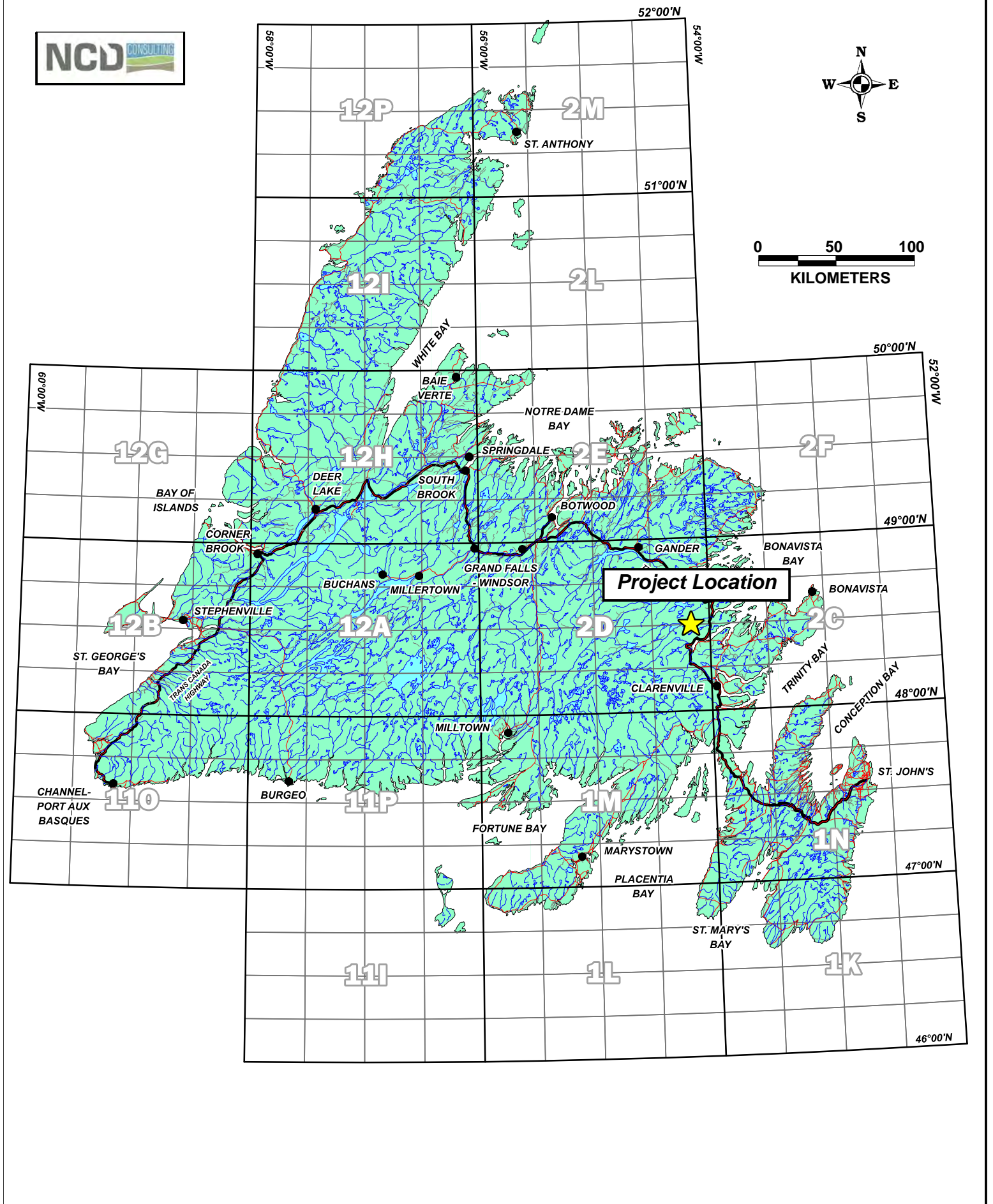


Figure 1: Project Location Map (N.T.S. 2D/09)





**Figure 2 : Quarry Area Location Map**





Figure 3: Detailed Quarry Area Location Map





Data Collected on  
November 22, 2022

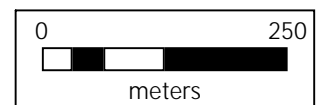


Figure 4: Aerial Drone Survey Area

## 4.0 EXISTING SITE PLAN

### 4.1 Introduction

In accordance with the requirements of a quarry development plan under the Quarry Materials Act, **Maps 1** and **2** show the **4.94 ha** boundary of the quarry area with related corner post UTM's/elevations (UTM NAD 83, Zone 21) with ortho-imagery included in **Map 1**. Data acquired from the drone survey in November of 2022 was used to produce the maps.

**Maps 4** to **8** define the footprint of the first 5 years of quarry development in detailed yearly phases with the remaining 15 years of development presented in 5-year increments on **Maps 9** to **11**. The maximum extent of reclamation for the entire quarry area at the end of year 5 is presented on **Map 12**. A maintained 5 m periphery buffer zone for organics preservation is shown along all production phase blocks adjacent to the lease boundaries, excluding those along the neighboring J-1 Contracting quarry, from which quarry access is obtained. **Maps 1** and **2** also include the location of the access road to the quarry, neighboring quarry operations, a 5 m periphery buffer zone (where applicable), planned stockpile locations and the general quarry site drainage.

A depiction of four section line traces for cross sections presented on **Map 3** is included on **Maps 1** to **11** which were generated using MapInfo® Discover software. Section A has a northwest to southeast orientation and looks toward the northeast. Section B has an east to west orientation and looks toward the north. Section C has a southwest to northeast orientation and looks toward the northwest. Section D has a west-northwest to east-southeast orientation and looks toward the north-northeast. These section lines cross through all relevant areas of the quarry and depict a visualization of current topography, the lease boundary, site drainage, stockpile locations, the access road, 5 m buffer zone, reclamation sloping area and the development boundaries for each phase of production.

### 4.2 Current Site Conditions

The quarry area hosts completely undeveloped green space and the development plans laid out in this document will be the first production to be undertaken within the permit area boundary. Minor crushing/screening processing activities will be taking place within the quarry with the crusher/screener equipment only being utilized within Mac-Court's lease area as required during excavation. Although the equipment will generally be refueled, maintained and sometimes stored/utilized in the related J-1 Contracting quarry, if any fuel storage becomes necessary within Mac-Court's lease area, all petroleum storage tanks will undergo Gasoline and Associated Products (GAP) registration with all registration numbers and GAP permits to be provided once received from Service NL.

The project sits in an area with a fairly level topographic profile within the gentle rolling hill topography of the region. Quarry elevations within the quarry increase towards the west-northwest from 113 m to 118 m above sea level (asl), which equates to only a 5 m increase over a lateral distance of ~170 m. No water bodies or water courses exist within the lease boundary with the closest water feature being a small wetland area adjacent to Terra Nova Lake which is over 160 m from the western boundary.

General drainage of the area is directed towards the west-northwest from the natural topographic profile with overland run-off primarily filtering through the permeable aggregate. Quarry drainage during production is discussed in **Section 5.2.2**.

## 5.0 QUARRY DEVELOPMENT

### 5.1 Introduction

From a production perspective, the current primary intent and purpose of this quarry is to excavate the present sand resource material to produce asphalt blending sand. This will be used by Mac-Court to supply asphalt production operations for their ongoing civil construction projects, including future contracts with the Government of Newfoundland and Labrador Department of Transportation and Infrastructure.

As noted in **Section 3.0**, a thin (~1m) veneer of glacial till material covers the general area. While coarser aggregate material is needed at varying times during the season depending on asphalt mix designs, it may, at times, be deemed unsuitable for the then currently produced asphalt blend. Regardless, all aggregate material be utilized by Mac-Court to support its other operations including the supply of road grit and general aggregate products.

**Maps 4 to 8** show the proposed quarrying footprint of yearly phases/blocks for each year of the detailed 5-Year QLP. **Maps 9 to 11** show the quarrying footprint per 5-year blocks for the remaining 15 years of the total 20-year period calculated with the same average annual production rate. This method of presenting the first 5 years in detail was followed as an updated set of DRC Plans are to be submitted for Years 6 to 10, and at that time unpredictable factors such as an increase or decrease in demand may change the detailed development plan beyond Year 5. **Map 12** shows the layout of the quarry after completion of the reclamation process at the end of Year 5 at the maximum development extent should the quarry site need to be prematurely completely reclaimed (see **Section 6.0: Reclamation and Closure Plans**).

### 5.2 Quarry Drainage During Production

#### 5.2.1 Introduction

Production activities inside the quarry will consist of excavating sand/gravel/till aggregate material using an excavator and loader, crushing/screening the extracted material, and finally stockpiling any till material not currently being utilized for subsequent processing.



Washing of the material is not required. The crusher/screener set up will be mobile in nature and will be readily moved as required to facilitate a more productive processing setup. **Maps 4 to 11** show potential locations of the crusher/screener if secondary processing is required. While these locations are reasonable based on the proximity to the production phase, the crusher/screener locations will likely vary throughout the periods of development.

### 5.2.2 Site Drainage

NCD conducted a site visit to the adjacent J-1 Contracting quarry in May of 2021, confirming the height of the water table within the area to be below 95 m in elevation. The material inside the quarry is composed of till, sand, minor gravel and minor fine particles, which has a high permeability. Site runoff water currently filters through the permeable ground and notable standing water is not present. The natural topographic profile of the lease area will gently steer drainage towards the vegetated areas to east, southeast and northeast. During production, any additional site water will be directed towards the lower elevations in the adjacent J-1 Contracting quarry with ditching, giving the water more time to naturally percolate through the underlying material.

As presented in **Section 6**, if reclamation of the site occurs, two drainage channels will be created adjacent to the Phase 1 and Phase 5 development area footprints. These channels will run from the QLP production area to the lower elevations to the northeast within J-1's adjacent quarry, preventing rainwater or overland runoff from pooling within the small depression in the development area.

## 6.0 RECLAMATION AND CLOSURE PLANS

### 6.1 Introduction

Reclamation is part of the standard conditions of any quarry lease plan. These terms require that a quarry lease holder slope excavated areas, create drainage for the developed area and preserve and re-spread the organic material from the site. In this case, the native grubbing – organic cover and associated mineral soils, will be windrowed within the 5 m buffer areas or stockpiled and preserved throughout the development of the production phases.

Mac-Court Holdings will restore any quarried area to its natural condition as best as reasonably possible following the guidelines for the rehabilitation and closure plans of quarries under the Mining Act. This will be achieved by creating two drainage channels for the 5-Year development area footprint, reworking the in-situ aggregate material within each exposed quarry face to a 30-degree slope and finally by the respreading of the preserved grubbing over all disturbed ground to promote revegetation, as indicated on **Map 12**.

## 6.2 Reclamation Method and Description

The reclamation process will consist of creating drainage for the development area depression and recontouring of quarry faces and slopes to produce consistent 30-degree sloping before proceeding to reclaim the sloped areas and production phase footprints with the preserved grubbing. Recontouring of quarry walls and slopes will be achieved by using primarily an excavator and the spreading of the previously stockpiled grubbing over disturbed areas will be achieved using a combination of an excavator and bulldozer with the help of haul trucks to transport the grubbing from the stockpile area.

**Map 12** shows the areas to be reclaimed as part of the DRC plan and includes all disturbed areas inside the quarry lease boundaries. The total disturbed area to be reclaimed at the maximum extent of development was calculated to be ~ **0.845 ha** at the end of the 5-Year QLP. The total disturbed area includes the production area footprints and all 30-degree sloped surfaces created from in situ sand/gravel material. In order to prevent any potential standing water within the 5-Year development area footprint post reclamation, two ~**0.5 m** wide drainage channels will be created from the in-situ sand/gravel material. These channels will run from ~113 m – 114 m in elevation within the production area, to the lower elevations of ~112 m – 113 m within J-1's adjacent quarry. The two ~ 3 m - 4 m deep channels will require reworking ~ **284 m<sup>3</sup>** of in-situ sand/gravel to create both the 78 m and 64 m long channels (as shown on **Map 12**).

## 7.0 FINANCIAL ASSURANCE

Mac-Court Holdings proposes that the reclamation liability for the site be secured by a quarry reclamation bond for the maximum developed extent at the end of the 5 years of development (**Appendix B**). The proposed bonding is the cost to reclaim the site at the end of the 5-Year extraction plan and the financial assurance would be in excess at any previous point during the 5 years of development. Financial assurance beyond the first five years will be addressed in the updated 5-Year plan submitted in early 2028 prior to the 2028 construction season, with bonding revised at that time. To provide financial assurance beyond the first 5 years would be unreliable as development plans will most likely change somewhat beyond this initial time frame.

The cost to rehabilitate the 5-Year extraction plan from 2023 to 2027 is presented in **Tables B (1) B (2) and B (3)** in **Appendix B**. Overall a total of **\$20,738.21** in bonding is required to complete the rehabilitation plan at the end of development during the 5 years. If the bonding proposal is approved by DIET, it will be put in place to cover all rehabilitation areas as depicted on **Map 12**.

The costs presented in **Appendix B** are broken down based on the need to use 1) an excavator to create two drainage channels along the development area footprint, 2) excavators to cast and rework in situ sand/gravel material within quarry faces to create a 30-degree slope, and 3) the use of an excavator, bulldozer and haul trucks to place and

re-spread reclamation material over all disturbed areas within the lease as per **Map 12**. A haul truck will be loaded from the preserved grubbing stockpile with an excavator and used to move material to areas where it is to be spread.

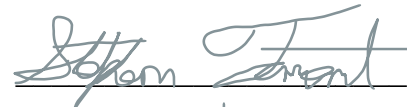
## 8.0 CONCLUSION

Mac-Court Holdings has proposed the development of **0.845 ha** of the total **4.94 ha** quarry area over a 5-Year period. A total of **25,165 m<sup>3</sup>** of material is estimated to be extracted from 2023 to 2027. Using the same average rate, a total resource volume of **75,212 m<sup>3</sup>** was calculated for a 20-year development design that equates to a **2.496 ha** surface area. This submission also includes a comprehensive description of the quarry drainage and the plan for onsite water management in the case of site closure.

The current quarry permit is included in **Appendix C**, the updated and correct Legal Survey is included in **Appendix D**. Documentation showing that Mac-Court holdings Inc. approves and will execute these plans is presented **Appendix E** and the Professional Certification of the secondary author is included in **Appendix J**. Finally, **Appendix K** (if hard copy printed) contains the digital files pertaining to this report.



Brad Dyke, P. Geo  
Owner/Operator  
NCD Consulting Ltd.

Stephen Tarrant, P. Geo.  
Senior Geologist  
NCD Consulting Ltd.

## 9.0 REFERENCES

**Batterson, M. and Liverman, D. (2000):** Contrasting styles of glacial dispersal in Newfoundland and Labrador: Methods and case studies, In Current research, Edited by C. P. G. Pereira and D. G. Walsh, Government of Newfoundland and Labrador, Department of Mines and Energy, Geological Survey, Report 2000-1, Geofile Number NFLD/2694, pages 1-31.

**Dyke, A.S. (2004):** An outline of North American deglaciation with emphasis on central and northern Canada, Geological Survey of Canada, In Quaternary Glaciations - Extent and Chronology, Part II, edited by J. Ehlers and P.L. Gibbard., Developments in Quaternary Science, Vol. 2, Part II pages 373-424.

**Dyke, B. and Lachance, N. (2021):** J-1 Contracting Ltd. Five Year (2021-2025) Quarry Lease Development, Rehabilitation and Closure Plans. First 5 Years of a 20-Year Quarry Lease (2021-2040) for Quarry File Number #711:1787, Quarry Lease #107270 (Expiry Aug. 29, 2021) 5.815 ha Quarry Area – Expiry 2040. Submitted to the Government of Newfoundland and Labrador, Department of Industry, Energy and Technology by NCD Consulting Ltd. (Aug 2021).

**Tarrant, S. (2022):** Mac-Court Holdings Inc. Terra Nova Quarry Permit Environmental Assessment Registration Document - submitted to the Government of Newfoundland and Labrador, Department of Industry, Energy and Technology by NCD Consulting Ltd. (Jan 2022).

**APPENDIX A**  
**PHOTOS**





Plate 1: J-1 Quarry access road showing turn-off from Terra Nova Road, looking northeast



Plate 2: J-1 Quarry access road showing turn-off from Terra Nova Road, looking southwest towards Mac-Court quarry entrance



Plate 3: Lockable security gate at J-1 quarry entrance, looking northeast



Plate 4: Quarry access road along J-1 lease boundary, looking southwest towards Mac-Court quarry entrance





Plate 5: Mac-Court quarry entrance area, looking southwest  
Over Phase 1 and Phase 2 production areas



Plate 6: Example of current quarry ground conditions showing  
abundant grubbing material, looking northeast towards Phase 6-20





Plate 7: Phase 5 production area looking east towards quarry entrance



Plate 8: Southwestern quarry area showing Phases 6 -20 production areas and till + grubbing stockpile locations





Plate 9: Indication of snow fall amount (~4cm) over quarry area during aerial drone survey on November 22, 2022



Plate 10: Tree line visibility barrier to Terra Nova Road





Plate 11: Aerial photo of entire quarry area  
looking northeast



Plate 12: Aerial photo of entire quarry area  
looking south

## **APPENDIX B**

### **RECLAMATION COST ESTIMATES, RATES AND VOLUMES**

**Table B (1): REQUIRED RECLAMATION VOLUMES**

Reclamation Work*	Area Reclaimed	Timeframe	Disturbances/ Surface Area (m <sup>2</sup> )	In-situ Material Volume Required (m <sup>3</sup> )	Volume to be Spread/Resurfaced (m <sup>3</sup> )*****	Overall Total Volume per Area (m <sup>3</sup> )
Provisional 30 Degree Sloping **	Exposed Quarry Faces From Production Operations	End of Year 5	2,679	4,266	n/a	4,266
Reclamation Drainage Channels***	5-Yr QLP Development Area Drainage Channels	End of Year 5	n/a	284	n/a	284
Spreading Reclamation Material ****	Entire 5-Year Development Area Footprint	End of Year 5	8,457	n/a	5,336	5,336
<b>Total (end of year 5)=</b>			<b>8,457</b>			<b>9,886</b>

(the above is a summary that represents the calculated volumes on a per quarry area scenario over the next 5 years of development from 2023 to 2027)

\* Reclamation will occur inside the quarry lease boundary and will only be required within the 5-Year QLP production area footprint.

\*\* 30 degree sloping will be created from the in-situ unconsolidated material within the quarry faces.

\*\*\* During reclamation, drainage channels from the 5-Year production area footprint will be created by reworking **284 m<sup>3</sup>** of in situ unconsolidated material, steering drainage to the lower elevations in the J-1 quarry.

\*\*\*\* **0.63m** thick cover of grubbing material will be spread over entire disturbed area (**8,455 m<sup>2</sup>**) .

\*\*\*\*\*Grubbing removed during 5-Year QLP production operations (**5,336 m<sup>3</sup>**) is composed of mixed mineral soil + organics at ~1m in depth.

n/a = not applicable

To be cross referenced with Reclamation Map

**Volume in red is amount required to complete reclamation at the maximum development extent at the end of Year 5**

**Surface Area in green is the total disturbed area to be reclaimed at the maximum development extent at the end of Year 5**



**APPENDIX C**  
**CURRENT QUARRY PERMIT**

File #: 71112924

# QUARRY PERMIT

Quarry permit **144971**, is issued under Section 5 of The *Quarry Materials Act, 1998* and allows:

**Mac-Court Holdings Inc.**  
**P. O. Box 9068,**  
**Clareville, NL. A5A 2C2**

To remove: **Sand**

**Operations:** Crushing and Screening

**Area (ha):** 4.94

**Electoral District:** Terra Nova

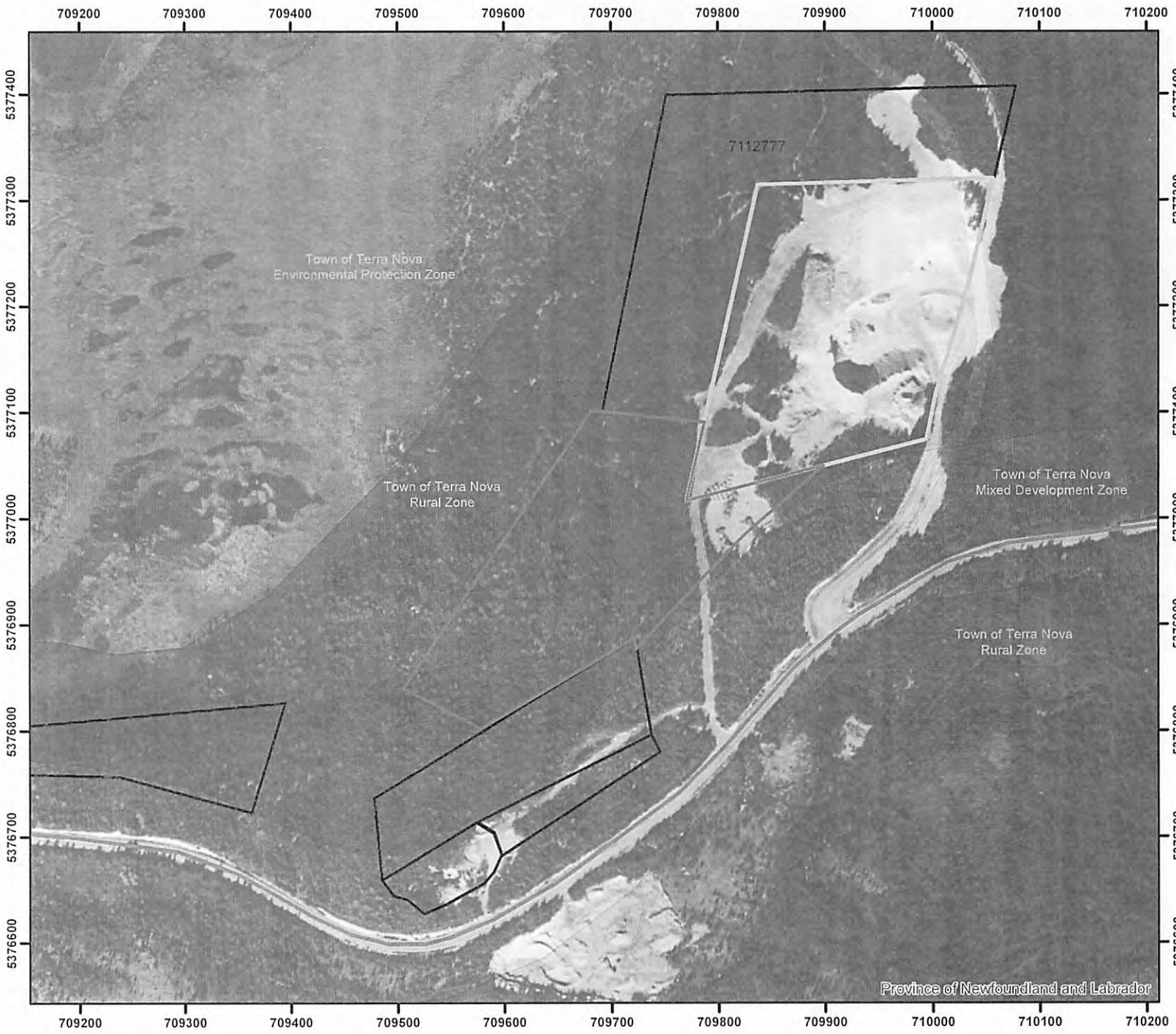
**NTS Map:** 2D/09

Location: **Route 301 (Terra Nova); 200 m NNW at 12.93 km W of TCH** (see attached map)

This permit is non-transferrable and expires on:

**May 24, 2023**






# Newfoundland Labrador

Department of  
Industry, Energy & Technology  
Mines Branch  
Mineral Lands Division

QUARRY PERMIT  
Mac Court Holdings Ltd.  
File No. 71112924  
Area: 4.94 hectares

### Map Layers

-  71112924 Mac Court Holdings Quarry Permit
-  Quarry Lease
-  Quarry Permits
-  Crown Titles

### Land Use Details

- Town of Terra Nova
  - Cottage Planning Area
  - Pine Marten Habitat
  - Terra Nova Domestic Harvest Area
  - FMD-05
  - Service NL - Gander Office
  - Transportation & Infrastructure - Region 2
- File No. 71112924**



GeoReference UTM NAD 83 Zone 21 1:5,000

200 100 0 200 Meters

Project Location

Site Management Plan  
Terra Nova Blending Sand Quarry  
App. 4km W of Terra Nova Town

Wetlands: 1.32km NW of quarry

Black arrows indicate direction of excavation  
Red line indicates location of overburden  
Green and blue circles indicate topsoil and  
organic stockpiles respectively

Portable Separator

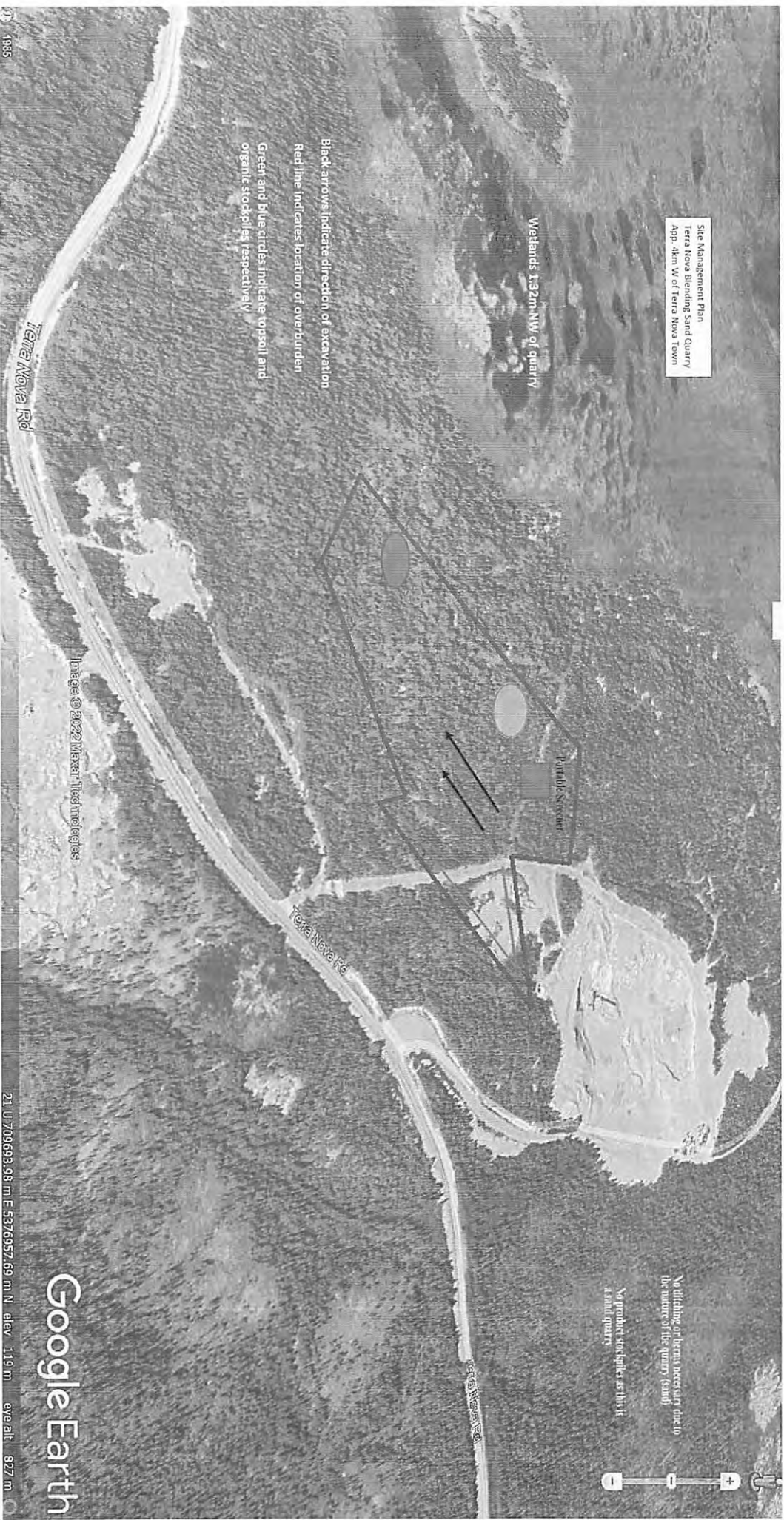


Image © 2022 Maxar Technologies

No digging or burning necessary due to  
the nature of the quarry (sand)

No product stockpiles as this is  
a sand quarry

Google Earth

21 U 709693.98 m E 5376957.69 m N elev 119 m eye alt 327 m

19 1886

## Schedule A

### Special Terms and Conditions

#### Mineral Lands Division

- 1) Must use the existing access off of Route 301.
- 2) Must restrict access to the quarry permit at its boundary to prevent indiscriminate dumping and unauthorized removal of quarry materials.
- 3) Following expiry of the quarry permit, Mac Court Holdings Ltd. operations will require a quarry lease. The quarry lease development, rehabilitation and closure plans must be submitted no later than three months before the quarry permit expiration and the operations in the quarry permit must be compliant with all terms and conditions.

#### Environmental Assessment

- 4) The proponent must uphold all commitments made in its Environmental Assessment Registration Document and abide by the Environmental Assessment release conditions.

The proponent is advised to consider and, where appropriate, act upon all additional or supplementary instruction or suggestions in the Environmental Assessment Release Document that are not already noted above.

#### Town of Terra Nova

- 5) Prior to commencing operations, must obtain a development permit from the Town of Terra Nova.
- 6) Notwithstanding Terms and Conditions B(1)(f) below, wetland buffers in the Town of Terra Nova's Rural Zone are **50 metres**.

#### Water Resources Management Division

- 7) A **Water Resources Management Plan** shall be submitted to the Water Resources Management Division of the Department of Environment and Climate Change for approval, prior to commencing any work related to this project. The Water Resources Management Plan shall describe any potential for onsite drainage or dewatering to discharge into a natural waterbody and the precautionary measures, such as vegetation cover, filter strips, silt curtain, hay bales, etc., that will be implemented to ensure the subsequent condition.

Any effluent or runoff leaving the site must conform to the requirements of the **Environmental Control Water and Sewage Regulations, 2003**. See:

<http://assembly.nl.ca/Legislation/sr/regulations/rc030065.htm>

The proponent must apply for and obtain a **permit** under the **Water Resources Act, 2002**, specifically Section 48 for any work in any body of water, including wetland, prior to the start of construction.

Application forms for working within a body of water can be found online at:  
<https://www.gov.nl.ca/ecc/waterres/regulations/appforms/>

Department of Fisheries, Forestry and Agriculture

- 8) A **commercial harvesting permit** is required prior to any harvesting or timber removal in the area.
- 9) An **operating permit** is required prior to the start of any work during the forest fire season and can be obtained from the local forest management district office. During the forest fire season, a **permit to burn** must be obtained to ignite a fire on or within 300 metres of forest land.
- 10) The Wildlife Division advises applicants to operate under established legislation and regulations, so as to prevent harassment of wildlife (Section 106 of the **Wild Life Regulations, 1996** under the **Wild Life Act, 1990**) and receive guidance with respect to wildlife and their habitats, e.g., nesting birds, caribou, waterfowl, wetlands, inland fish, rare plants and riparian species, to avoid or minimize adverse impacts.

Section 106 of the **Wild Life Regulations, 1990**, states:

“A person shall not operate an aircraft, motor vehicle, vessel, snow machine or all-terrain vehicle in a manner that will harass any wildlife.”

There is to be no vegetation clearing during the critical nesting and brood-rearing period that runs from April 15 to August 15.

**Raptors.** No vegetation clearing is to occur within 800 metres of a bald eagle or osprey nest during the raptor nesting season (March 15 to July 31) and 200 metres during the remainder of the year. The 200-m buffer also applies to all other raptor nests, e.g., Northern Goshawk, Sharp-shinned Hawk, Merlin, American Kestrel, Great-horned Owl, Boreal Owl and Northern Saw-whet Owl.

**Migratory Birds.** The **Migratory Birds Convention Act, 1994**, the **Migratory Bird Regulations, 1996**, the **Wild Life Act, 1990** and the **Wild Life Regulations, 1996** protect birds and prohibit the disturbance or destruction of bird nests and eggs in Newfoundland & Labrador. Proponents are advised to develop and implement appropriate preventative and mitigation measures to avoid incidental take of birds, nests and eggs.

**Newfoundland Marten.** The proposed quarry falls within Newfoundland Marten critical and/or core habitat. Newfoundland Marten are listed as Threatened under the Newfoundland and Labrador **Endangered Species Act, 2001** (NLESA). Section 16(1) of NLESA states, “A person shall not disturb, harass, injure, or kill an individual of a species designated as threatened, endangered or extirpated.”

Denning of female marten and young occurs from early April to the end of June and dens must be protected from damage and disturbance during this time period as dens are protected under the provincial Newfoundland and Labrador **Endangered Species Act, 2001** and the federal **Species at Risk Act, 2002 (SARA)**.

To help reduce negative impacts on any species, the Wildlife Division recommends that vegetation clearing or excessive noise be undertaken outside of the denning, breeding and brood-rearing period, which runs from early April to mid-July, as disturbance could result in negative impacts on survival or condition of young or denning females (*Marten Recovery Plan, 2010*).

Activities, disturbance and habitat destruction must be minimized as much as possible in order to avoid causing harm to individuals or degrading important marten habitat. This includes minimizing the number of trips using snowmobiles, ATVs or other means of transportation and to travel with caution within the area at all times.

**Olive-sided Flycatcher.** Olive-sided Flycatcher is listed as Threatened under both the provincial NLESA, 2001 and the federal SARA, 2002 and have been reported in the area. A Fact Sheet is available at:

<https://www.gov.nl.ca/ffa/files/wildlife-endangeredspecies-olive-sided-flycatcher-information-sheet.pdf>.

The Wildlife Division asks that the location of raptor nests and any sightings of marten or Olive-sided Flycatcher be reported to them by e-mailing: [endangeredspecies@gov.nl.ca](mailto:endangeredspecies@gov.nl.ca).

The proponent must follow appropriate hunting and trapping protocols as set in the annual Hunting and Trapping Guide. Proponents are advised to develop and implement appropriate preventative and mitigation measures to avoid incidental take of wildlife species.

Proponents must adhere to the **Motorized Snow Vehicles and All-Terrain Vehicles Regulations, 1996** under the **Motorized Snow Vehicles and All-Terrain Vehicles Act, 1990**. See: <http://www.assembly.nl.ca/legislation/sr/regulations/rc961163.htm>.

#### Digital Government and Service NL

- 11) Must operate in compliance with the **Occupational Health and Safety Act, 1990** and the **Occupational Health and Safety Regulations, 2012**.
- 12) All on-site waste material, including lunch waste, must be securely contained so as not to attract nuisance wildlife to the site and must be removed to an approved waste disposal site on a weekly basis. The permit holder will be held responsible for all waste material located on site.
- 13) All fuel storage tank systems and any proposed fuel cache will require approval by Digital Government and Service NL prior to installation.

- 14) All fuel storage tank system installations are subject to the **Storage and Handling of Gasoline and Associated Products Regulations, 2003** and will require approval by Digital Government and Service NL prior to installation.
- 15) The storage, handling, and disposal of used/waste oil and used/waste glycol must be in compliance with the **Used Oil and Used Glycol Control Regulations, 2018**.
- 16) In order to ensure that a quick and effective response to a spill event is possible, spill response equipment should be readily available on-site. Response equipment, such as absorbents and open-ended barrels for collection of cleanup debris, should be stored in an accessible location on-site. Personnel working on the project should be knowledgeable about response procedures. The proponent should consider developing a contingency plan specific to the proposed undertaking to enable a quick and effective response to a spill event.
- 17) Any spill or leak of gasoline or associated product is to be reported immediately to Digital Government and Service NL by calling the Environmental Emergencies Telephone Line at 709-772-2083 or 1-800-563-9089.

## Schedule B

### Subject to the following terms and conditions:

#### Definitions

“the Act” means the *Quarry Materials Act, 1998*.

“angle of repose” means the steepest angle of descent or dip relative to the horizontal plane to which a material can be excavated or stockpiled without slumping. The angle of repose can range from 0° to 90° or be described as a ratio of horizontal and vertical distances, e.g., 2:1 means 2 horizontal units of measure for 1 vertical unit of measure.

“blaster” means a person who holds a valid blaster's certificate granted by the Department of Immigration, Population Growth and Skills.

“Crown” means any department of the Province of Newfoundland and Labrador.

“Department” means the Department of Industry, Energy and Technology.

“designated blast area” includes the danger area, which is the zone in which there exists a possibility of hazard to a person or property from fly rock, fume, air blast or ground vibrations, and is the area where the blaster has made arrangements to evacuate all persons whose safety might be threatened by the blasting operation.

“final rehabilitation” means rehabilitation carried out upon exhaustion/depletion of a part or all of the Quarry Permit area in accordance with the Act, the Regulations and the terms and conditions of the Quarry Permit and is supplemental to any progressive rehabilitation that has been completed.

“flyrock” means rock that becomes airborne as a direct result of a blast.

“grubbing” means the stumps, organic material and topsoil that are stripped to access quarry materials.

“haul road” means the road that is used to access the quarry permit from roads/highways that are maintained by the provincial government or a municipal government.

“inert” means material that is deemed acceptable for disposal at a location other than at an approved waste disposal facility in accordance with the Department of Environment and Climate Change's legislation and regulations.

“Minister” means the Minister of Industry, Energy and Technology.

“overburden” means any unconsolidated materials located between the grubbing and bedrock.

“peak particle velocity (PPV)” means the maximum component velocity in millimetres per second that ground particles move as a result of energy released from explosive detonations.



“permittee” means the person or company to which a Quarry Permit has been issued. Where applicable, permittee means the person or company to which a Subordinate Quarry Permit has been issued.

“pre-blast survey” means a detailed record, accompanied by film or video, as necessary, of the condition of private or public property prior to the commencement of blasting operations.

“progressive rehabilitation” means rehabilitation done sequentially during the term of the Quarry Permit, within a reasonable time following individual quarry operations, in accordance with the Act, the Regulations, and the terms and conditions of the Quarry Permit.

“quarry material” is defined under Section 2(1)(j) of the Act.

“the Regulations” means the *Quarry Materials Regulations, 1996*.

“rehabilitate” means to treat land from which quarry materials have been excavated so that the use or condition of the land is:

- a) restored to its former use or condition; or
- b) changed to another use or condition that is or will be compatible with the use of adjacent land.

“sensitive receptor” means a place of residence or commercial place of business that people normally occupy at any given time.

#### A - General

1) This Quarry Permit does not relieve the permittee from:

- a) adhering to other Provincial and Federal legislation or regulations; and
- b) obtaining all other permits and authorizations that may be required for the quarry operation, e.g., municipal development permits, development control permits, crown land access and highway access permits, forestry cutting and operating permits, environmental permits for asphalt plants, stream crossing, etc..

2) A rental fee of \$120.00 per hectare and an annual quarry permit application fee of \$100 are payable in advance.

3) A royalty of \$0.75 per cubic metre for quarry material removed is payable within two months from the expiration of this Quarry Permit.

4) The permittee shall retain any existing tree screens between quarrying and adjacent roads, highways, waterbodies, including wetlands, or other land uses.

5) Where no tree screens exist, earth berms and/or other measures approved by the Department shall be implemented to screen the operation from the general public on adjacent roads, highways or other land uses.

6) The Crown reserves the right to quarry and remove from the Quarry Permit, at any time, any required quarry



materials free of charge without obligation to compensate the permittee in any way.

- 7) A copy of this Quarry Permit shall be at the quarry site and available for inspection at all times during operations.
- 8) Any person authorized by the Minister may at any time enter upon the Quarry Permit for Departmental purposes in order to inspect, map or examine the quarry operation.
- 9) This Quarry Permit may be cancelled by the Minister without notice if operations fail to comply with any of the terms and conditions of this Quarry Permit, the Act or the Regulations.
- 10) Any Subordinate Quarry Permit issued for this site is subject to all applicable terms and conditions of the Quarry Permit.

#### B - Restrictions

- 1) There shall be no quarrying within:
  - a) 300 metres of a sensitive receptor without permission in writing from the Minister;
  - b) 15 metres of private property without the written permission of the private property owner(s). Land title documentation shall be provided to the Department for verification;
  - c) 90 metres of the road centerline of a protected roadway as designated under the Protected Road Zoning Regulations;
  - d) the building control line of a protected roadway without a development permit issued under the *Protected Road Zoning Regulations, 1996*. As set out in the *Protected Road Zoning Regulations, 1996*, building control lines are located at the following distances measured perpendicular from the road centreline:
    - i. 100 metres within a municipal boundary;
    - ii. 150 metres within a municipal planning area but outside of a municipal boundary; and
    - iii. 400 metres within an unincorporated community or outside of a settled area;
  - e) 50 metres of a road not specified in subsections (c) and (d); and
  - f) 50 metres of any waterbody or 30 metres of wetlands and ephemeral watercourses.
- 2) Removal of grubbing, e.g., topsoil, is prohibited unless otherwise stated.
- 3) The permittee shall prevent unauthorized access to the Quarry Permit area.
- 4) The permittee shall neither pollute nor permit the pollution of any pond, brook, river or other waters, including wetlands.
- 5) The federal *Fisheries Act, 1985* requires that projects avoid causing serious harm to fish unless authorized by the Minister of Fisheries and Oceans Canada. This applies to work being conducted in or near

waterbodies that support fish that are part of or that support a commercial, recreational or Aboriginal fishery. If quarrying related activities, e.g., access road construction, are to take place in or near a waterbody, please complete the Department of Fisheries and Oceans (DFO) Self-Assessment at: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>.

As per Section 38(5) of the *Fisheries Act, 1985*, every person has a duty to notify DFO of an occurrence that results in serious harm to fish or the deposit of a deleterious substance in water frequented by fish. Should such an occurrence take place, the Proponent shall contact DFO at 709-772-4140 or [FPP-NL@dfo-mpo.gc.ca](mailto:FPP-NL@dfo-mpo.gc.ca).

- 6) Except with the consent in writing by the Minister of Environment and Climate Change, the permittee shall not interfere with any pond, brook, river or other waters, including wetlands.
- 7) All access roads to the Quarry Permit that traverse watercourses, e.g., streams, creeks and rivers, shall be constructed in accordance with the Department of Environment and Climate Change's regulations and policies.
- 8) Except with the written permission from the Minister, quarrying is not permitted to result in excavation below the water table and cause the accumulation or ponding of water. Creation of settling ponds for quarry production purposes requires the written permission of the Minister.
- 9) Buildings or structures shall only be erected in the Quarry Permit area with written permission from the Minister. Any erected buildings, structures and equipment approved for this permit shall be temporary in nature and kept in good repair and working order.
- 10) The Quarry Permit area shall be kept free of scrap materials, including but not limited to refuse and abandoned or derelict vehicles, equipment and buildings.

#### C - Site Preparation

- 1) The permittee, prior to commencing operations, shall establish suitable corner posts or rock cairns at least one-metre high and carry out suitable blazing of trees, placement of flagging, erection of fencing or other appropriate methods to outline the area under Quarry Permit.
- 2) All boundary markings shall be maintained during the term of the Quarry Permit.
- 3) The area to be excavated shall be cleared of all vegetation prior to the removal of any quarry materials. Unless otherwise approved by the Minister, only an area necessary for the term of the Quarry Permit shall be cleared. The nearest Forestry Management office must be contacted to obtain any necessary wood cutting permits and instructions regarding the salvage of wood.

#### D - Quarry Operations

- 1) The permittee shall conduct quarry operations in a safe and efficient manner.

- 2) All trees must be removed and grubbing carried out within five metres of the active quarry and stockpile areas; these activities shall remain within the boundaries of the quarry permit. Prior to stockpiling the grubbing material, any topsoil shall be removed and stockpiled separately. The permittee shall ensure that the quality of the topsoil is not affected by dilution with other materials.
- 3) Quarrying shall be conducted in a systematic manner taking in to account the life expectancy of the operation, the eventual slopes upon completion, the potential after-use of the site and the various potential end-product uses of quarry materials available at the site.
- 4) Where mobile crushing and/or screening equipment is used to process quarry materials, Section 414 of the *Occupational Health and Safety Regulations, 2012* requires, as applicable, equipment to have dust controls, adequate mechanical exhaust system(s) and adequate water spray system(s).
- 5) Noise and dust shall be mitigated on site if a sensitive receptor is within 500 metres from the Quarry Permit operation and/or for environmental reasons and in accordance with applicable industrial and environmental standards, regulations and guidelines.
- 6) If blasting is required, it shall be performed under the direct supervision of a blaster who is present at the project and who holds a valid blaster's certificate that authorizes the performance of the particular type of work that the blaster is to conduct or supervise.
- 7) If blasting is required, the permittee and/or blaster must notify, in writing, all sensitive receptors within 500 m of the blast site.
- 8) If blasting is required, a drill and blast design plan shall be prepared by a qualified individual and monitoring for ground vibration and overpressure shall be carried out by the blaster to ensure compliance with appropriate guidelines. The drill and blast design plan shall include, as a minimum, the following:
  - a) PPV and design peak sound pressure level at 300 m radius from the area of the blast or to the nearest utility, residence, structure or facility;
  - b) number, pattern, orientation, spacing, size and depth of drill holes;
  - c) collar and toe load, number and time of delays and mass and type of charge per delay;
  - d) setback distances to affected fish habitat;
  - e) the explosive products to be used; and
  - f) the designated blast area.

The drill and blast design plan shall be kept on site at all times.

- 9) If blasting is required, a pre-blast survey shall be prepared for all buildings, utilities, structures, water wells, sewage disposal systems and other facilities likely to be affected by the blast. The standard inspection procedure shall include the provision of an explanatory letter to the owner or occupant with a formal request for permission to carry out an inspection and to obtain any necessary water samples for analysis and flow testing. The pre-blast survey shall include, as a minimum, the following information:
- a) type of structure, including type of construction and if possible, the date when built;
  - b) identification and description of existing differential settlements, including visible cracks in walls, floors, and ceilings, supported by a diagram, if applicable, room-by-room. All other apparent structural and cosmetic damage or defect shall also be noted. Defects shall be described, including dimensions, wherever possible; and
  - c) digital photographs or digital video or both, as necessary, to record areas of significant concern.

Photographs and videos shall be clear and shall accurately represent the condition of the property. Each photograph or video shall be clearly labelled with the location and date taken.

A copy of the pre-blast survey, including copies of any photographs or videos that may form part of the report, shall be provided to the owner of that residence or property upon request.

- 10) If blasting is required, it shall only be carried out during daylight hours and at a time when atmospheric conditions provide clear observation of the blast from a minimum distance of 500 metres.
- 11) If blasting is required, it shall not be carried out on a holiday or between the hours of 6 pm on any day and 8 am the following day. These time constraints do not apply if it can be demonstrated that a sensitive receptor does not exist within 1000 metres of the Quarry Permit.
- 12) If blasting is required, all fly rock shall be contained within the Quarry Permit via the use of blast mats, adjustment of drill and blast plan or other appropriate operational measures.
- 13) Benching or other operational processes may be necessary to allow for the extraction of specific types of quarry materials or to prevent the contamination of relatively high quality materials by low quality materials. High quality materials shall not be used when a lower quality would be adequate, e.g., materials suitable for hot-mix asphalt applications shall not be used for fill or road subgrade applications, unless contract requirements specify otherwise.
- 14) Without written permission of the Minister, quarry faces and bench heights shall be maintained in accordance with Section 409(2) of the *Occupational Health and Safety Regulations, 2012*. Specifically,
- a) the bench/face height of quarries developed in unconsolidated material shall not exceed five metres and not be higher than can be reached safely with the equipment in use;
  - b) the bench/face height of quarries developed in consolidated (bedrock) material shall not exceed ten



metres and not be higher than can be reached safely with the equipment in use; and

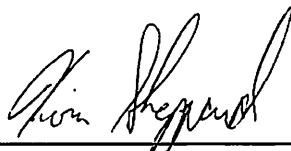
c) where there are two or more benches, berms shall be constructed on the second and higher benches to prevent material from falling to a lower bench.

15) Progressive rehabilitation is required for all operations throughout the term of the Quarry Permit.

#### E - Termination of Operations and Rehabilitation

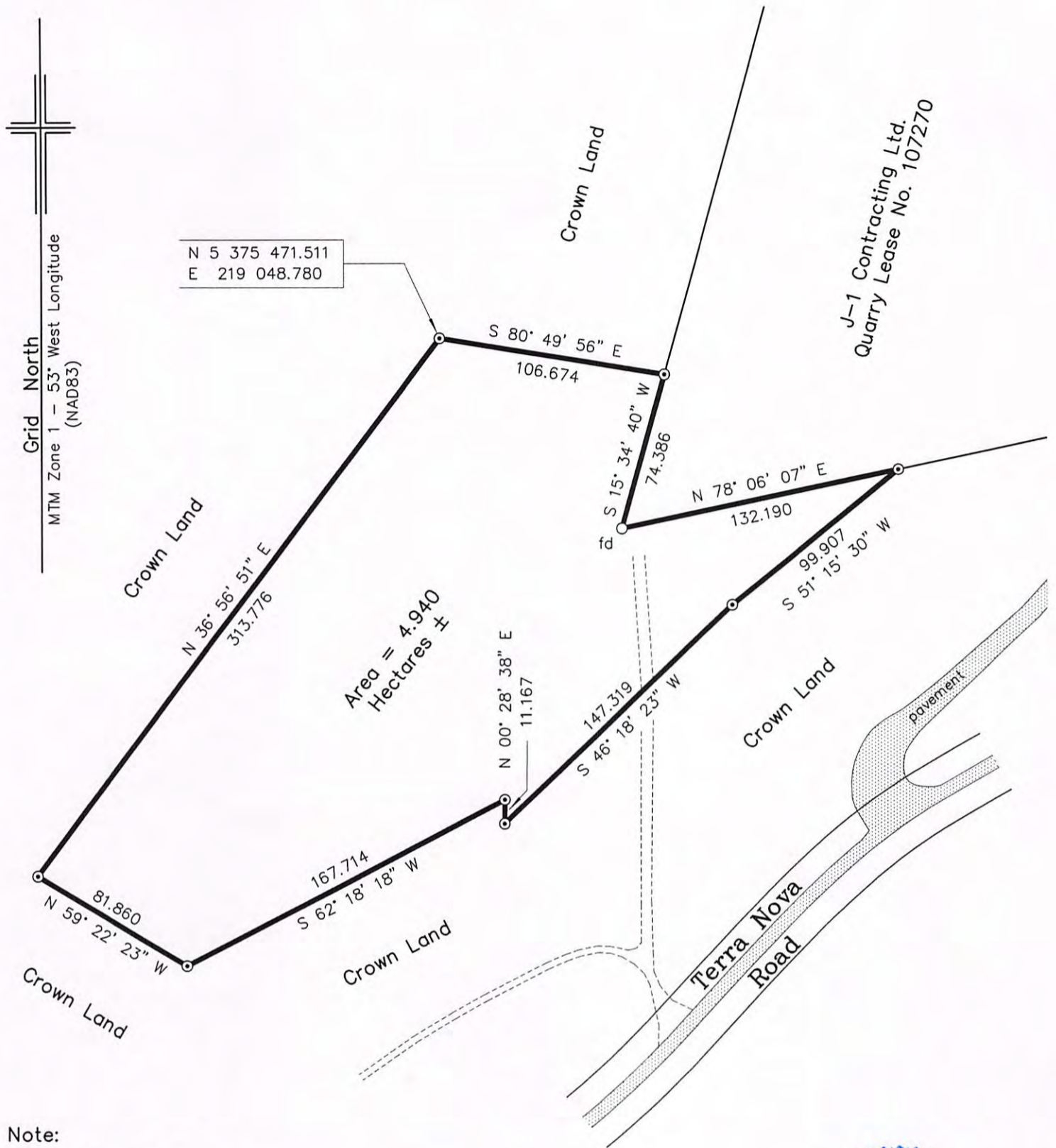
- 1) Not less than thirty days prior to removing equipment from the Quarry Permit, the permittee shall notify the Department to arrange for an inspection of the site.
- 2) Prior to progressive or final rehabilitation of any part of the site, the site shall be inspected for waste materials, e.g., petroleum products, garbage, plastics, metal, and waste equipment. Any waste materials shall be removed from the site and taken to an approved waste disposal facility.
- 3) Upon completion of the operation or during extended periods of shutdown, where the haul road exits directly onto a provincial road/highway or municipal road, the quarry haul road shall be barricaded, e.g. by ditch, berm or gate, to the satisfaction of the Department.
- 4) The Department may require the permittee to perform maintenance on the portion of the haul road that accesses directly onto a road/highway maintained by the provincial government or a municipality. Any maintenance to be performed shall be at the expense of the permittee.
- 5) For final rehabilitation, quarries developed in unconsolidated material (sand and gravel) shall be sloped at 3:1 and quarries developed in consolidated (bedrock) material sloped at 2:1. If approved by the Department, the slopes may conform to that which existed prior to quarrying and/or be left at a safe angle of repose. Surplus overburden may also be used to attain proper slopes; grubbing shall then be spread uniformly over the slopes.
- 6) If approved by the Department, if there is insufficient overburden available on site, clean inert fill may be imported for the purposes of carrying out final rehabilitation described in Condition E(5).
- 7) If approved by the Department, if there is insufficient grubbing to completely re-cover the site after sloping is complete, an additional organic substitute material shall be used to complete the process, provided that no invasive species are introduced. Acceptable substitute materials are straw, hay, trees having been cut in other parts of the quarry area or ground vegetation produced by seeding.
- 8) If approved by the Department, final rehabilitation of the quarry site as outlined in Condition E(5) may not be required where the Department confirms that the excavated portion of the Quarry Permit contains sufficient reserves of quarry materials for future use. In this case, final rehabilitation may be required only for depleted areas of the site. Sloping and seeding of remaining topsoil and overburden stockpiles may be required.

- 9) Upon surrender, cancellation or expiration of the Quarry Permit, the permittee shall, within thirty days after the surrender, cancellation or expiration, remove from the permit area any buildings, machinery, chattels, personal property and quarry material that has been extracted. In default of doing so, the Minister may sell or otherwise dispose of the said buildings, machinery, chattels, personal property and quarry material under such terms and conditions as are considered appropriate. In the event that the cost of disposing of the said buildings, machinery, chattels, personal property and quarry material exceeds the amount recovered by the Minister, the permittee shall pay to the Minister any deficiency.
- 10) A complete report, on the form available from the Department, stating the actual quantity and type of material removed under this permit shall be filed with the royalty payment referred to in Condition A(3) of this Quarry Permit.

for   
Minister of Industry, Energy and Technology

Date: May 25, 2022

**APPENDIX D**  
**UPDATED LEGAL SURVEY**



J-1 Contracting Ltd.  
Quarry Lease No. 107270

**Note:**

1. fd = Found  
 ○ = Iron Pin  
 ⊙ = Capped Iron Pin
2. Starting point derived from Real Time Kinematic GPS observations relative to Coordinate Monument No. 637003.
3. Copyright 2022, D. W. Hodder, NLS Barrow & Hodder Surveys Ltd.

REFERENCE MONUMENTS (NAD83) Adjusted 92/06/02

Reference Mon.	Northing	Easting	Elevation
No. 637003	5 375 549.238	220 325.061	164.756
No. 637004	5 375 458.255	220 649.329	176.756



Barrow & Hodder  
Surveys Ltd.

PLAN OF SURVEY SHOWING QUARRY LEASE NO. 144971  
**Mac-Court Holdings Inc.**  
 Terra Nova, NL



**APPENDIX I**  
**QUARRY PLANS APPROVAL**

Mac-Court Holdings Inc.  
P.O. Box 9068,  
Clarenville, NL  
A5A 2C2

**Ms. Andrea Devereaux, P. Geo.**  
**Manager, Quarry Materials Division**  
**Department of Industry, Energy & Technology**  
**Government of Newfoundland & Labrador**  
**50 Elizabeth Avenue, 3rd Floor**  
**St. John's, NL, A1A 1W5**

Re: Quarry Permit Conversion to a 20-Year Quarry Lease - Current Quarry Permit #144971 (File# 711:12924)  
expiry in May of 2023 –

---

Dear Ms. Devereaux:

Mac-Court Holdings Inc. (Mac-Court) retained NCD Consulting Ltd. (NCD) of Paradise NL to complete the enclosed 20-year Development, Rehabilitation and Closure (DRC) plans in order to convert their current quarry permit #144971 into a 20-year Quarry Lease, as per the Mining Act and Quarry Materials Act. NCD was contracted to complete this work in order to ensure Mac-Court is issued a 20-Year lease for their 4.94 ha quarry permit in the in the Terra Nova region of Newfoundland, which expires in May of 2023. The plans were designed in consultation with NCD through correspondence and/or personal meetings, a quarry site visit, and a drone survey in order to maximize the extraction of the present resources and to develop the site in a safe and efficient manner. These plans present the first 5 years of development in detail with designs for the following 6-20 years of development represented in 5-year blocks.

The included plans have been reviewed and approved by Mac-Court Holdings Inc. Mac-Court intends to follow these plans for the next five years of production and will submit an updated set of DRC plans prior to the start of the next 5-year period. Mac-Court understands that a significant deviation from these plans is in contradiction to the Mining Act and Quarry Materials Act. Mac-Court also understands that the execution of these plans remains with Mac-Court and not with NCD Consulting Ltd. Any significant change to the enclosed quarry plans will be presented to the Department of Industry, Energy & Technology and may result in an increase or decrease in the required financial assurance.

Regards,

**Jim Brown**  
President  
Phone: 709-466-2515  
Mac-Court Holdings Inc.

Signature: \_\_\_\_\_

Date: Feb 6, 2023


**APPENDIX J**  
**PROFESSIONAL CERTIFICATION**

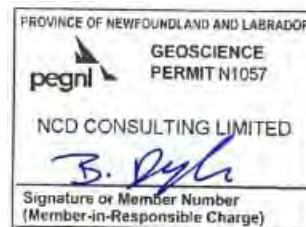
## PROFESSIONAL CERTIFICATION

I, J. Bradley Dyke, with business address at 34 Yellow Wood Drive, Paradise, Newfoundland and Labrador certify that:

1. I am a graduate (2003) of Memorial University, with a Bachelor of Science (Honours) degree in Earth Sciences.
2. I am a registered member, in good standing, of the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) under PEGNL ID 04984.
3. I have practiced my profession for 20 consecutive years, primarily in Newfoundland and Labrador and to a lesser extent in South America and Atlantic Canada.
4. I have 10 years of experience in mineral exploration and mining with my most recent 10 years of experience in quarry design and development.
5. This report is based on my direct involvement with the project and information provided by the client and the Department of Industry Energy and Technology pertaining to previous project conditions and reporting information.
6. I have completed a site visit to the project area reviewing conditions around the time of drone data collection.
7. I have prepared the Financial Assurance information based on my direct knowledge and experience regarding the reclamation process and industry standards with the proposed financial assurance being a reasonable and appropriate cost estimate.
8. I have no interest, other than providing a consulting service, in the company or project this report has been prepared for.
9. I am the Professional Geologist responsible for the NCD Consulting Limited, PEGNL Permit to Practice under Permit Number N1057.
10. I am a qualified person, as per my professional designation under the PEGNL Act, to prepare this report and a qualified person as defined by National Instrument 43-101 to categories the resource quantity and quality.

Dated in Paradise, Newfoundland and Labrador this 30<sup>th</sup> day of January 2023.

  
Brad Dyke, P. Geo.  
Owner/Operator  
NCD Consulting Ltd.





## MAPS





**Mac-Court Holdings Inc.**  
**Quarry Area**  
**File #711:12924**  
**4.94 Ha**

Penney Paving Quarry  
 File 711:2777

J1 Contracting Quarry  
 File 711:1787

General Quarry  
 Entrance

709,682.02 mE  
 5,377,102.87 mN  
 114.654 mElev.

709,787.49 mE  
 5,377,091.46 mN  
 115.759 mElev.

709,770.96 mE  
 5,377,017.38 mN  
 117.99 mElev.

709,899.29 mE  
 5,377,050.67 mN  
 116.573 mElev.

5-Year QLP  
 Stockpile Locations

Till Material  
 Stockpile  
 Location

Reclamation  
 Material  
 Stockpile

5m Windrowed  
 Buffer Area

General Quarry  
 Drainage Direction

20-Year QLP Eventual  
 Stockpile Locations

Till Material  
 Stockpile  
 Location

Reclamation  
 Material  
 Stockpile

709,505.83 mE  
 5,376,841.16 mN  
 111.753 mElev.

709,722.61 mE  
 5,376,888.79 mN  
 118.571 mElev.

709,723.11 mE  
 5,376,877.67 mN  
 119.083 mElev.

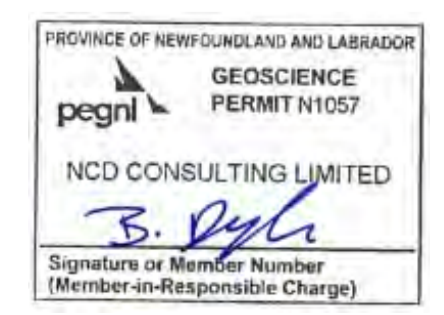
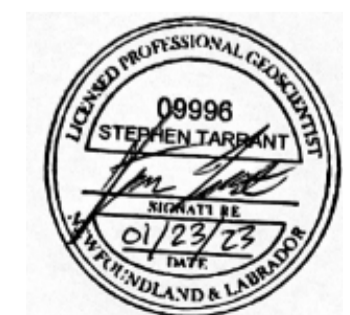
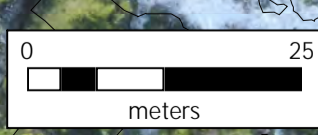
Locked Gate & Signage to be  
 Relocated to Tree Line at the  
 Onset of Phase 1

Additional Public Safety  
 Signage to be Added at  
 the Onset of Phase 1

Current Locked Gate & Signage

Dart Enterprises Quarry  
 File 711:12803

Station Road Contracting  
 Quarry File 711:7748



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans Quarry Layout Map 1		
Map 1 NAD 83, UTM Zone 21	Client: Mac-Court Holdings Inc. Drafted By: S.Tarrant	Project #: 042-003 NTS: 2D/09
Scale: 1:700	Date Drafted: 01/23/2023	Revised Date: 07/07/2023





**Mac-Court Holdings Inc.**  
**Quarry Area**  
**File #711:12924**  
**4.94 Ha**

**Penney Paving Quarry**  
**File 711:2777**

**J1 Contracting Quarry**  
**File 711:1787**

709,682.02 mE  
 5,377,102.87 mN  
 114.654 mElev.

709,787.49 mE  
 5,377,091.46 mN  
 115.759 mElev.

709,770.96 mE  
 5,377,017.38 mN  
 117.99 mElev.

709,899.29 mE  
 5,377,050.67 mN  
 116.573 mElev.

**5-Year QLP  
 Stockpile Locations**

Till Material  
 Stockpile  
 Location

Reclamation  
 Material  
 Stockpile

**5m Windrowed  
 Buffer Area**

General Quarry  
 Drainage Direction

**20-Year QLP Eventual  
 Stockpile Locations**

Till Material  
 Stockpile  
 Location

Reclamation  
 Material  
 Stockpile

709,505.83 mE  
 5,376,841.16 mN  
 111.753 mElev.

709,722.61 mE  
 5,376,888.79 mN  
 118.571 mElev.

709,728.11 mE  
 5,376,877.87 mN  
 119.083 mElev.

709,578.36 mE  
 5,376,803.20 mN  
 120.688 mElev.

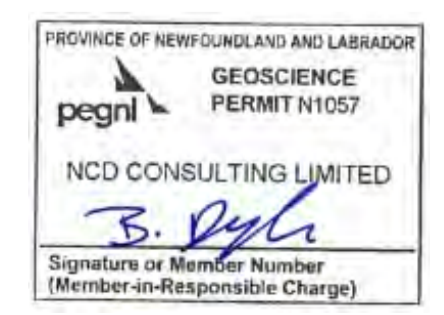
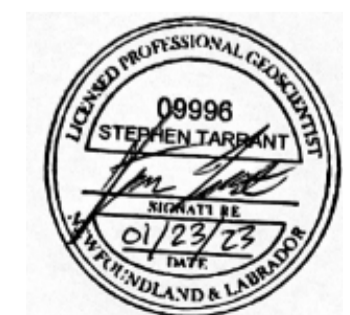
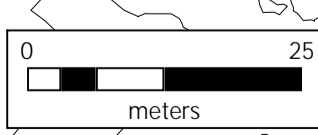
**Dart Enterprises Quarry**  
**File 711:12803**

**Station Road Contracting  
 Quarry File 711:7748**

Locked Gate & Signage to be  
 Relocated to Tree Line at the  
 Onset of Phase 1

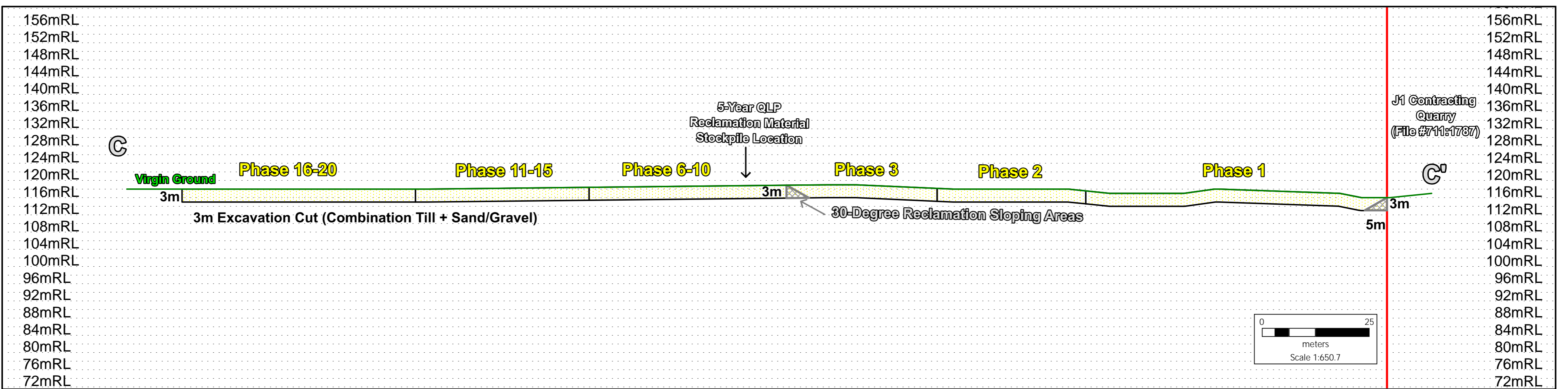
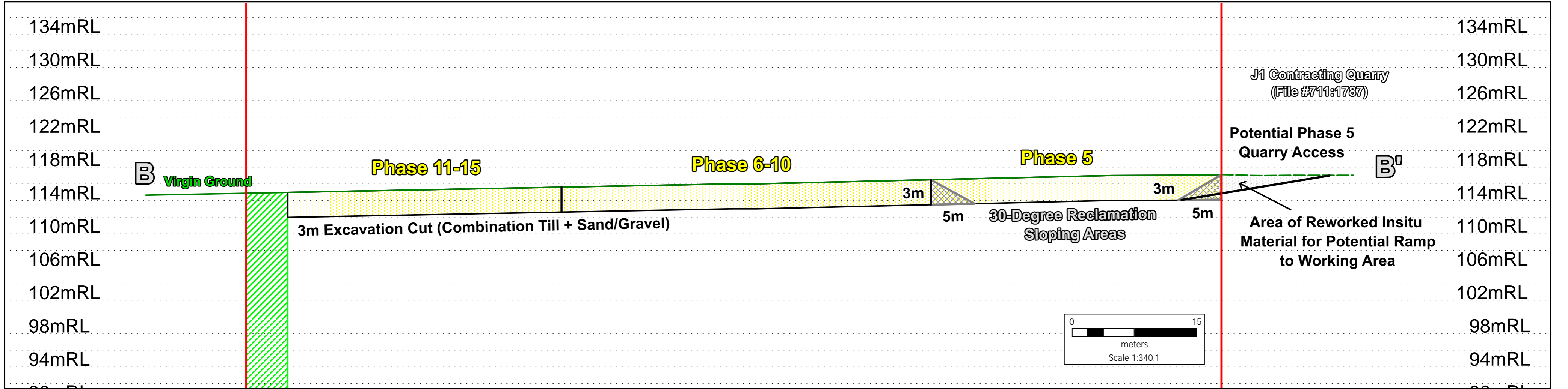
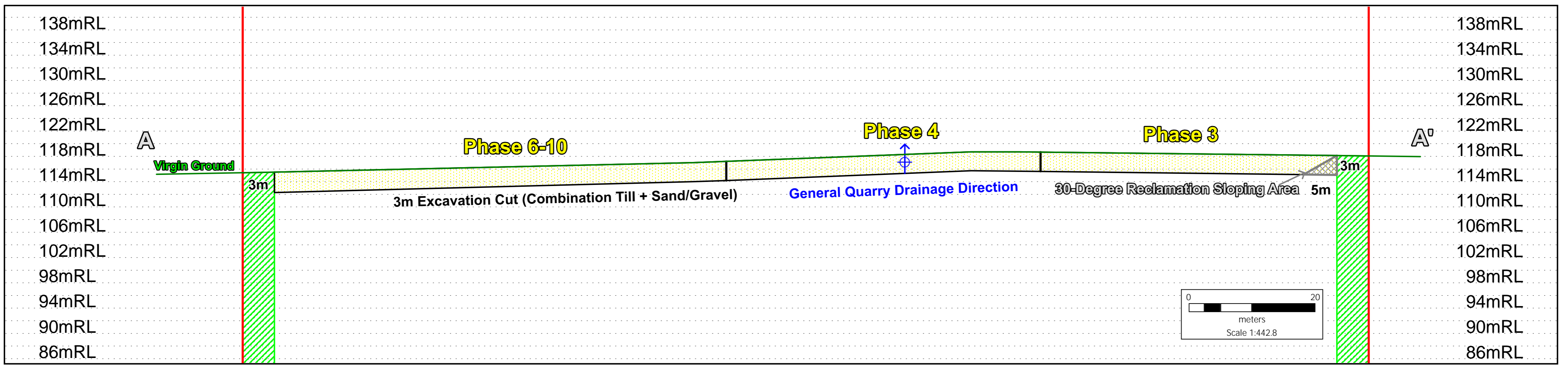
Additional Public Safety  
 Signage to be Added at  
 the Onset of Phase 1

Current Locked Gate & Signage



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans Quarry Layout Map 2		
Map 2 NAD 83, UTM Zone 21 Scale: 1:700	Client: Mac-Court Holdings Inc. Drafted By: S.Tarrant Date Drafted: 01/23/2023	Project #: 042-003 NTS: 2D/09 Revised Date: 07/07/2023





**LEGEND**

- Existing Topography
- Quarry Lease Boundary
- Quarry Access
- Production Phase Blocks (3m Excavation Cuts)
- 5 m Windrow Buffer
- 30 Degree Reclamation Sloping Areas
- Quarry Drainage Direction

NOTE: The size of certain quarry features including sloped areas and phase blocks depicted in these sections are accurate to the section line locations. Overall sizes may appear to differ from given sizes due to the oblique angle of intersection with the cross sectional lines.



		<b>NCD Consulting Ltd.</b>		
		Project: Mac-Court Terra Nova Quarry		
<b>Cross Sections A - D</b>		Map 3 NAD 83, UTM Zone 21	Client: Mac-Court Holdings Inc. Drafted By: S.Tarrant	Project #: 042-003 NTS: 2D/09
Scale: Variable		Date Drafted: 01/23/2023	Revised Date:	





**Mac-Court Holdings Inc.  
Quarry Area  
File #711:12924  
4.94 Ha**

**Penney Paving Quarry  
File 711:2777**

**J1 Contracting Quarry  
File 711:1787**

**B**

2mx2m Security Berm of Till Material to be Put in Place if J-1 Contracting Becomes Unable to Provide Restricted Access During 5-Year QLP

**5-Year QLP  
Stockpile Locations**

Till Material  
Stockpile  
Location

Reclamation  
Material  
Stockpile

**B'**

Potential 2-3m x 5m Decline Ramp to Working Area Location May Vary During Phase 1 Production

**C'**

Restricted Access Signage to be Posted at Access Ramp if J-1 Becomes Unable to Provide Restricted Access During 5-Year QLP

**Phase 1**

Mobile  
Crusher/  
Screener

General Quarry  
Drainage Direction

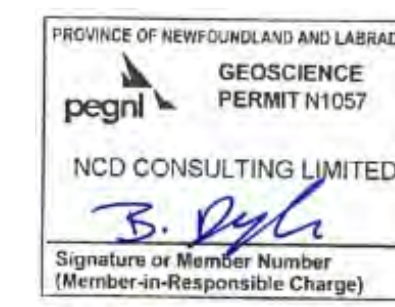
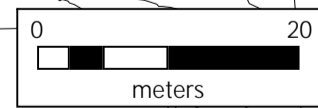
**D**

**C**

**Dart Enterprises Quarry  
File 711:12803**

**A'**

Quarry Access Road



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans		
Quarry Layout Phase 1		
Map 4 NAD 83, UTM Zone 21 Scale: 1:600	Client: Mac-Court Holdings Inc. Drafted By: S. Tarrant Date Drafted: 01/24/2023	Project #: 042-003 NTS: 2D/09 Revised Date: 07/05/2023





**Mac-Court Holdings Inc.  
Quarry Area  
File #711:12924  
4.94 Ha**

**Penney Paving Quarry  
File 711:2777**

**J1 Contracting Quarry  
File 711:1787**

2mx2m Security Berm of Till Material to be Put in Place if J-1 Contracting Becomes Unable to Provide Restricted Access During 5-Year QLP

**5-Year QLP  
Stockpile Locations**

Till Material  
Stockpile  
Location

Reclamation  
Material  
Stockpile

Potential 2-3m x 5m Decline Ramp to Working Area Location May Vary During Phase 2 Production

Restricted Access Signage to be Posted at Access Ramp if J-1 Becomes Unable to Provide Restricted Access During 5-Year QLP

Mobile  
Crusher/  
Screener

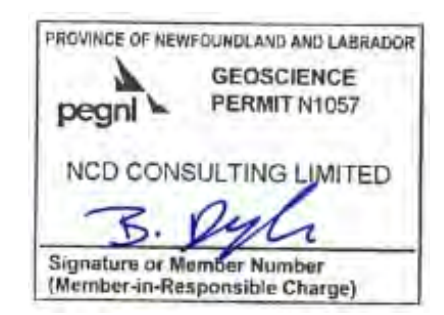
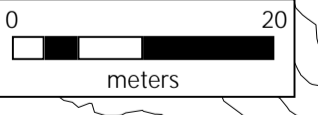
**Phase 2**

3m Excavation Cut from Current Topography

3m Face

Quarry Access Road

General Quarry  
Drainage Direction



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans Quarry Layout Phase 2		
Map 5 NAD 83, UTM Zone 21 Scale: 1:600	Client: Mac-Court Holdings Inc. Drafted By: S. Yarranton Date Drafted: 01/24/2023	Project #: 042-003 NTS: 2D/09 Revised Date: 07/05/2023





**Mac-Court Holdings Inc.**  
**Quarry Area**  
**File #711:12924**  
**4.94 Ha**

**Penney Paving Quarry**  
**File 711:2777**

**J1 Contracting Quarry**  
**File 711:1787**

**2mx2m Security Berm of Till Material to be Put in Place if J-1 Contracting Becomes Unable to Provide Restricted Access During 5-Year QLP**

**5-Year QLP Stockpile Locations**

**Till Material Stockpile Location**

**Reclamation Material Stockpile**

**Potential 2-3m x 5m Decline Ramp to Working Area Location May Vary During Phase 3 Production**

**Restricted Access Signage to be Posted at Access Ramp if J-1 Becomes Unable to Provide Restricted Access During 5-Year QLP**

**Mobile Crusher/ Screener**

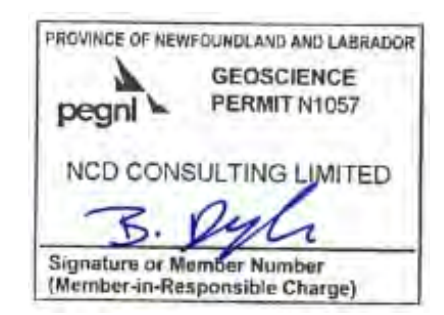
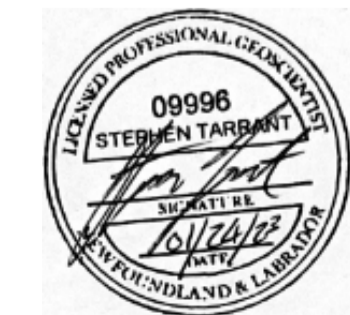
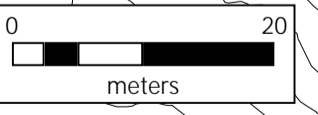
**Phase 3**

**3m Excavation Cut from Current Topography**

**3m Face**

**Quarry Access Road**

**General Quarry Drainage Direction**



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans		
Quarry Layout Phase 3		
Map 6	Client: Mac-Court Holdings Inc.	Project #: 042-003
NAD 83, UTM Zone 21	Drafted By: S.Tarrant	NTS: 2D/09
Scale: 1:600	Date Drafted: 01/24/2023	Revised Date: 07/05/2023





**Mac-Court Holdings Inc.  
Quarry Area  
File #711:12924  
4.94 Ha**

**Penney Paving Quarry  
File 711:2777**

**J1 Contracting Quarry  
File 711:1787**

**2mx2m Security Berm of Till Material to be Put in Place if J-1 Contracting Becomes Unable to Provide Restricted Access During 5-Year QLP**

**5-Year QLP  
Stockpile Locations**

**Potential 2-3m x 5m Decline Ramp to Working Area Location May Vary During Phase 4 Production**

**Restricted Access Signage to be Posted at Access Ramp if J-1 Becomes Unable to Provide Restricted Access During 5-Year QLP**

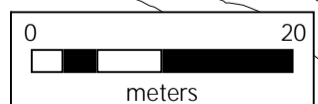
Till Material Stockpile Location

Reclamation Material Stockpile

Mobile Crusher/ Screener

General Quarry Drainage Direction

Quarry Access Road



PROVINCE OF NEWFOUNDLAND AND LABRADOR  
geoscience  
PERMIT N1057  
NCD CONSULTING LIMITED  
*B. Tarrant*  
Signatory or Member Number (Member-in-Responsible Charge)

<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans		
Quarry Layout Phase 4		
Map 7 NAD 83, UTM Zone 21 Scale: 1:600	Client: Mac-Court Holdings Inc. Drafted By: S.Tarrant Date Drafted: 01/24/2023	Project #: 042-003 NTS: 2D/09 Revised Date: 07/05/2023





**Mac-Court Holdings Inc.**  
**Quarry Area**  
**File #711:12924**  
**4.94 Ha**

**Penney Paving Quarry**  
**File 711:2777**

**J1 Contracting Quarry**  
**File 711:1787**

**Phase 5 - General**  
**Quarry Access**

**3m Excavation Cut from**  
**Current Topography**

**2mx2m Security Berm of Till Material to**  
**be Put in Place if J-1 Contracting Becomes**  
**Unable to Provide Restricted Access**  
**During 5-Year QLP**

**5-Year QLP**  
**Stockpile Locations**

**Phase 5**

**Mobile**  
**Crusher/**  
**Screener**

**Till Material**  
**Stockpile**  
**Location**

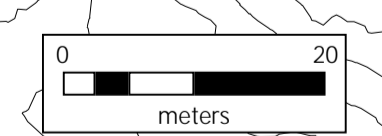
**Reclamation**  
**Material**  
**Stockpile**

**Potential 2-3m x 5m Decline**  
**Ramp to Working Area**  
**Location May Vary During**  
**Phase 5 Production**

**Restricted Access Signage to be**  
**Posted at Access Ramp if J-1 Becomes**  
**Unable to Provide Restricted**  
**Access During 5-Year QLP**

**General Quarry**  
**Drainage Direction**

**Quarry Access Road**



PROVINCE OF NEWFOUNDLAND AND LABRADOR  
 GEOSCIENCE PERMIT N1057  
 pegnl  
 NCD CONSULTING LIMITED  
 B. Tarrant  
 Signatory or Member Number (Member-in-Responsible Charge)

<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans		
Quarry Layout Phase 5		
Map 8	Client: Mac-Court Holdings Inc.	Project #: 042-003
NAD 83, UTM Zone 21	Drafted By: S.Tarrant	NIS: 2D/09
Scale: 1:600	Date Drafted: 01/24/2023	Revised Date: 07/05/2023





**Mac-Court Holdings Inc.  
Quarry Area  
File #711:12924  
4.94 Ha**

**Penney Paving Quarry  
File 711:2777**

**J1 Contracting Quarry  
File 711:1787**

**Phase 6-10 - General  
Quarry Access**

**Year 6-10 Potential  
Stockpile Locations**

General Progression of  
Development Areas  
During Phase 6-10

Potential 2-3m x 5m Decline  
Ramp to Working Area  
Location May Vary During  
Phase 6-10 Production

Till Material  
Stockpile  
Location

Reclamation  
Material  
Stockpile

**Phase 6-10**

General Quarry  
Drainage Direction

**Quarry Access Road**

3m Excavation Cut from  
Current Topography

3m Face

3m Face

3m Face

3m Face

D

C

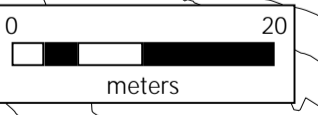
D'

A

B

A'

C'



PROVINCE OF NEWFOUNDLAND AND LABRADOR  
geoscience  
PERMIT N1057  
NCD CONSULTING LIMITED  
*B. Tarrant*  
Signatory or Member Number  
(Member-in-Responsible Charge)

<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans Quarry Layout Phase 6-10		
Map 9 NAD 83, UTM Zone 21 Scale: 1:600	Client: Mac-Court Holdings Inc. Drafted By: S.Tarrant Date Drafted: 01/24/2023	Project #: 042-003 NTS: 2D/09 Revised Date:





**Mac-Court Holdings Inc.**  
**Quarry Area**  
**File #711:12924**  
**4.94 Ha**

**Penney Paving Quarry**  
**File 711:2777**

**J1 Contracting Quarry**  
**File 711:1787**

**Phase 11-15 - General**  
**Quarry Access**

**Mobile**  
**Crusher/**  
**Screener**

**Potential 2-3m x 5m Decline**  
**Ramp to Working Area**  
**Location May Vary During**  
**Phase 11-15 Production**

**5-Year QLP**  
**Stockpile Locations**

**Till Material**  
**Stockpile**  
**Location**

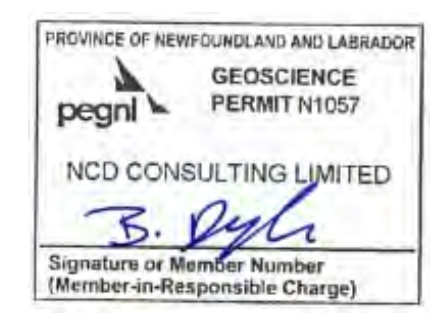
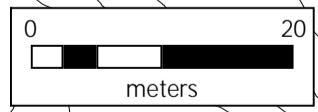
**Reclamation**  
**Material**  
**Stockpile**

**General Quarry**  
**Drainage Direction**

**General Progression of**  
**Development During**  
**Production of Phase 11-15**

**Phase 11-15**  
**3m Excavation Cut from**  
**Current Topography**

**Quarry Access Road**



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans		
Quarry Layout Phase 11-15		
Map 10	Client: Mac-Court Holdings Inc.	Project #: 042-003
NAD 83, UTM Zone 21	Drafted By: S.Tarrant	NTS: 2D/09
Scale: 1:600	Date Drafted: 01/24/2023	Revised Date:





**Mac-Court Holdings Inc.**  
**Quarry Area**  
**File #711:12924**  
**4.94 Ha**

**Penney Paving Quarry**  
**File 711:2777**

**J1 Contracting Quarry**  
**File 711:1787**

**Phase 16-20 - General**  
**Quarry Access**

Potential 2-3m x 5m Decline  
 Ramp to Working Area  
 Location May Vary During  
 Phase 16-20 Production

**Mobile  
 Crusher/  
 Screener**

General Progression of  
 Development During  
 Production of Phase 16-20

General Quarry  
 Drainage Direction

3m Excavation Cut from  
 Current Topography

**Phase 16-20**

**Till Material  
 Stockpile  
 Location**

**20-Year QLP Eventual  
 Stockpile Locations**

**Reclamation  
 Material  
 Stockpile**

**Quarry Access Road**

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

3m Face

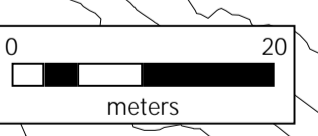
3m Face

3m Face

3m Face

3m Face

3m Face



PROVINCE OF NEW FUNDLAND AND LABRADOR  
 GEOSCIENCE PERMIT N1057  
 NCD CONSULTING LIMITED  
 B. Tarrant  
 Signatory or Member Number (Member-in-Responsible Charge)

NCD Consulting Ltd.		
Project: Mac-Court Terra Nova Quarry Lease Plans		
Quarry Layout Phase 16-20		
Map 11	Client: Mac-Court Holdings Inc.	Project #: 042-003
NAD 83, UTM Zone 21	Drafted By: S.Tarrant	NTS: 2D/09
Scale: 1:600	Date Drafted: 01/24/2023	Revised Date:





**Mac-Court Holdings Inc.  
Quarry Area  
File #711:12924  
4.94 Ha**

**Total Disturbance Inside  
Lease Boundary During 5-Year  
QLP Including Sloped Areas  
- 0.8457 ha**

**Entire 0.8457 ha Disturbed Area  
to be Covered With a 0.63 m  
Layer of Grubbing Material**

**78 m Long  
0.5 m Wide  
Up to 4m Deep  
Termination @ 112 m**

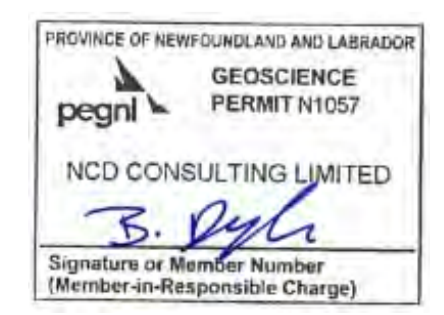
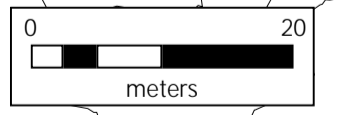
**Reclamation Drainage  
Channels for 5-Year  
QLP Development Area**

**64 m Long  
0.5 m Wide  
Up to 3m Deep  
Termination @ 113 m**

**3m Quarry Face Sloping Area -  
Created From Insitu Material**

**Toe of Slope**

**5-Year QLP Development  
Area Outline**



<b>NCD Consulting Ltd.</b>		
Project: Mac-Court Terra Nova Quarry Lease Plans		
<b>Reclamation Map</b>		
Map 12 NAD 83, UTM Zone 21 Scale: 1:600	Client: Mac-Court Holdings Inc. Drafted By: S.Tarrant Date Drafted: 01/25/2023	Project #: 042-003 NIS: 2D/09 Revised Date: 07/05/2023