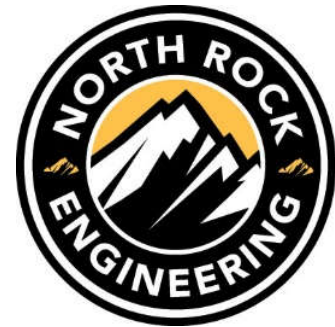


ENVIRONMENTAL IMPACT ASSESSMENT
Part of Lot 7, Concession 1 & 2, N.K.R.
Municipality of Oliver Paipoonge,
District of Thunder Bay, Ontario



Prepared By:
North Rock Engineering Inc.
1411 Goods Road
Thunder Bay, ON P7G 1J1
807 620-8431
June 16, 2022



EXECUTIVE SUMMARY

Bruno's Contracting (Bruno's) has retained North Rock Engineering Inc. (North Rock) to provide an Environmental Impact Statement (EIS) for their proposed lot development on Cooper Road, located in the Municipality of Oliver-Paipoonge. The lot development is within the Lakehead Regional Conservation Authority (LRCA) and municipal zoning is Light Industrial (LI) with an environmental protection buffer around Pennock Creek.

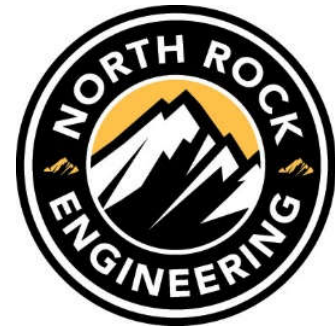
The proposed development will be serviced by residential water wells with individual on-site septic systems. This study has been initiated by the proponent after a pre-consultation meeting with the Municipality of Oliver-Paipoonge planning department which requested a review of potential impacts of the development. Specifically, the potential impacts on the hydraulic functions of the EP zoned buffer on Pennock Creek.

The proposed lot development is for 12 lots in the Municipality of Oliver-Paipoonge, Part of Lot 7, Concession 1 & 2, N.K.R., District of Thunder Bay, Ontario. The development is a 12.98 hectare (ha) parcel of land with an average lot size of 1.08 ha and a minimum lot size of 1 ha. Each lot will be serviced by residential wells and individual on-site septic systems. The development is bound to the east and south by residential zoned lands, the CN Rail line on the southern boundary, the former Buchanan Mill and Heavy Industrial (HI) zoned lands to the west and an Environmental Protection (EP) zoned buffer around Pennock Creek at the northern lot boundary.

The proposed development is generally flat with a gentle overall gradient to the southeast. The property is underlain by glaciolacustrine plain deposits composed of silty sand which overly Sibley Basin sedimentary rocks. Surface water in the northern portion of the development drains northeast to Pennock Creek, while the southern half of the area drains southeast, reporting directly to the Kaministiquia River.

Land Information Ontario (LIO) data was reviewed in context to the proposed development to evaluate the potential impact the lot development may have on the surrounding natural environment. The southern half of the proposed development is underlain by a small perched wetland (OGF ID 108161317) and the northern development boundary is the Pennock Creek wetland (OGF ID 108161345). Both wetlands are 'type: swamp' and neither wetland has been evaluated.

Species at Risk (SARs) known to exist in the ecoregion were reviewed as well as documents obtained from the Lakehead Conservation Authority. Species at risk in the region are Caribou, Wolverines, Monarch Butterflies, Peregrine Falcon, snapping turtle, Canada Warbler and Little Brown Bats. The proposed development has the potential to impact habitat of Little Brown Bat, Canada Warbler and Snapping Turtle.



The nearest Area of Natural and Scientific Interest (ANSI) to the proposed development is the Slate River ANSI, located approximately 3 km southeast of the property. The ANSI is an Earth Science class that is non-sensitive with Provincial significance and no restrictions. Based on this desktop review, no wetland or woodland Significant Wildlife Habitat (SWH) is identified on or within 120 m of the proposed development. Although the wetland at the property is fish habitat, MNRF mapping shows no interconnected rivers or streams to the surrounding area. The wetland appears to be an isolated perched system and it is unlikely it would support fish habitat.

The purpose of this EIS is to ensure the proposed lot development (i.e. driveway, house, fill placement etc.) will not have an impact on the hydraulic functions of the EP zoned area at the northern edge of the lots. The hydraulic function of the Pennock Creek wetland and the Environmental Protection zone at the north edge of lot 12 is not anticipated to be altered by the development, provided that buildings, structures and access/egress routes are not constructed within the EP zoned area.

Based on a desktop review of the proposed lot development and potential impacts to the Pennock Creek watershed, the following recommendations are provided for consideration:

- Debris found on site should be removed for disposal at a licensed landfill.
- Lot buildings, structures and access/egress routes should not be constructed within the EP zoned wetland area on the north edge of Lot 12.
- Adequate drainage should be constructed to channel surface water flow south toward the CN Rail line and existing drainage infrastructure.

If the final intended use for the property is for residential use, a zoning application will need to be submitted to Oliver Paipoonge. A pre-consultation meeting is recommended with the municipality to determine the full scope of work required to complete the submission.

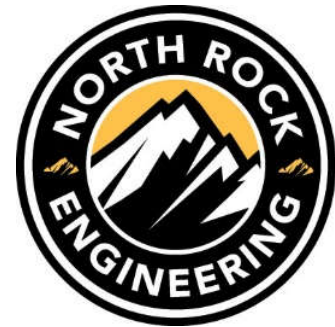


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- Appendix A: Municipality of Oliver-Paipoonge Official Plan Schedule 'B'
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1 INTRODUCTION

Bruno's Contracting (Bruno's) has retained North Rock Engineering Inc. (North Rock) to provide an Environmental Impact Statement (EIS) for their proposed lot development on Cooper Road, located in the Municipality of Oliver-Paipoonge (Figure 1). The lot development is within the Lakehead Regional Conservation Authority (LRCA) and municipal zoning is industrial with an environmental protection buffer around Pennock Creek at the northern boundary of the lot area (Appendix A).

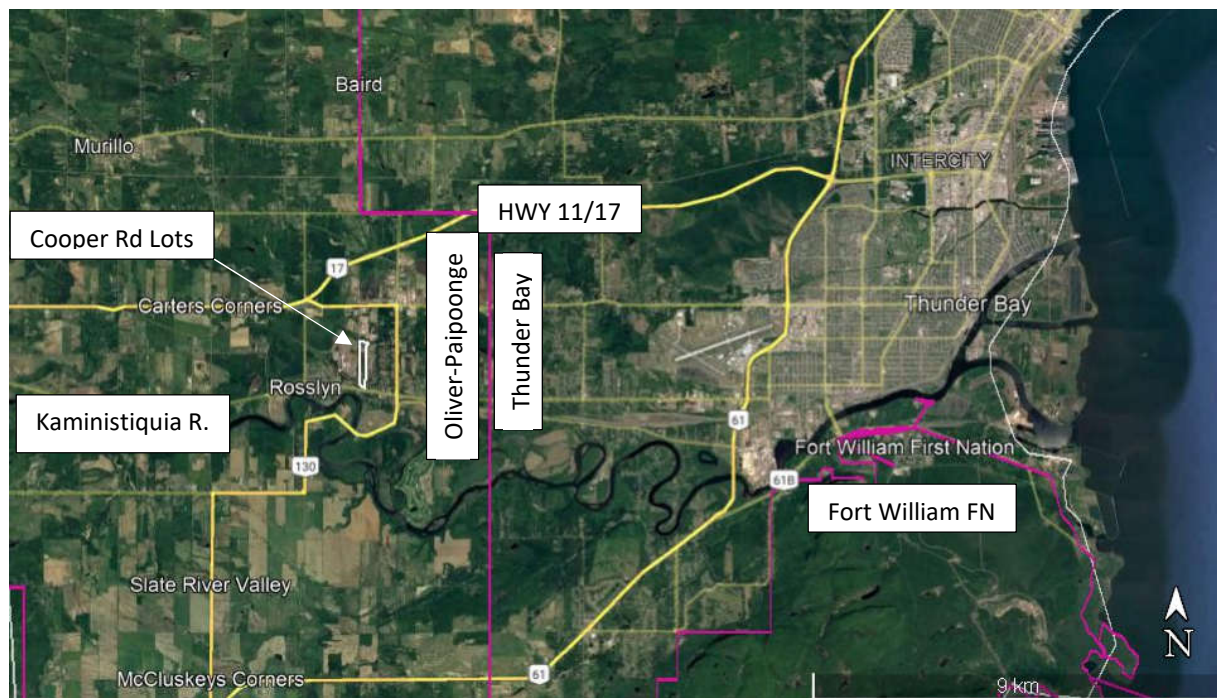
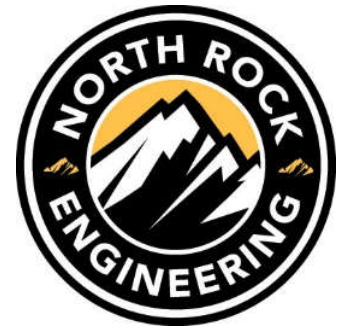


Figure 1 Regional location of proposed lot development (white) showing municipal boundaries (purple), local infrastructure, Fort William First Nation, the Kaministiquia River and the City of Thunder Bay.

It is understood that the proposed development will be serviced by residential water wells with individual on-site septic systems. The current land use at the proposed severance is not for agricultural purposes.

1.1 Background

This study has been initiated by the proponent after a pre-consultation meeting with the Municipality of Oliver-Paipoonge planning department in March 2021. The purpose of the EIS is to ensure the proposed lot development (i.e. driveway, house, fill placement etc.) will not have an impact on the hydraulic functions of the EP zoned area at the northern edge of the lots. This



report is intended to review features existing on or within 120 metres of the proposed development, such as:

- Significant wetlands;
- Significant habitat of endangered and threatened species (SARs);
- Significant Areas of Natural and Scientific Interest (ANSIs);
- Significant Wildlife Habitat (SWH); and
- Fish habitat.

2 PROJECT DESCRIPTION

The proposed lot development is in the Municipality of Oliver-Paipoonge, Part of Lot 7, Concession 1 & 2, N.K.R., District of Thunder Bay, Ontario (Figure 2). The proposed development is in NTS 052A/06, centered near UTM NAD 83, Zone 16, 320330 mE, 5260325 mN. The development proposes 12 lots on a 12.98 hectare (ha) parcel of land for an average lot size of 1.08 ha, accessed via a proposed extension of Cooper Road, south from Highway 130 (Figure 2). The southern boundary of the lot development is confined by the CN Rail line (Figure 2).

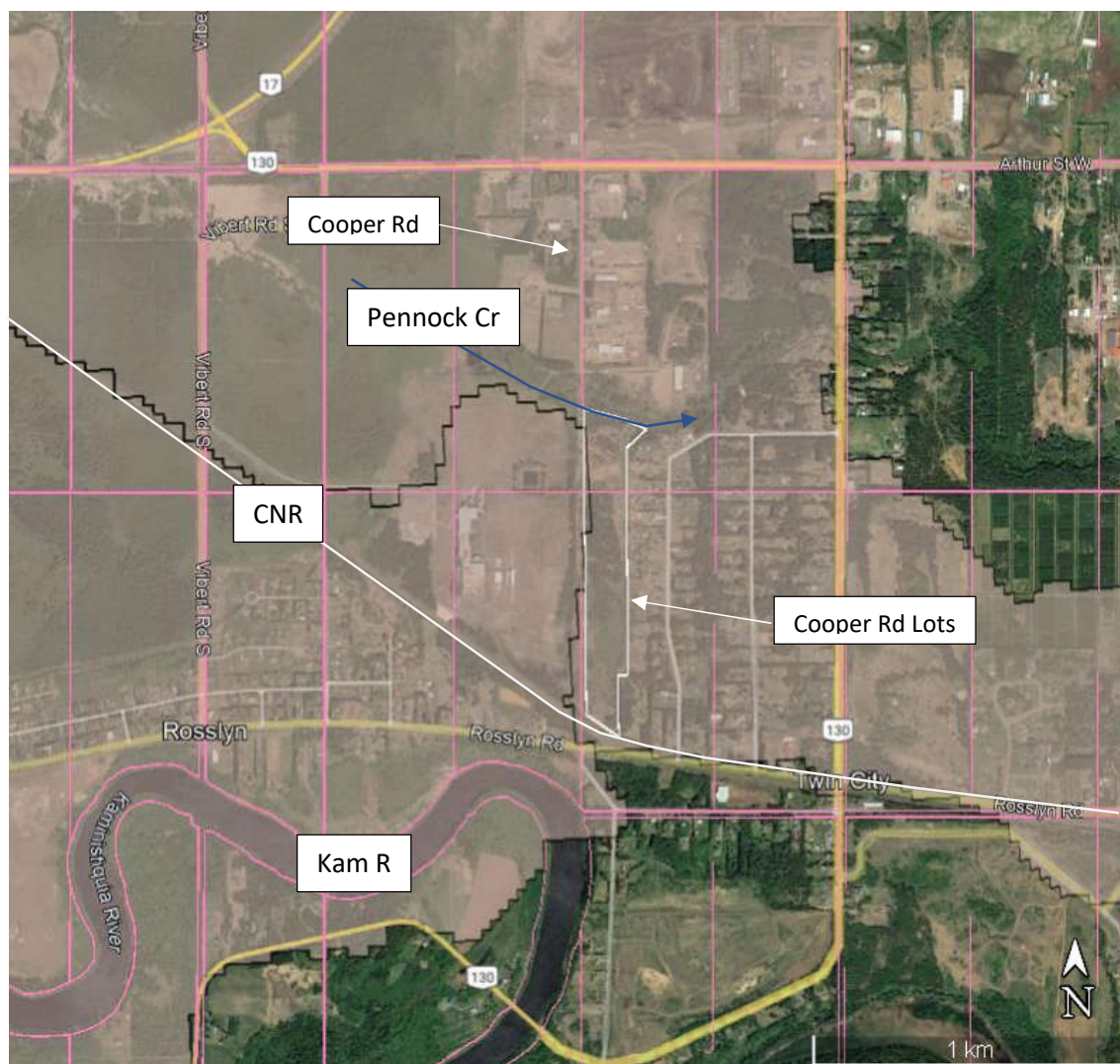
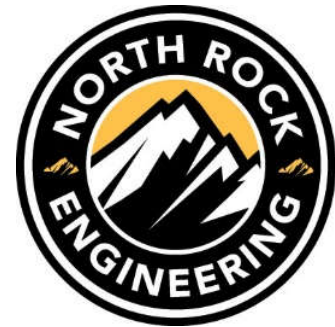


Figure 2 Proposed lot development (white) showing lot and concession lines (pink), local infrastructure, watershed boundaries and the Kaministiquia River.



2.1 Servicing

The proposed development is approximately 12.98 ha in plan view, with a planned development of 12 lots with an average lot size of 1.08 ha and a minimum lot size of 1 ha (Appendix B). Each lot will be serviced by residential wells and individual on-site septic systems.

2.2 Surrounding Land Use

Properties within 120 m of the proposed include:

- North – Pennock Creek;
- East – Lands zoned Residential;
- South – CN Rail line, Rosslyn Road and lands zoned Residential; and
- West – Former Buchanan Mill and Lands zoned Heavy Industrial.

2.3 Topography

The site is relatively flat with a gentle overall gradient to the southeast. The MNRF has mapped the Pennock Creek wetland as a swamp area that has not been evaluated. A second swamp area is mapped on portions of proposed lots 1 – 5 of (Appendix B).

2.4 Surficial Geology

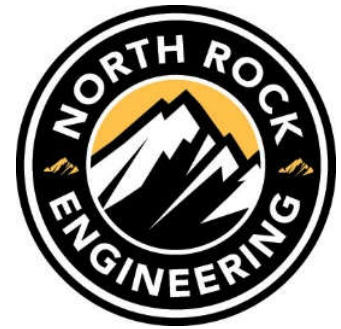
The proposed severance is underlain by glaciolacustrine plain deposits composed of silty sand with low relief and dry drainage (Mollard & Mollard, 1983).

2.5 Bedrock Geology

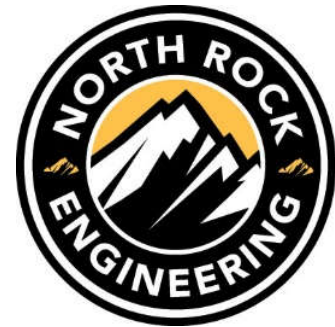
The proposed severance is underlain by the Sibley Basin, a Paleo- to Mesoproterozoic (ca. 1.8-1.1 Ga) sedimentary basin, approximately 1 km thick, that is relatively flat lying and unconformably underlain by Archean (ca. 4.2-2.5 Ga) basement rocks (Jefferson et al., 2007). Animikie Group rocks overly the Archean basement and is subdivided into the Gunflint and Rove Formations, which are overlain by the Sibley Formation (Moorehouse, 1960). In the proposed severance area, Animikie rocks are composed of the Gunflint formation, which was deposited during the Penokean Orogeny in a back-arc extension setting, consisting of chemical sediments with intercalated fine clastic grainstone and black shale (Cundari, 2012).

2.6 Hydrology

The proposed severance is affected by the Lake Superior watershed. Using the Ontario Flow Assessment Tool (OFAT III), approximate watershed boundaries indicate surface water in the



northern portion of the development drains northeast to Pennock Creek, while the southern half of the area drains southeast, reporting directly to the Kaministiquia River (Figure 2). Pennock Creek eventually reports to the Neebing River at the western limit of the Thunder Bay Airport. The mapped wetland in the southern half of the proposed development (i.e. lots 1 – 5) is likely a perched wetland that should be drained toward the existing CN Rail line drainage infrastructure. All surface water from the area flows east, ultimately reporting to Lake Superior.



3 DESKTOP REVIEW

Land Information Ontario (LIO) data was reviewed in context to the proposed development to evaluate the potential impact the lot development may have on the surrounding natural environment.

3.1 Significant Wetlands

The Ontario Ministry of Natural Resources (MNRF) Wetlands GeoHub data indicates the southern portion of the proposed development is underlain by a small pond and wetland area (OGF ID 108161317) and the northern development boundary is the Pennock Creek wetland (OGF ID 108161345). Both wetlands are 'type: swamp' and neither wetland has been evaluated.

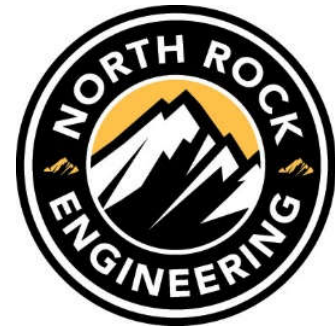
In 2010, the Lakehead Region Conservation Authority (LRCA) commissioned a Pennock Creek Watershed Assessment Update which compared surface water quality at six sampling locations in 2010 and nine locations from 2006 to the Provincial Water Quality Objectives (PWQO). The report concluded it was likely that aluminum, phosphorus, iron and total coliform concentrations that exceeded the PWQO in 2010 were the result of natural occurring processes within the watershed.

Comparison between 1996 to 2010 data indicates the watershed has negligible change in iron concentrations between the two study periods. Dissolved Oxygen (DO) concentrations were below the PWQO at two locations in 2010, thought to be due to stagnant flow with highly organic substrates.

Pre-consultation with the LRCA for the site determined that the wetland does not meet the definition of a wetland under the Conservation Authorities Act as it needs to directly contribute to the hydrological function of a watershed through connection with a surface watercourse.

3.2 Significant Habitat of Endangered or Threatened Species (SARs)

A desktop review was conducted to examine the potential risk to SARs species in the study area, species known to exist in the ecoregion were reviewed as well as documents obtained from the Lakehead Conservation Authority. Species at risk in the region are Caribou, Wolverines, Monarch Butterflies, Peregrine Falcon, snapping turtle, Canada Warbler and Little Brown Bats. Desktop examination of the proposed lot indicates the potential for habitat, for Little Brown Bat, Canada Warbler, with potential habitats for snapping turtle present within the wetland located on site.



3.3 Significant Areas of Natural and Scientific Interest (ANSI)

The nearest ANSI to the proposed development is the Slate River ANSI, located approximately 3 km southeast of the property. The ANSI is an Earth Science class that is non-sensitive with Provincial significance and no restrictions. General comments provided for the ANSI are *“NRVIS mapping was inaccurate, missing the main deposits (concretrations (sic)) of concretions. ANSI in NRVIS was significantly(sic) and unnecessarily over sized”*.

3.4 Significant Wildlife Habitat (SWH)

To ensure a comprehensive approach to identifying and evaluating significant wildlife habitat, wildlife habitat has been divided into four broad categories:

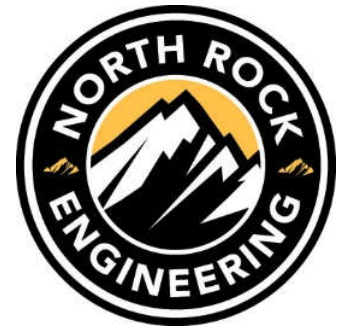
- seasonal concentration areas;
- rare vegetation communities or specialised habitats for wildlife;
- habitats of species of conservation concern, excluding the habitats of endangered and threatened species; and
- animal movement corridors.

Based on a desktop review, no wetland or woodland SWH areas are identified on or within 120 m of the proposed development. A site inspection should be carried out after the spring freshet to determine the suitability of these species’ habitats and the potential need for a wildlife survey prior to development.

3.5 Fish Habitat

The subject property contains a wetland feature that based on a desktop review of MNRF mapping shows no interconnected rivers or streams to the surrounding area. The wetland appears to be an isolated perched system fed from surface water runoff from rain events and the water then drains into the overburden soil and travels via groundwater before reaching its final discharge. It is unlikely that these wetlands support fish habitat;

A site visit was completed on May 11, 2022 and no evidence of the wetland being connected to the larger watershed via rivers or streams was observed at the site.



4 SITE INVESTIGATION

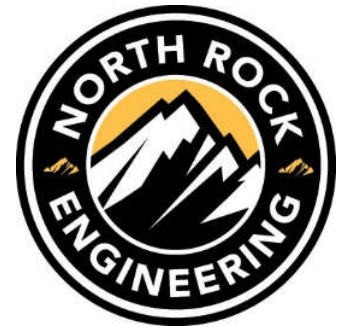
On May 11, 2022, Charles Sprovieri with North Rock completed a site investigation of the subject property. The northern portion of the site is dominated by coniferous trees, topography was observed to be comprised of undulating shallow hills and valleys, with hills comprised of mainly young growth Red Pine, and valleys showing black spruce and some deciduous Trembling Aspen. While deer tracks were observed in several locations across the northern half of the property no SWH were observed as being present on the northern portion of the property, nor any evidence of potential SAR.

The southern portion of the property was dominated by a wetland area which likely drains to the Kaministiquia River to the south, At the time of inspection little evidence of wildlife or waterfowl species was observed, nor any evidence of SAR or SWH. During the site investigation no evidence of the wetland being connected hydrologically via streams or other surface water course to the larger watershed were observed which based on pre-consultation with the LRCA does not meet the definition of a wetland under the Conservation Authorities Act.

There was numerous evidence of the site being used for recreational purposes by neighbouring homeowners including dog walking, ATV trails and an improvised dirt bike track. Some sporadic dumping of garbage was observed across the site, including empty steel drums, concrete well tiles, and an old empty fuel oil tank.

The west side of the property runs adjacent to an old mill site, which is no longer in operation, various wood waste was observed along the western border of the property adjacent to the mill. While heavily degraded over time they appear to have at one point been constructed and or improvised wooden barricades to block off trail access to the mill site.

Based on the observations in the field and the residential properties to the east and mill site to the west of the site, there appears to be no evidence of any potential SAR or SWH present on the site and no apparent significant environmental concerns with development of the property for residential home use.

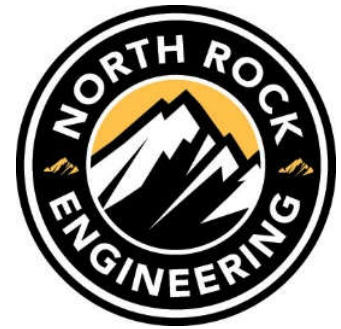


5 ENVIRONMENTAL IMPACT ASSESSMENT

The proposed lot development and neighbouring properties are serviced with private water wells and individual on-site septic systems. The purpose of this EIS is to ensure the proposed lot development (i.e. driveway, house, fill placement etc.) will not have an impact on the hydraulic functions of the EP zoned area at the northern edge of the lots. This evaluation is proponent driven in response to a pre-consultation meeting with the Municipality of Oliver-Paipoonge planning department in March 2021.

The hydraulic function of the Pennock Creek wetland and the Environmental Protection zone at the north edge of lot 12 is not anticipated to be altered by the development. Lot buildings, structures and access/egress routes should not be constructed within the EP zoned wetland area. It is recommended that adequate drainage is constructed to channel surface water south toward the CN Rail line.

On May 11th North Rock personnel conducted a field investigation of the subject property. Field observations from the site indicated that surficial geology at the northern half of the site is composed of an elevated hill composed of fine sand that is well drained. The site is dominated by young growth red pine and black spruce. The southern portion of the site is predominantly a low lying wetland area occupying approximately 3.5 hectares, no species at risk were observed during the visit.

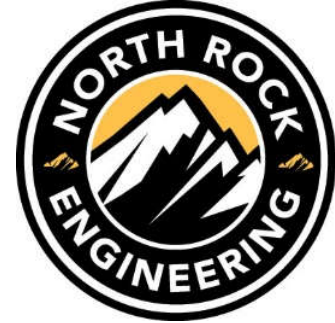


6 RECOMMENDATIONS

Based on a desktop review of the proposed lot development and potential impacts to the Pennock Creek watershed, the following recommendations are provided for consideration:

- Debris found on site should be removed for disposal at a licensed landfill.
- Lot buildings, structures and access/egress routes should not be constructed within the EP zoned wetland area on the north edge of Lot 12.
- Adequate drainage should be constructed to channel surface water flow south toward the CN Rail line and existing drainage infrastructure.

If the final intended use for the property is for residential use, a zoning application will need to be submitted to Oliver Paipoonge. A pre-consultation meeting is recommended with the municipality to determine the full scope of work required to complete the submission.



7 CLOSURE

We trust that the above report meets with your current requirements. If you have any questions or require clarification, please contact the undersigned at 807.633.7866.

NORTH ROCK ENGINEERING INC.

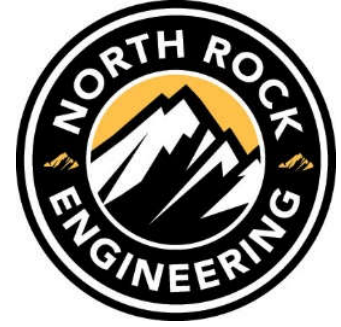
Prepared by:

Charles Sprovieri,
Environmental Scientist
csprovieri@nrock.ca

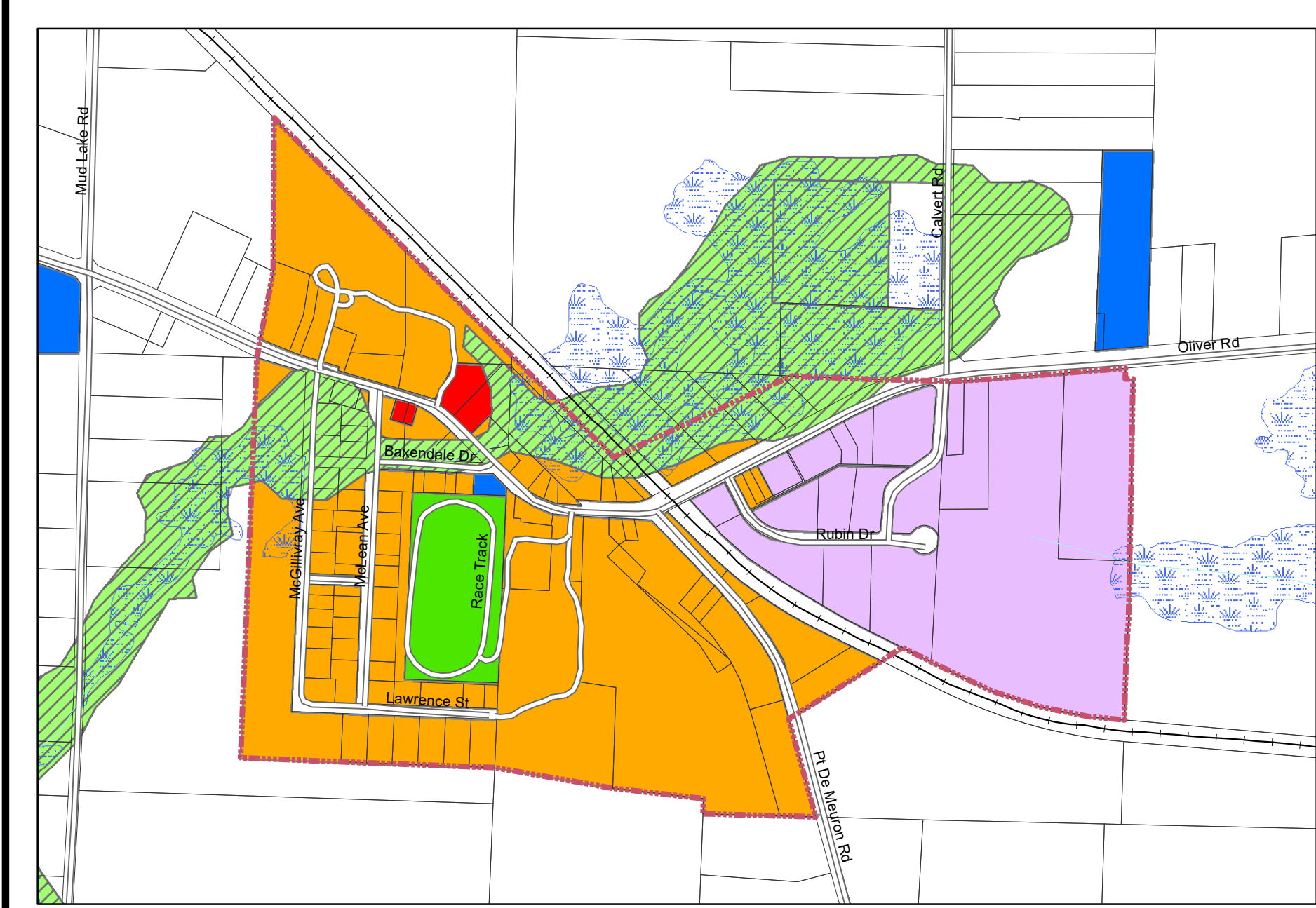
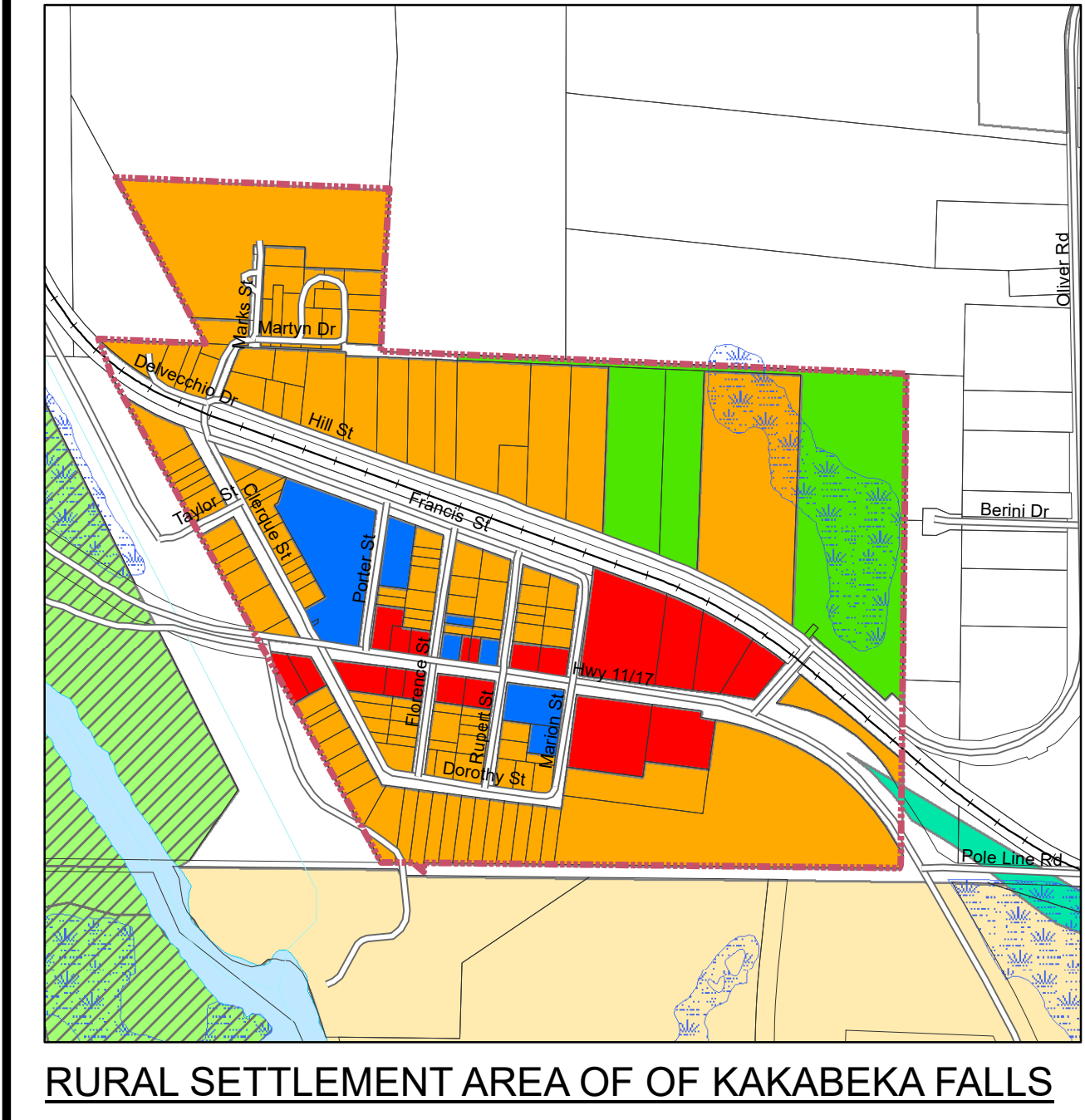
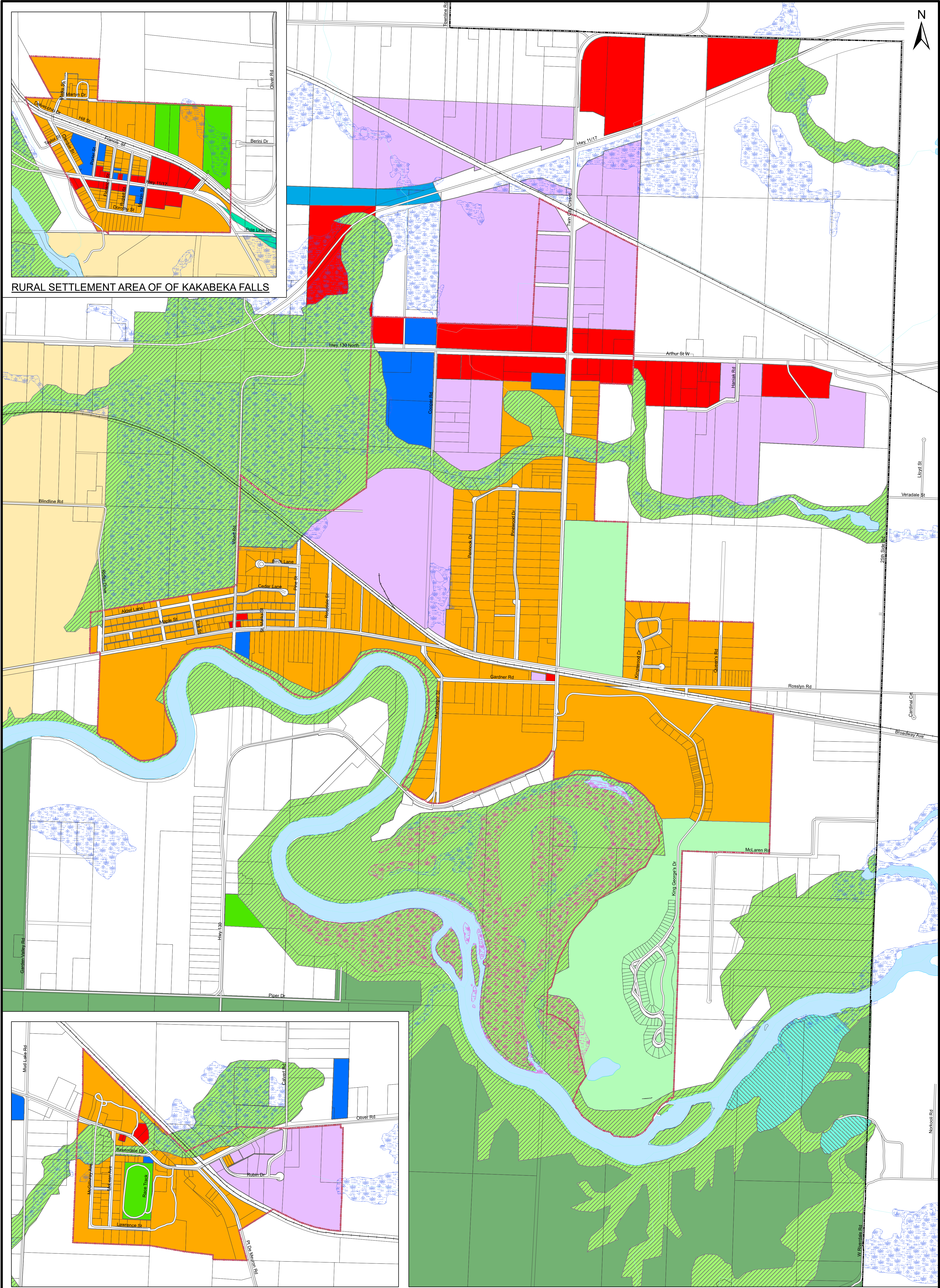
Reviewed by:

Jason Garatti, M.Sc.Eng., P.Geo.
President, Environmental Services
jgaratti@nrock.ca

This report has been prepared by North Rock Engineering ("North Rock") for the purposes of the client to whom it is prepared for and addressed. The data and information contained in this report represents North Rock's best professional judgment in consideration of the knowledge and information available to North Rock at the time of the report preparation. Except as required by law, this report and all contained herein are to be treated as confidential and may be used and relied upon only by the client, its officers, and employees. North Rock denies any liability whatsoever to other parties who may obtain access to this report for any injury, loss or damage suffered by such parties arising from their use of, or reliance upon, this report or any of its contents without the express written consent of North Rock and the client.



APPENDIX A



RURAL SETTLEMENT AREA OF ROSSLYN

RURAL SETTLEMENT AREA OF MURILLO

MUNICIPALITY OF OLIVER PAIPOONGE
OFFICIAL PLAN
SCHEDULE 'B'
RURAL SETTLEMENT AREA
LAND USE

Project No. 12047
Printed Jun 06, 2017
Quartek

Legend

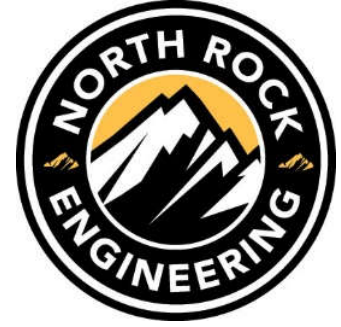
- ROAD
- RAILWAY
- WATERCOURSE
- RURAL SETTLEMENT AREA
- MUNICIPAL BOUNDARY

- COMMERCIAL
- INDUSTRIAL
- INSTITUTIONAL
- OPEN SPACE
- RECREATION
- RESIDENTIAL

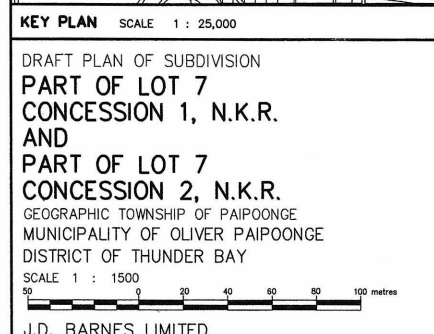
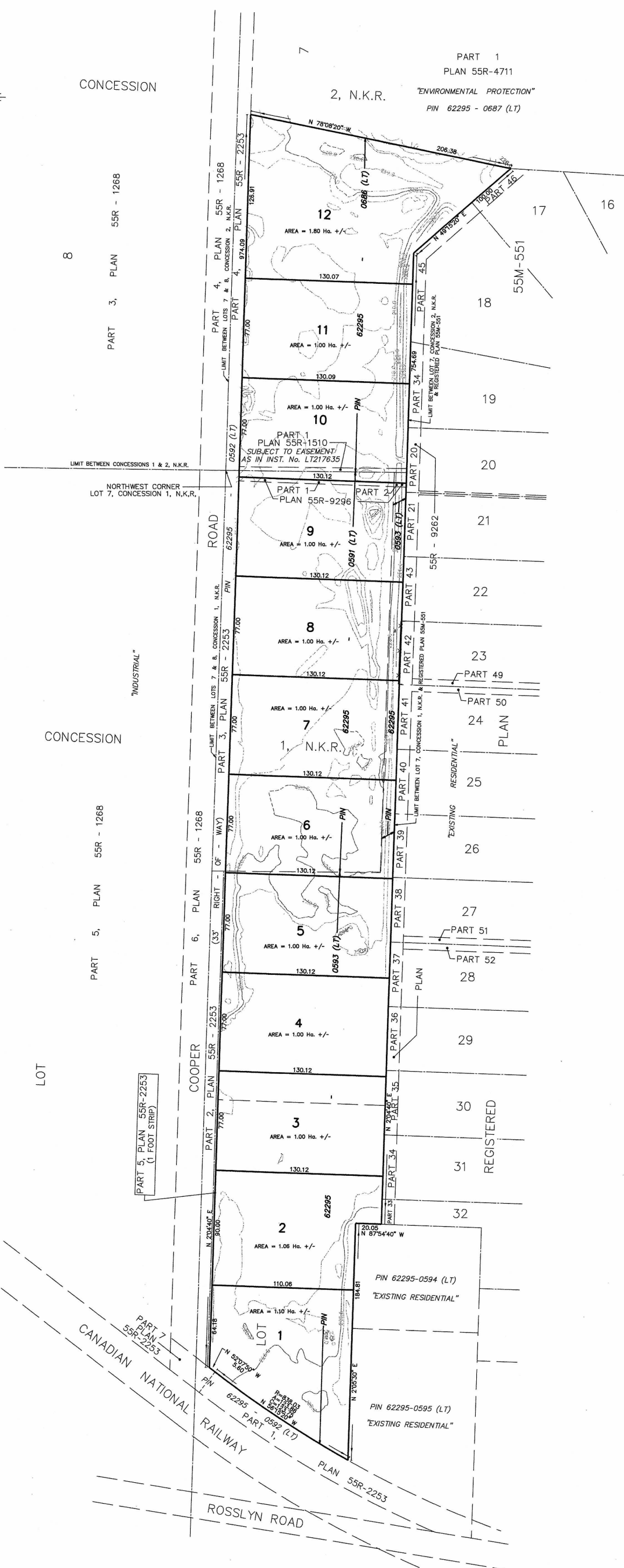
- RURAL
- PROVINCIALY SIGNIFICANT AGRICULTURE
- NATURAL RESOURCE
- ENVIRONMENTAL PROTECTION
- AREA OF NATURAL AND SCIENTIFIC INTEREST (ANSI)

- WATERBODY
- WETLAND
- PROVINCIALY SIGNIFICANT WETLAND
- CONTROLLED ACCESS HIGHWAY
- DESIGNATED CONTROLLED ACCESS HIGHWAY CORRIDOR

250 125 0 250 500 Meters
750 375 0 750 1,500 Feet
Projection: Transverse Mercator NAD 1983 UTM - Zone 16N



APPENDIX B



LAND USE		
LOTS 1-12	LI - INDUSTRIAL	12.98 +/- Ha.
TOTAL		12.98 +/- Ha.

NOTES	
ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT	
(a)	AS SHOWN ON DRAFT PLAN
(b)	AS SHOWN ON DRAFT PLAN
(c)	AS SHOWN ON DRAFT PLAN
(d)	INDUSTRIAL
(e)	AS SHOWN ON DRAFT PLAN
(f)	AS SHOWN ON DRAFT PLAN
(g)	AS SHOWN ON DRAFT PLAN
(h)	WELL
(i)	GRAVELLY
(j)	AS SHOWN ON DRAFT PLAN
(k)	STORM SEWER, DOMESTIC WATER, PRIVATE SEPTIC SYSTEMS
(l)	AS SHOWN ON DRAFT PLAN

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT PROPERTIES ARE ACCURATELY AND CORRECTLY SHOWN.

DATE 28 / APRIL / 2021

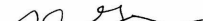
M. Mande
SHAFIC HABEBUR RAHMAN
ONTARIO LAND SURVEYOR

OWNER'S AUTHORIZATION

I AUTHORIZE J.D. BARNES LIMITED TO PREPARE THIS
DRAFT PLAN OF SUBDIVISION.

NORTH STAR HOLDINGS INCORPORATED

DATE 27 APRIL 2021


SILVIO DIGREGORIO

1. HAVE THE AUTHORITY TO BIND THE CORPORATION

ZONING: LI - INDUSTRIAL

DRAWN BY:	KJ	CHECKED BY:	SR	REFERENCE NO.:	21-32-772-00
PLOTTED:	4/27/2021			DATED:	04/27/21