



Ministry of
Energy, Mines and
Low Carbon Innovation

Feb 15 2022

File: 14675-20-2000138
Permit #: G-100000181

British Columbia Hydro and Power Authority
1111 West Georgia Street, 9th Floor
Vancouver BC V6E4G2

British Columbia Hydro and Power Authority,

Re: Application for Mines Act Permit
Property: Area E

Please find enclosed your Mines Act permit, which authorizes mining activities as detailed in the Notice of Work and Reclamation Program dated Oct 20 2021. The Notice of Work and Reclamation Program form part of your permit, and you are reminded that you may not depart from the permitted program without written authorization.

Please ensure that you and all persons who are carrying out activities in accordance with this permit comply with all terms and conditions of the permit and are familiar with the permitted work program.

This permit applies only to the requirements under the Mines Act and Health, Safety and Reclamation Code for Mines in British Columbia (Code). Other legislation may be applicable to the operation and you (the Permittee) may be required to obtain approvals or permits under that legislation.

The amount of your security deposit may be adjusted on the basis of reclamation performance, field inspections by this ministry, and on reports which may be requested.

Sincerely,

Todd Wikjord P. Geo
Sr. Inspector of Mines

Email: todd.wikjord@gov.bc.ca



Permit Number: **G-100000181**

Mine Number: **2000138**

Permittee: **British Columbia Hydro and Power
Authority
1111 West Georgia Street, 9th Floor
Vancouver BC V6E4G2**

Name of Property: **Area E**

Map Reference: **Lat: 56.1480000 Long: -120.7610000**

Date of Issuance: Feb 15 2022

Approval End Date: Dec 31 2025

A handwritten signature in blue ink, appearing to read "Todd Wikjord", written over a horizontal line.

Todd Wikjord P. Geo
Sr. Inspector of Mines – Permitting

PREAMBLE

A Notice of Work application for the **Area E Sand & Gravel** project was filed with the Chief Permitting Officer, submitted on **Oct 20 2021** and last updated on **Oct 28 2021**. The application included a plan of the proposed work system (“Mine Plan”) and a program for the protection and reclamation of the surface of the land and watercourses (“Reclamation Program”), affected by the Notice of Work.

The **Mines Act**, the **Health, Safety and Reclamation Code for Mines in British Columbia (“Code” or “HSRC”)**, and this **Mines Act Permit** contain the requirements of the Chief Permitting Officer for the execution of the Mine Plan and Reclamation Program, including the deposit of reclamation securities. Nothing in this permit limits the authority of other government agencies to set additional requirements or to act independently under their respective authorizations and legislation.

THE MINE PLAN AND RECLAMATION PROGRAM

The Chief Permitting Officer considered the following Mine Plan and Reclamation Program(s) for the stated period(s):

1. **Notice of Work Mine Plan and Reclamation Program**
 - 1.1. Notice of Work **2000138-2021-01** tracking number **100356930** submitted **Oct 20 2021** and last updated on **Oct 28 2021**
 - 1.2. Area E Material Source Overview Map (1016-N11-01223-1), dated Oct 25 2021, prepared by BC Hydro
 - 1.3. Area E Material Source Detail Map (1016-N-11-01223-2), dated Oct 25 2021, prepared by BC Hydro
 - 1.4. Area E Stage 1 Development Plan and Sections (*referred to as Teko Pit on Plan), dated Oct 25 2021, prepared by BC Hydro
 - 1.5. Area E Stage 2 Development Plan and Sections (*referred to as Teko Pit on Plan), dated Oct 25 2021, prepared by BC Hydro
 - 1.6. Area E Stage 3 Development Plan and Sections (*referred to as Teko Pit on Plan), dated Oct 25 2021, prepared by BC Hydro
 - 1.7. Site C Clean Energy Project Mines Act Notice of Work – Area E Material Source Management Plan, dated Oct 05 2021, prepared by BC Hydro
 - 1.8. Area E Rec and Closure Plan_Oct25_2021, dated Oct 25 2021, prepared by BC Hydro

PERMIT CONDITIONS

The Chief Permitting Officer hereby issues this permit subject to the following conditions that the permittee must comply with:

A. General

1. Approval - This permit authorizes only the following mining activities as outlined in the Mine Plan and Reclamation Program. Mining activities conducted that are not listed below are considered to be undertaken without a permit as required by Mines Act 10(1):
 - a. Approved Activities:
 - i. Mining excavation areas: 32.5 ha
 - ii. Stockpile, Laydown, Crushing and Screening Infrastructure, and Facilities area: 22.78 ha
 - iii. For a total disturbance area up to 55.28 ha
 - b. Activities not approved:
 - i. Fording of watercourses is not authorized.
 - c. Approved activities must be conducted as outlined in the Description of Work Program in Document 1.7.
 - d. Activities must be conducted within the permit area illustrated in Document 1.3 - Area E Material Source Detail Map, and located as shown in Document 1.2 - Overview Map.
 - e. A maximum of one million (1,000,000) cubic meters of material to be extracted from Area E.
2. Definitions
 - a. Unless otherwise specified, the definitions in the Mines Act, the regulations and the Code apply to the use of the terms in this permit.
3. Documentation and Reporting
 - a. This Permit and the associated approved Mine Plan and Reclamation Program must be kept at the mine and must be available to an Inspector upon request.
 - b. A completed Annual Summary of Work and Reclamation Report must be submitted to mmd-princegeorge@gov.bc.ca prior to March 31 annually and must be accompanied by:
 - i. a detailed as-built map of the mine site.
 - ii. spatial data of the as-built disturbances which includes attribution data for the status of reclamation.
 - c. Seven days prior to commencement of crushing or screening operations, a written notification must be provided. The notification must include the start date and the anticipated end date of the operation and be submitted to mmd-princegeorge@gov.bc.ca.
4. Reports to be signed by a Qualified Professional:

- a. Unless otherwise approved in writing by the Chief Permitting Officer, all reports required to be submitted under this permit other than the Annual Summary of Work and Reclamation Report must be signed by a Qualified Professional.

B. Health and Safety

1. Mine Emergency Response Plan (MERP)

- a. The MERP required under 3.7.1 of the Code must be maintained on the mine site and made available to an inspector upon request.

2. Fuels and Lubricant Handling, Transportation and Storage

- a. Handling, transportation and storage of fuels and lubricants must conform to the requirements of the document: BC Fuel Guidelines, 10th Edition, June 2021 (NorthWest Response Ltd), or most recent version thereof.

C. Geotechnical

1. Reporting

- a. The Chief Inspector must be advised in writing upon discovery of any unforeseen conditions that could adversely affect the extraction of materials, site stability, erosion control or the reclamation of the site.
- b. A geotechnical incident form must be submitted to the Chief Inspector for any geotechnical incident that:
 - i. is classified as a dangerous occurrence,
 - ii. requires changes to an existing standard operating procedure or the creation of a site-specific safe work plan,
 - iii. is considered a multi-bench pit slope failure,
 - iv. is considered a spoil failure resulting in full loss of the crest berm

2. Site Stability

- a. Stockpiles of waste, overburden or soil must not be placed in areas identified as Terrain Class IV or V.

3. Design

- a. Berms must be constructed at the toe of all waste dumps where rock rollout could present a safety hazard.
- b. All access roads, drill sites, equipment laydowns, trenches, and locations where cuts and/or fills exceed 6.0 meters on terrain Class IV or V must be constructed maintained and operated per the written recommendations of a qualified professional. The signed and sealed design reports must be maintained on site and made available an inspector upon request.

D. Environmental Land and Watercourses

1. Cultural Heritage Resources

- a. Prior to any ground disturbance, an Archaeological Impact Assessment (AIA) must be conducted by a qualified professional. Any recommendations resulting from this evaluation, provided by a qualified professional, must be implemented.
- b. An Archaeological Chance Find Procedure (CFP) must be implemented prior to commencement of work. All employees and contractors at the mine site must be trained on the CFP. The plan must be maintained onsite and available to an Inspector upon request.

2. Environmental Protection

- a. Garbage and other animal attractants must be removed from work sites daily and must be stored in a secure and airtight container until removed from the mine site.
- b. Water intakes must comply with the Freshwater Intake End-of-Pipe Fish Screen Guideline, 1995 (Department of Fisheries and Oceans), or most recent version thereof.
- c. Erosion and sediment must be effectively controlled on the mine site. Sediment laden water must be suitably contained on the mine site and not be allowed access to any watercourse.
- d. Water which flows from disturbed areas must be collected and diverted into settling ponds, unless water is effectively exfiltrating through gravels.
- e. Settling ponds must be maintained regularly.
- f. A schedule and procedure for sediment removal from settling ponds must be implemented to ensure adequate settling of suspended solids. The information must be maintained on site and be available to an Inspector upon request.
- g. Sediment removed from settling ponds must be contained and stockpiled for reclamation.
- h. Dust originating from the mine site must be controlled at the source.
- i. The BC Hydro and Power Authority Construction Environment and Management Plan must be followed.

3. Invasive Plants

- a. Invasive plants on the site must be identified, monitored, controlled and documented. Monitoring and treatment records must be made available to an Inspector upon request.
- b. Reasonable efforts must be taken to ensure that invasive plants do not migrate from the site to adjacent areas.
- c. The control of invasive plants must consider using non-toxic means for invasive plant control.
- d. The Permittee must ensure that all seed used on-site is certified weed free.

4. Receiving Foreign Materials

- a. The receipt, storage, treatment/processing and or use of imported materials including but not limited to garbage, refuse, concrete, asphalt, asphalt shingles, biosolids and soils originating from off site is not permitted unless authorized in writing by an Inspector.

5. Condition of the Land

- a. All equipment brought on to the site must be removed from the project area when the site is not active.
- b. Derelict or damaged equipment, supplies, or materials must not be stored or otherwise left or abandoned anywhere on the mine site.
- c. When the site is not active, disturbed areas are to be left in a condition that is neat, clean and safe.

E. Reclamation and Closure Program

1. Reclamation Security

- a. Reclamation liability shall remain the responsibility of British Columbia Hydro and Power Authority during and to the end of life of mine. Reclamation security for this permit is not required.

2. Obligation to Reclaim

- a. Reclamation of the surface of the land affected by the operations must be conducted in accordance with the approved work program. The surface of the land and watercourses must be reclaimed to the following end land use: Wildlife

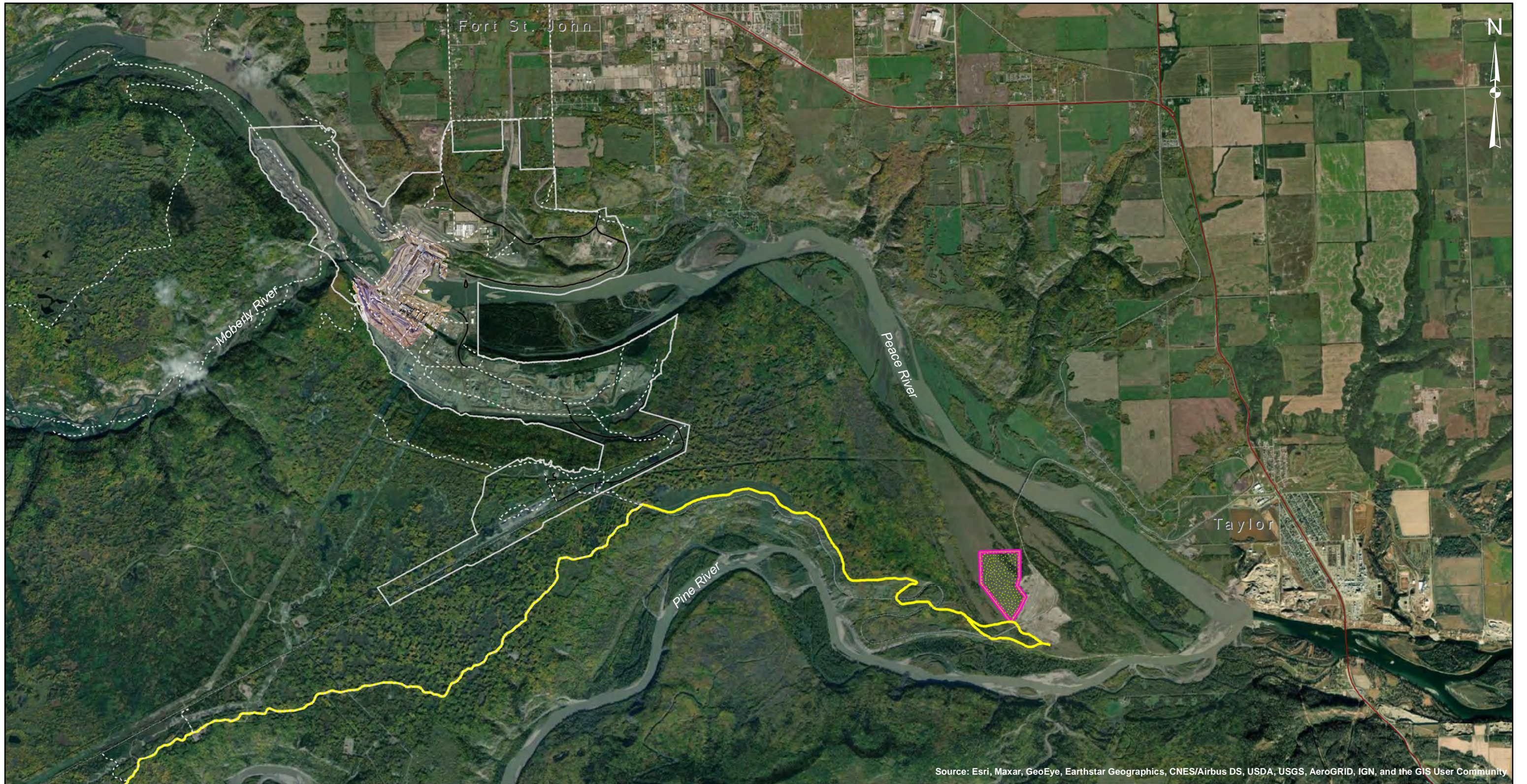
3. Reclamation

- a. All available topsoil, overburden, and organic material including large woody debris in the disturbance footprint must be salvaged and stockpiled for use in reclamation.
- b. All stockpiled topsoil, overburden, and organic material including large woody debris must:
 - i. be protected from erosion, degradation, and contamination.
 - ii. be clearly marked to ensure that they are protected during construction and mine operations.
 - iii. not be used as fill.
 - iv. not be removed from the mine site unless authorized in writing by an Inspector.
- c. Progressive reclamation must be conducted and must include:
 - i. Compacted surfaces must be de-compacted to allow water infiltration and achieve self-sustaining vegetation.
 - ii. Salvaged soil material must:
 1. be replaced on disturbed areas to pre-disturbance depth;
 2. be treated with a rough and loose site preparation where practicable;
 3. be keyed into the underlying materials such that they do not slump off or become unstable;
 4. incorporate roots, stumps and other woody debris to reduce erosion and create greater biological diversity; and

5. be re-vegetated promptly to a self-sustaining state using appropriate and/or native plant species that support approved end land use.

4. Reclamation Plan

- a. The permittee must:
 - i. develop a revised reclamation plan in consultation and cooperation with the Treaty 8 First Nations, and
 - ii. file with an inspector, within one year after the date the permit is issued, the revised reclamation plan, and
 - iii. ensure that any subsequent revisions to the reclamation plan are developed in consultation and cooperation with the Treaty 8 First Nations.








Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




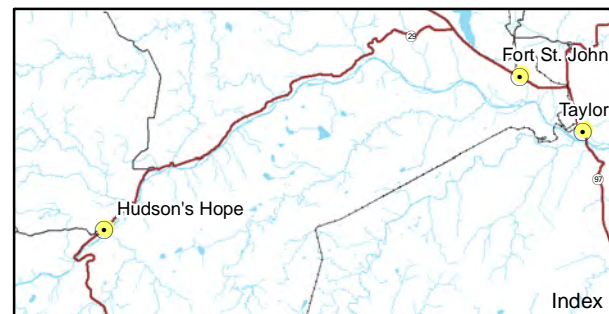
Map Notes:
 1. Datum: NAD83
 2. Projection: UTM Zone 10N
 3. Imagery: ESRI Online Basemapping;
 UAV orthophotos obtained (c) Underhill
 June 2021

Legend

-  Area E Material Source Mines Act
-  Ice Bridge Road
-  Notice of Work Area (55.3 ha)
-  Dam Site Area Boundary
-  Area E Licence of Occupation Area

1:60,000 0 2.5 km

			
Area E Material Source Overview Map			
Date	Aug 27, 2021	DWG NO	1016-N11-01223-1
			R 0



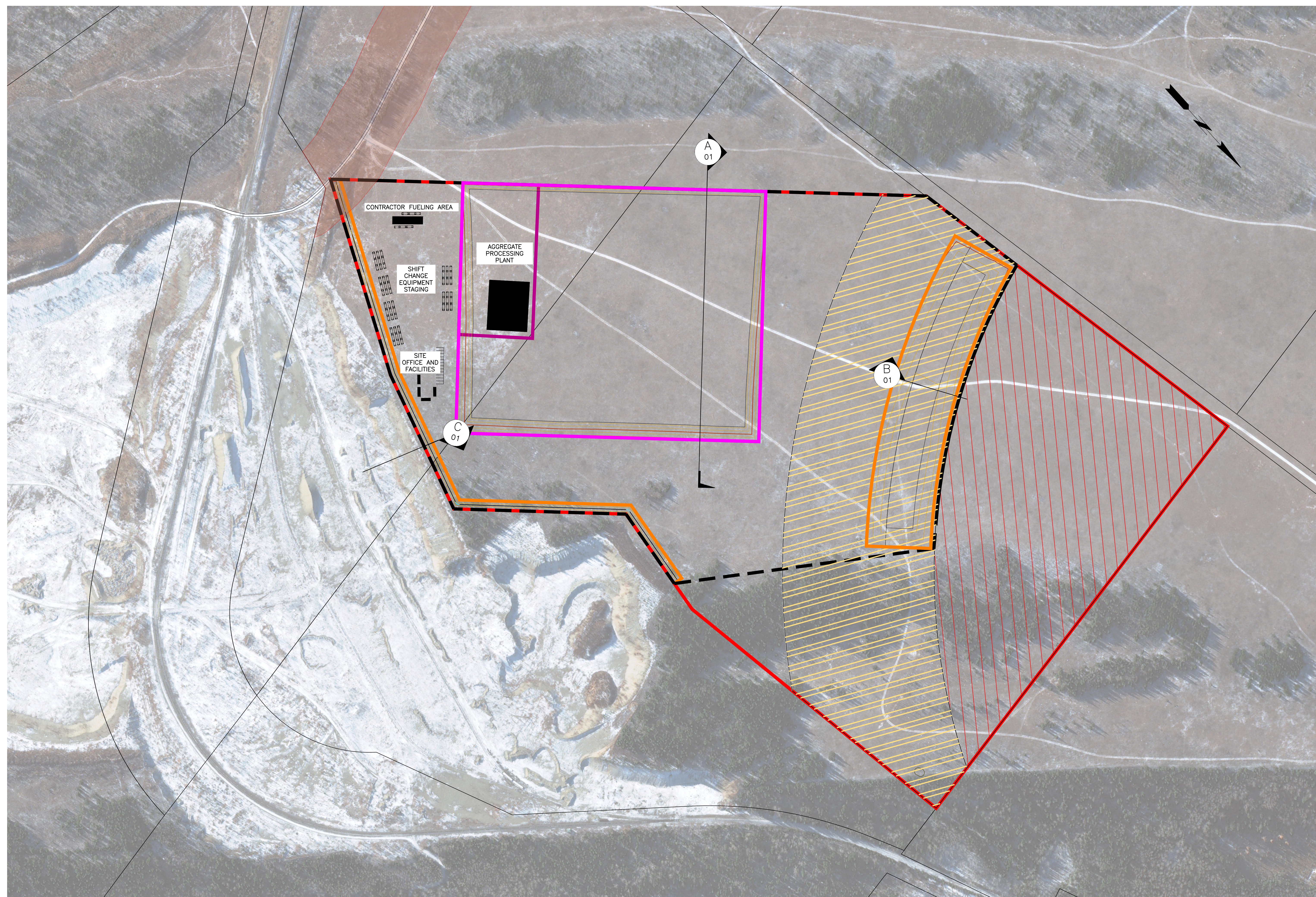
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 3. Imagery: Orthophoto (c) Photosat obtained 24 Oct 2020.








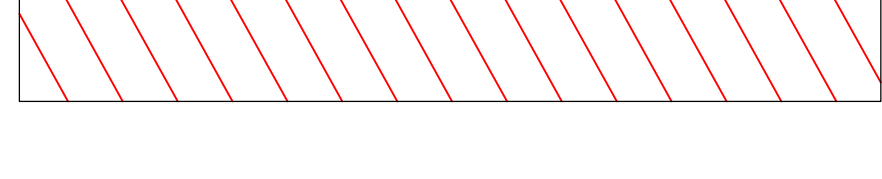

Legend

- | | |
|--|------------------------------|
| Area E Material Source Mines Act Notice of Work Area (55.3 ha) | Ownership |
| Area E Licence of Occupation Area | BC Hydro Owned Land (Leased) |
| Ice Bridge Road | BC Hydro Owned Land |
| | Crown Land |
| | Private Land |

1:10,000 0 500 m

Area E Material Source Detail Map			
Date	Aug 27, 2021	DWG NO	1016-N11-01223-2 R 0

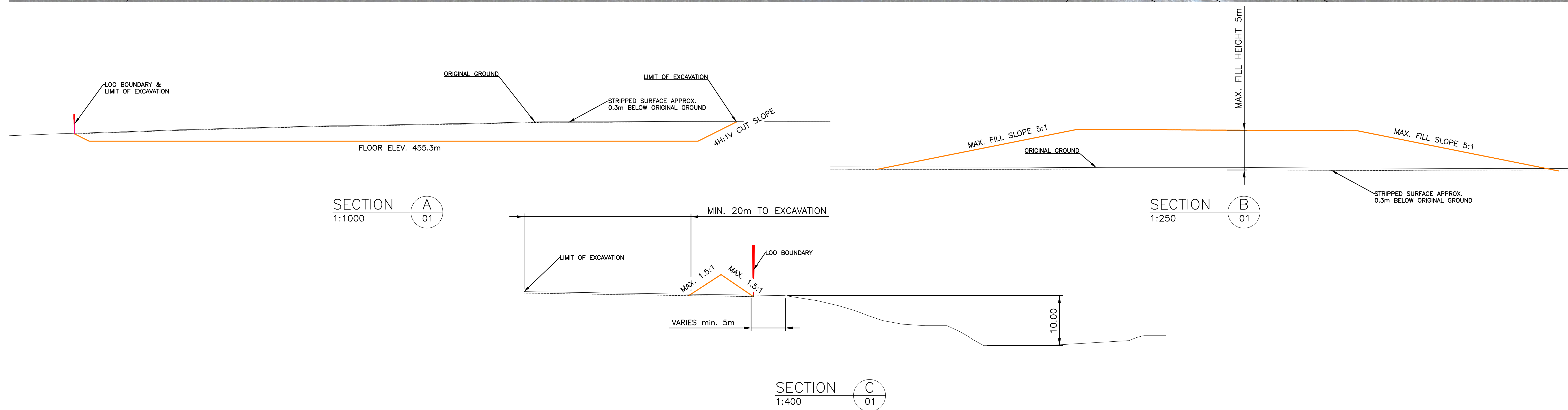


-  LICENSE OF OCCUPATION BOUNDARY
-  ULTIMATE GRAVEL EXTRACTION BOUNDARY
-  STAGE 1 GRANULAR PROCESSING AND STOCKPILING AREA
-  OVERBURDEN TOPSOIL STOCKPILE AND SAFETY BERM LOCATION
-  PROPERTY BOUNDARIES AND LOT LINES
-  STAGE 1 STRIPPING LIMITS
-  NO WORK 15 APR - 15 MAY
-  NO WORK ZONE
-  AREA E HAUL ROAD LOO BOUNDARY

NOTES:

1. COORDINATES ARE IN NAD83 UTM CSRS, ZONE 10. BASE MAPPING DERIVED FROM LIDAR DATA PROVIDED BY BC HYDRO VIA AIRBORNE IMAGING INC. DATA ACQUISITION SUMMER 2006 (AREA E - 8289 AND 8263 CONTOUR FILES). AERIAL PHOTOGRAPHY BY SATELLITE CAPTURE (SiteC_wo44227_50cm_wv3_colour_2020oct24_east)

STAGE 1 QUANTITIES	
STAGE 1 EXCAVATION FOR AGGREGATE PROCESSING	UP TO 100,000 m ³
STAGE 1 STRIPPING	106,500 m ³
SAFETY BERM	19,000 m ³
TOPSOIL STOCKPILE SITE CAPACITY	105,000 m ³





BC Hydro CONTRACT NO. _____

ISSUED FOR REGULATORY REVIEW

BY: _____ DATE: _____

HYDRO'S REPRESENTATIVE



							
DSGN A. SCHAEFER INDEP CHK A. IZETT DFTG A. SCHAEFER DFTG CHK INSP - DG - CIV STR MECH GEO ELEC				CLEAN ENERGY PROJECT - SITE C AREA E NOTICE OF WORK - TEKO BORROW PIT DEVELOPMENT - STAGE 1 PLAN AND SECTIONS			
DATE	DIST	DWG NO	SIZE	REV	DATE	DIST	DWG NO
OCT. 19, 2021		1020-C09-06350	A0	0			

REF#	DRAWING NUMBER	TITLE	REF#	DRAWING NUMBER	TITLE	NO	REMARKS	DATE	DESIGNED	INDEP CHK	DFTG CHK	DFTG CHK	INSP CIV	INSP STR	INSP MECH	INSP GEO	INSP ELEC	REV	ACPT
		REFERENCE DRAWINGS			REFERENCE DRAWINGS														

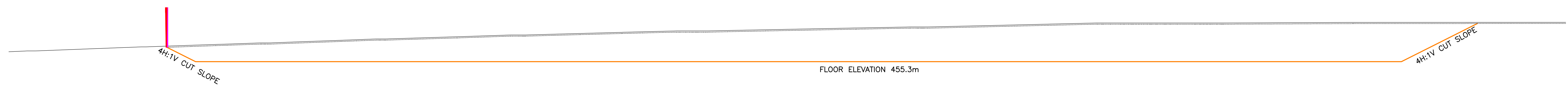
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 SCHAEFER, ANTHONY
 10/20/2021 4:10 PM



- MAXIMUM GRAVEL EXTRACTION BOUNDARY AND LIMIT OF OCCUPATION
- ULTIMATE GRAVEL EXTRACTION BOUNDARY
- OVERBURDEN TOPSOIL STOCKPILE LOCATION
- PROPERTY BOUNDARIES AND LOT LINES
- NO WORK 15 APR - 15 MAY
- NO WORK ZONE

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STAGE 2 QUANTITIES	
FINAL EXCAVATION	1,000,000 m ³



SECTION A
 1:500

BC Hydro CONTRACT NO. _____
ISSUED FOR REGULATORY REVIEW
 BY: _____ DATE: _____
 HYDRO'S REPRESENTATIVE



SITE C CLEAN ENERGY PROJECT										BC Hydro			
DSGN A. SCHAEFER INDEP CHK A. IZETT DFTG A. SCHAEFER DFTG CHK INSP - DG - CIV STR MECH GEO ELEC										CLEAN ENERGY PROJECT - SITE C AREA E NOTICE OF WORK - TEKO BORROW PIT DEVELOPMENT - STAGE 2 PLAN AND SECTIONS			
DATE		DIST		DWG NO		DATE		REV		DATE		REV	
OCT. 19, 2021				1020-C09-06351						OCT. 19, 2021		A0 0	

REF#	DRAWING NUMBER	TITLE	REF#	DRAWING NUMBER	TITLE	NO	REMARKS	DATE	DESIGNED	INDEP CHK	DFTG	DFTG CHK	INSP CIV	INSP STR	INSP MECH	INSP GEO	INSP ELEC	REV	ACPT
REVISIONS																			
REFERENCE DRAWINGS										REFERENCE DRAWINGS									

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