

PROVINCE OF BRITISH COLUMBIA
MINISTRY OF ENERGY AND MINES

SAND AND GRAVEL PERMIT
APPROVING WORK SYSTEM AND RECLAMATION PROGRAM
(Issued pursuant to Section 10 of the **Mines Act** R.S.B.C. 1996, C.293)

Permit: **G-9-282**

Mine No.: **1641309**

Issued to: **British Columbia Hydro and Power Authority**
Suite 1100, Four Bentall Centre, 1055 Dunsmuir Street
Vancouver BC V7X 1V5

for work located at the following property:

Area A

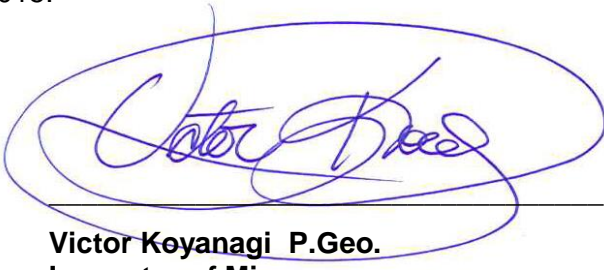
As described in Notice of Work applications 1641309-201501 and 1641309-201502

The approval for Notice of Work 1641309-201501 is valid beginning July 24, 2015 and ending prior to December 31, 2015.

The approval for Notice of Work 1641309-201502 is valid beginning January 1, 2016 and ending prior to December 31, 2023.

This approval and permit is subject to the appended conditions.

Issued this 24th day of July in the year 2015.



Victor Keyanagi P.Geo.
Inspector of Mines

PREAMBLE

Notice of intention to commence work on a sand and gravel pit, including a plan of the proposed work system and a program for the protection and reclamation of the surface of the land and watercourses affected by the Notice of Work 1641309-201501 and 1641309-201502 was submitted to the Regional Inspector of Mines on March 06, 2015.

This permit contains the requirements of the Ministry of Energy and Mines for reclamation. Nothing in this permit, however, limits the authority of other provincial ministries to set other conditions, or to act independently, under their respective permits and legislation.

The Site C Clean Energy Project (the Project) has undergone an environmental assessment in accordance with the Canadian Environmental Assessment Act, 2012 (CEAA 2012), the BC Environmental Assessment Act (BCEAA), and the Federal-Provincial Agreement to *Conduct a Cooperative Environmental Assessment, Including the Establishment of a Joint Review Panel of the Site C Clean Energy Project*. The assessment found that the effects of the Project will largely be mitigated through careful, comprehensive mitigation programs and ongoing monitoring during construction and operations.

Mitigation, management and monitoring plans for the Project have been developed taking into account the measures proposed in the EIS, information received during the Joint Review Panel hearing process, and the Report of the Joint Review Panel on the Project. Those plans are consistent with, and meet requirements set out in, the conditions of the Environmental Assessment Certificate (EAC) and of the Decision Statement issued on October 14, 2014 and November 25, 2014 respectively. Under the EAC, the proposed works must be conducted in accordance with the requirements of the CEMP.

Mitigation measures specific to the activities proposed are described in the Construction Environmental Management Plan (CEMP).

CONDITIONS

The Chief Inspector of Mines (Chief Inspector) hereby approves the work plan and the program for protection and reclamation of the land surface and watercourses subject to compliance with the following conditions:

1. Reclamation Security

Reclamation security for this approval is waived. The Permittee remains responsible for reclamation of the mine site to the satisfaction of the Chief Inspector of Mines.

2. Land Use

The surface of the land and watercourses shall be reclaimed to the following land use: ***Wetland, Wildlife.***

3. Productivity

The level of land productivity to be achieved on reclaimed areas shall not be less than existed prior to mining on an average property basis unless the Permittee can provide evidence which demonstrates, to the satisfaction of the Chief Inspector, the impracticality of doing so.

4. Revegetation

Land shall be re-vegetated to a self-sustaining state using appropriate plant species.

5. Use of Suitable Growth Medium

- (a) On all lands to be re-vegetated, the growth medium shall satisfy land use, productivity, and water quality objectives. Topsoil, overburden (to rooting depth), subsoil, and non-merchantable coarse woody debris shall be removed from operational areas prior to any disturbance of the land and stockpiled separately on the property for use in reclamation programs, unless the Permittee can provide evidence which demonstrates, to the satisfaction of the Chief Inspector, that reclamation objectives can otherwise be achieved.
- (b) No topsoil shall be removed from the property without the specific written permission of the Inspector of Mines.
- (c) Reclamation material stockpiles shall be appropriately protected from invasive plant species, erosion, degradation and contamination, and shall be clearly marked to ensure that they are protected during all construction and mining activities

7. Treatment of Structures and Equipment

Prior to abandonment, and unless the Chief Inspector has made a ruling otherwise, such as heritage project consideration or industrial use,

- (a) all machinery and equipment shall be removed, and
- (b) all scrap material shall be disposed of in a manner acceptable to the Regional Inspector of Mines.

8. Roads

- (a) All roads shall be reclaimed in accordance with land use objectives unless permanent access is required to be maintained.

- (b) Individual roads will be exempted from the requirement for total reclamation under condition 9(a) if either:
 - (1) the Permittee can demonstrate that an agency of the Crown has explicitly accepted responsibility for the operation, maintenance and ultimate deactivation and abandonment of the road, or
 - (2) the Permittee can demonstrate that another private party has explicitly agreed to accept responsibility for the operation, maintenance and ultimate deactivation and abandonment of the road and has, in this regard, agreed to comply with all the terms and conditions, including bonding provisions, of this reclamation permit, and to comply with all other relevant provincial government (and federal government) regulatory requirements.

9. Temporary Shutdown

If this sand and gravel pit ceases operation for a period longer than one year the Permittee shall either continue to carry out the conditions of the permit or apply for an amendment setting out a revised program for approval by the Chief Inspector.

10. Alterations to the Program

Substantial changes to the program must be submitted to the Inspector of Mines for approval prior to initiating the changes to the program.

11. Notice of Closure

Pursuant to Part 10.6.1 of the Health, Safety and Reclamation Code for Mines in British Columbia, a Notice of Completion of Work shall be filed with the Regional Inspector of Mines not less than seven days prior to cessation of work.

12. Annual Report

Annual summary of activities shall be submitted to the Regional Mines office in Prince George prior to March 31 of each year the permit remains valid. This shall also include, but is not limited to, an as-built map of the mine site.

The origin, storage locations, quantities, and stockpile protection activities for stored reclamation materials shall be documented and reported in the Annual Summary Report.

13. Site Stability

- a) The Regional Inspector of Mines shall be advised in writing at the earliest opportunity of any unforeseen conditions that could adversely affect the extraction of materials, site stability, erosion control or the reclamation of the site.

- b) The stability of the slopes shall be maintained at all times and erosion shall be controlled at all times.
- c) The discovery of any significant subsurface flows of water, seeps, substantial amounts of fine textured, soils, silts and clays, shall be reported to the inspector as soon as possible and work shall cease until the inspector advises otherwise.

14. Training and Orientation

The Manager shall ensure that all workers are adequately trained to do their job or are working under the guidance of someone who has competency both in the job and in giving instruction, and ensure that all employees receive thorough orientation and basic instruction in safe work practices.

The manager shall maintain a record of all training workers and supervisors have received, and make this record available to an inspector upon request.

15. Hazards and Confined Spaces

The Manager shall ensure hazardous areas and confined spaces on the mine site are identified and documented in a formal report. Confined spaces shall be clearly marked near the entrances to the confined space. Upon completion of the report, the report shall be provided to all emergency responders (police, fire, ambulance, etc.) that may potentially enter the mine site.

16. Emergency Response Plan:

An emergency response plan (ERP) shall be developed and implemented prior to commencement of exploration activities. In addition to addressing daily operational issues, the plan shall specifically address emergency evacuation of personnel due to injury and forest fire hazard. All persons on the mine site shall be familiar with the ERP. The plan shall be available on site for review.

17. Access Control

The Manager shall ensure, pursuant to section 1.3 of the Health, Safety and Reclamation Code for Mines in British Columbia, other than an inspector, only persons authorized by the manager shall enter or be permitted to enter the mine site. This shall be accomplished through the use of locked gates or other suitable means. In addition, notice to this effect shall be posted at all road entrances to the mine. If a lock is installed on an access gate, a key shall be provided to the Regional Inspector of Mines.

18. Environmental Protection:

- a) The Permittee shall conduct works in accordance with the Project (Site C) Construction Environmental Management Plan.

- b) The Permittee shall ensure that all practical means are taken to minimize the amount of new development and new land disturbance.
- c) Waste containers and garbage shall be removed from site at the earliest possible opportunity.
- d) The Permittee shall control erosion and sedimentation on site and ensure impacts to the land, watercourses and wildlife are minimized as a result of the mining activities.

19. Wildlife

The Permittee shall ensure all practicable measures are taken to minimize impacts to wildlife.

20. Noise Abatement

- a) The Manager shall ensure compliance with 2.6.1 of the Code and ensure any machinery or equipment which, when operating, exposes the operator or persons in the vicinity to noise levels in excess of those prescribed in Table 2-2, Part 2, for unprotected ears, shall if practicable, be fitted with a properly maintained muffler or other noise reducing device.
- b) Stationary engines and portable compressor installations shall be enclosed in noise attenuating structures.
- c) Site equipment shall be fitted with high efficiency muffling devices.

21. Dust Control

- a) All dust on the mine site shall be suitably controlled at the source. Dust shall not be allowed to impact adjacent properties. All dust inside building and structures shall be suitably controlled at the source.
- b) All roads on the mine site shall be appropriately constructed and top-dressed such that dust is controlled.
- c) A sprinkler system, water truck, or other appropriate means shall be utilized to ensure dust is adequately controlled on the mine site.
- d) The Permittee shall ensure all vehicles exiting the mine site are adequately washed to minimize the potential spread of dust.
- e) Covered trailers shall be utilized on all haul trucks exiting the mine site.

22. Authorizations from Other Agencies

The Permittee is responsible for obtaining all permits and authorizations as required from other government agencies and complying with terms and conditions as set out by those agencies.

23. Compliance:

All activities on the mine site shall comply with terms and conditions listed in:

- a) the *Mines Act*,
- b) the Health, Safety and Reclamation Code for Mines in British Columbia
- c) *the Metal Leaching and Acid Rock Drainage Guidelines for Mines in British Columbia*, and
- d) Approved Notice of Work and Reclamation applications 1641309-201501 and 1641309-201502

24. Fuels and Lubricants

Fuels and Lubricants, if stored on the mine site, shall conform to the requirements of the Field Guide to Fuel Handling, Transportation, and Storage

The Permittee shall develop and implement a hydrocarbon management plan that deals with fueling, operational servicing, spill prevention and clean-up for fuels and lubricants stored on or off the mine site. The plan shall account for the following:

- i) Fuel and lubricants shall be delivered to site as needed to re-supply and oil tanks on mobile and fixed equipment.
- ii) Impermeable, oil absorbent matting shall be used when refueling and servicing equipment.
- iii) While refueling the operator shall be in control of the refueling nozzle at all times.
- iv) If any Petroleum, hydrocarbon or other product (no matter how small) is spilled the contaminated soil/gravels shall be forthwith collected and removed for appropriate disposal.
- v) Fuel or oil leaks on equipment shall be effectively repaired as soon as they are discovered or the equipment shall be removed from the site and not operated until repairs have been made.
- vi) An emergency spill containment and clean up kit shall be maintained at the site while it is in operation. The kit shall have the capacity to contain and clean up 100% of a spill from a failure of the largest volume of a fuel or lubricant tank or system plus 10%

25. Chance Find Plan

Prior to initiating mining activities as approved under this permit, the Permittee shall develop and implement a suitable Archaeological Chance Find Procedure (CFP). The Manager shall ensure all workers on the site are aware of and understand the CFP and adhere to the procedure.

26. Crushing and Screening

The Manager shall ensure written notice is provided to the Regional Inspector of Mines a minimum of seven days prior to initiating crushing or screening activities on the mine site.

27. Dangerous Occurrences

The Manager shall ensure compliance with section 1.7.1 of the Health, Safety and Reclamation Code for Mines in British Columbia report all dangerous occurrences to the Regional Health and Safety Inspector of Mines.

28. Reclamation

- a) The Manager shall ensure a suitable progressive reclamation plan for the entire "Area A" mine site is developed and implemented by a qualified registered professional prior to January 1, 2017. This plan shall ensure maximum habitat restoration. This plan shall be provided prior to January 1, 2017 to the Provincial Reclamation Inspector of Mines, Regional Inspector of Mines Permitting and to Northeast Ecosystems MFLNRO for review and approval. This plan shall be provided to Treaty 8 First Nations for information and review.
- b) The Manager shall take reasonable measures to prevent the establishment of invasive plant species on the mine site.
- c) Re-vegetation species shall be selected based on the principles of ecological succession, traditional use and cultural significance, including all reasonable efforts to use only native species unless short-lived agronomic species are required to temporarily control erosion.

29. Mine Plan

Prior to March 31, 2016 and prior to initiating mining activities as approved under Notice of Work 1641309-201502, the Manager shall provide to the Regional Inspector of Mines for review and approval, a detailed mine plan including but not limited to:

- a) Surveyed as-built map of the mine site,
- b) Mining Method and Bench Design
- c) Mining Equipment List
- d) Traffic Control Plan
- e) Adequate cross sections illustrating the current ground profile,
- f) Adequate cross sections illustrating the proposed ground profile at relevant times throughout the life-of-mine including profile at end of life-of-mine.

30. 5 Year Mine Plan Update

The Permittee will provide an updated mine and reclamation plan on the fifth anniversary of the issuance of this permit. This shall include updated maps and cross sections, which show as-built conditions, as well as the upcoming 5 year mine and reclamation activities.