

Grimshaw Gravels Aquifer Management Advisory Association

Recommendations for Grimshaw Gravels Aquifer Gravel Pit by-laws

Mighty Peace Watershed Alliance

February 2021

In order to ensure consistent and appropriate aquifer protection throughout the Grimshaw Gravels Aquifer area, the following recommendations are presented. There is no intent for current by-laws to be tossed out but only for amendments to occur at the points indicated below to create consistency in regulations across the Grimshaw Gravels Aquifer area. In aligning their by-laws for Gravel Pit approval conditions (Development Permits), the municipalities on the Grimshaw Gravels Aquifer will create a stable and standard regulatory environment for gravel pit operators as well as consistent environmental protections. After reviewing the by-laws of the relevant municipalities, the Grimshaw Gravels Aquifer Management Advisory Association and the Mighty Peace Watershed Alliance recommend that municipalities update their development permit requirements, making any adjustments necessary to align with the following items.

1. Water Table
 - a. There should be a minimum of 3 metres between the high water table of the Grimshaw Gravel Aquifers and the bottom of the pit at all time as per the Alberta Environment and Parks standard.
2. Investigations
 - a. Applicant must prepare a hydrogeological site investigation conducted by a professional hydrogeologist.
3. Monitoring
 - a. Applicant must develop and comply with a monitoring plan that includes the installation and use of piezometers.
4. Drainage
 - a. Every gravel pit requires a drainage plan that addresses the full life-cycle of the project including construction, operation, reclamation and post-reclamation.
5. Plants
 - a. Asphalt Plants, Cold Mix Sites, Spraying of Gravel Box Liners, and Salt Mixing must occur outside of the pit excavation in area stripped of topsoil, but where a minimum of 2.75 meters (9.02 ft) of overburden or a synthetic liner exists. Independent verification of compaction must be provided. A surface drainage control system that includes a method of containment must be installed for the area of activity.
6. Miscellaneous
 - a. The developer shall provide information on the proposed methods to be used to eliminate potential for groundwater contamination.
7. External Review
 - a. Subdivision and development proposals located within the Grimshaw Gravels aquifer may be referred to the Grimshaw Gravels Aquifer Management Advisory Association for comment and advice at the discretion of the Development Officer.
8. Buffers
 - a. 30 metre (98.42 ft) setbacks are required from river sections that are relatively linear, 60 metre (196.85 ft) setbacks are required from river sections located on the outside of river bends and 20 metre (65.61 ft) setbacks are required from watercourses. These setbacks must be identified in the site plan submitted by the applicant.
9. Restriction Zones
 - a. New operations are restricted in preliminary well capture zones because gravel pit development and operations in well capture zones may contaminate groundwater. New

operations are restricted in Environmentally Sensitive Areas. The Developer may be required to identify groundwater recharge areas as part of their application. The County/Municipality may negotiate conservation easements or require Municipal or Environmental Reserve and/or Environmental Reserve Easements covering groundwater recharge areas. If necessary, these instruments may be implemented to protect tree cover surrounding groundwater recharge areas.

10. Reclamation Plan

- a. Unless otherwise approved by the Director, Registration holders should not use alternative reclamation materials during the reclamation of the pit location. As per the requirements of the Code of Practice for Pits, registration holders should not use any material other than topsoil, subsoil overburden, or reject excavated from the pit for reclamation of that pit. All reclamation materials being used at the pit must originate from the same pit to reduce the risk of any contaminated material being imported into the pit. As per the requirements of the Code of Practice for Pits, registration holders are not to use any topsoil that has been salvaged from the pit for any purpose other than the reclamation of the pit from which it was salvaged. Registration holders are to ensure that subsoil, overburden, or reject excavated from the pit are for reclamation of that pit rather than being exported out of the pit. This will aid in re-creating sufficient buffers and reclamation of the pit, and to aid in preventing impacts on the aquifer. All reclamation material originating within the pit must be properly salvaged as per the Code of Practice for Pits and conserved for future reclamation initiatives within the pit. When developing the activities plans and reclamation plans for the pit, Registration holders should ensure that all surface drainage from adjacent lands is directed around the pit during operations and upon final reclamation. Reclamation and rehabilitation of the pit shall be to the satisfaction of Alberta Environment and in accordance with the Environmental Protection and Enhancement Act and the Conservation and Reclamation Regulation. Proof of compliance with reclamation requirements shall be submitted to the Development Officer.

11. Size of Class II Pit

- a. Any Class II pit application that is for an area larger than 1 hectare must engage in a process to review the requirements so that they are comparable to a Class I pit.

If there are questions please contact Adam Norris with the Mighty Peace Watershed Alliance at mpwa.coordinator@telus.net or 780-552-4354.