



April 25, 2017

Sturgeon County  
9613 – 100 Street  
Morinville, AB T8R 1L9

**Attention: Aaron Hair, RRP, MCIP  
Planning and Development Officer**

**Reference: Calahoo-Villeneuve Sand and Gravel Extraction Area Structure Plan  
Land Use Bylaw  
Westerly Quick Extraction Policy Area  
Amendment Application**

## **1.0 Introduction**

Lafarge Canada Inc. (Lafarge) and Inland Aggregates, a division of Lehigh Hanson Materials Limited, (Inland Aggregates) have retained Aspen Land Group Inc. to prepare an application for a textural amendment of the Calahoo-Villeneuve Sand and Gravel Extraction Area Structure Plan (ASP) as it relates to Section 8.0 Quick Extraction Policy Area (QEA). The textural amendment is required to revise the text associated with:

- the time frames allocated for each extraction zone,
- the requirement to reclaim 75% of the preceding zone prior to opening a subsequent zone,
- boundaries associated with extraction zones 5 and 6, and
- primary and secondary processing permitted within the QEA.

## **2.0 Justification**

Currently the ASP allocates a specific amount of time (four to six years) to mine and reclaim each extraction zone. It also requires that the preceding extraction zone is 75% reclaimed before proceeding into the next extraction zone. These time frames and reclamation requirement were determined when the ASP was originally implemented before any mining or operations had commenced. Now that both Lafarge and Inland Aggregates have had an opportunity to develop and mine their first extraction zones, they have a better understanding of the pit conditions and water regime.

Progress through both initial mining blocks has been steady, both operators work within their extraction zones as soon as, and as long as weather permits. These operations never sit idle except when weather or permitted hours of operation delay progress. However, the time frames allocated to complete mining within each zone are not realistic for the amount of work associated with this type of activity. Lafarge and Inland Aggregates are two of the biggest operators in the Edmonton area and neither of them have mined this area of land in such tight timelines. A significant amount of work is required to prepare and mine each block due to the depth of the deposit (10 m on average) and the volume of water that needs to be managed. Furthermore, delays related to the issuance of the *Code of Practice for Pits* registration almost one year after the development permits were issued and the recent downturn in the economy has impacted the demand of sand and gravel in the Edmonton area. For these reasons it is requested that the time frames are extended to more appropriate durations.

Operationally both operators require more area to efficiently mine and operate their pits. Two mining blocks are active at any given time; while one block is being mined, another is being prepared for mining. This ensures one mining block is always available for mining and maintains steady progression through the pit. Water management is also an onerous task at each pit due to the high volume of groundwater that needs to be dewatered from active blocks. To manage the water, large recharge ponds have been constructed by each operator. To ensure each operator can continue to efficiently mine aggregate while managing water volumes, each operator needs the ability to move into the subsequent extraction zone before the current zone is reclaimed. It is requested that reclamation of the current extraction zone is reclaimed to 40% prior to progressing into the next extraction zone. This preserves area to accommodate the recharge pond, stockpiling and processing area, and dual mining blocks.

Extraction zones 5 and 6 are located adjacent to one another within NE 28 and N ½ 27-54-27-W4M. Given their proximity to one another Lafarge proposes to mine these two extraction zones as one operation. This will allow them to mine the land in a more efficient manner and direct place reclamation material. Extraction zone 5 will remain while extraction zone 6 is removed from the ASP. A drawing that illustrates the combination of the two extraction zones is included as an attachment.

Processing within the QEA Policy Area only allows for crushing and stockpiling activities. Both Lafarge and Inland Aggregates would like the opportunity to temporarily wash material using a portable wash plant. To keep with the intent of the QEA, a permanent wash plant would not be considered within the QEA Policy area.

### **3.0 Textural Amendment**

#### **3.1 Amendment of Section 8.3**

Section 8.3 read as follows:

There are eight quick extraction zones. The westerly Quick Extraction Area will be divided into six quick extraction zones, ranging in area from 80 ac (32 ha) to 220 ac (89 ha). These zones will contain a number of extraction blocks. The two pits as discussed in the previous section comprised of the easterly two quick extraction zones must be completed and reclaimed as outlined in the previous section (Section 8.2). However in order to facilitate completing all the gravel operations in the Westerly Quick Extraction Area as early as possible, there is no requirement that mining and reclamation of the Easterly Quick Extraction Area be completed prior to extraction beginning in the Westerly Quick Extraction Zones.

This section should be amended to read as follows:

There are ~~eight~~ **seven** quick extraction zones. The westerly Quick Extraction Area will be divided into ~~six~~ **five** quick extraction zones, ranging in area from 80 ac (32 ha) to ~~220 ac (89 ha)~~ **289 ac (117 ha)**. These zones will contain a number of extraction blocks. The two pits as discussed in the previous section comprised of the easterly two quick extraction zones must be completed and reclaimed as outlined in the previous section (Section 8.2). However in order to facilitate completing all the gravel operations in the Westerly Quick Extraction Area as early as possible, there is no requirement that mining and reclamation of the Easterly Quick Extraction Area be completed prior to extraction beginning in the Westerly Quick Extraction Zones.

#### **3.2 Amendment of Section 8.4**

Section 8.4 read as follows:

Re-districting to a “Specific-Development Control” (S-DC) Land Use District will take place for each quick extraction zone. The development permit and authorizations from Alberta Environment will be issued for a specific, limited period of time for each quick extraction zone. The length of time will be determined by the size of the zone, but will range from four to six years. The time frames are summarized in Table 8-1.

Each quick extraction zone will be completed within the given time frame set out in the development agreement, and will have a development and reclamation sequence consisting of the following events:

1. construction of on-site deep groundwater recharge pit in contact with the aquifer for diverted groundwater for operations below the water table;
2. creation of perimeter berms to provide visual and noise screening, from topsoil and overburden material excavated during the development of the initial cell, conceptual berm locations are shown on Figure 8-2;
3. progressive extraction of blocks within each quick extraction zone, which will range in size from be approximately 100 m by 100 m to 300 m by 300 m in size;
4. progressive reclamation of each block as the successive block is being mined; and
5. final reclamation consisting of 75% of the entire quick extraction zone being reclaimed and seeded.

Quick extraction zone development in the west Quick Extraction Area will follow a regimented and sequenced process where Sturgeon County and Alberta Environment have the ability to monitor movement of pit operations and activities within and between the zones following specified time frames. The sand and gravel operators will submit written reports and supporting information to Sturgeon County and Alberta Environment, confirming that 75% of the preceding zone has been reclaimed and seeded before opening up a subsequent zone.

Before any pit operations and activities commence in the first quick extraction zone, the sand and gravel operators will jointly prepare an overall Development and Reclamation Plan for all of the zones in the westerly Quick Extraction Area. Each operator will then separately apply for and obtain the following for the specific zones they intend to mine:

- a Development permit from Sturgeon County;
- a registration under the Alberta Code of Practice for Pits from Alberta Environment;
- a Water Act approval from Alberta Environment; and
- *compliance requirements with Alberta Sustainable Resources Development on “Public Lands” that will be affected by the proposed mining operations.*

In support of the Development permit, and the provincial requirements pursuant to the Code of Practice for Pits and the Alberta Water Act, the sand and gravel operators will also outline the conservation and reclamation activities associated with all zones in the Quick Extraction Area, including conceptual reclamation planning.

In order to facilitate a shorter total time frame for the mining of all the extraction zones within the Westerly Quick Extraction area, all authorizations issued by the County and Province will allow each operator to mine two zones simultaneously. However no operator can begin mining in their next zone until 75% of the preceding zone is reclaimed and seeded. The sand and gravel operators will continue to provide the following information while pit operations and activities occur in the quick extraction zones:

- (a) apply for and obtain all further required authorizations for opening up the subsequent zone during the final stages of mining and reclaiming in the preceding zone;
- (b) submit notification with an updated reclamation plan to Sturgeon County and Alberta Environment that 75% of the preceding zone is reclaimed and seeded before opening up a subsequent zone; and
- (c) submit annual reporting on the ongoing Groundwater Monitoring Program and provide any supplements or revisions to conceptual reclamation planning based on pit operations and activities.

**Table 8-1. Quick Extraction Zones**

<b>Zone Number (Sequence)</b>	<b>Time Frame (Years)</b>
<b><i>Easterly Zones</i></b>	
SW 16-54-26 W4M NW 29-54-26 W4M	4
<b><i>Westerly Zones</i></b>	
<b><i>Stage 1 – SW of CNR</i></b>	
1 (Campsite Road Closure)	4 (4)
2	4
3	4
4	5
<b><i>Stage 2 – NE of CNR</i></b>	
5	3
6	5

Section 8.4 should be amended to read as follows:

Re-districting to a “Specific-Development Control” (S-DC) Land Use District will take place for each quick extraction zone. The development permit and authorizations from Alberta Environment will be issued for a specific, limited period of time for each quick extraction zone. The length of time will be determined by the size of the zone, but will range from ~~four to six~~ **six to 15** years. The time frames are summarized in Table 8-1.

Each quick extraction zone will be completed within the given time frame set out in the development agreement, and will have a development and reclamation sequence consisting of the following events:

1. construction of on-site deep groundwater recharge pit in contact with the aquifer for diverted groundwater for operations below the water table;
2. creation of perimeter berms to provide visual and noise screening, from topsoil and overburden material excavated during the development of the initial cell, conceptual berm locations are shown on Figure 8-2;
3. progressive extraction of blocks within each quick extraction zone, which will range in size from approximately 100 m by 100 m to 300 m by 300 m in size;
4. progressive reclamation of each block as the successive block is being mined; and
5. final reclamation consisting of ~~75%~~ 40% of the entire quick extraction zone being reclaimed and seeded.

Quick extraction zone development in the west Quick Extraction Area will follow a regimented and sequenced process where Sturgeon County and Alberta Environment have the ability to monitor movement of pit operations and activities within and between the zones following specified time frames. The sand and gravel operators will submit written reports and supporting information to Sturgeon County and Alberta Environment, confirming that ~~75%~~ 40% of the preceding zone has been reclaimed and seeded before opening up a subsequent zone.

Before any pit operations and activities commence in the first quick extraction zone, the sand and gravel operators will jointly prepare an overall Development and Reclamation Plan for all of the zones in the westerly Quick Extraction Area. Each operator will then separately apply for and obtain the following for the specific zones they intend to mine:

- a Development permit from Sturgeon County;
- a registration under the Alberta Code of Practice for Pits from Alberta Environment;
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In order to facilitate a shorter total time frame for the mining of all the extraction zones within the Westerly Quick Extraction area, all authorizations issued by the County and Province will allow each operator to mine two zones simultaneously. However no operator can begin mining in their next zone until ~~75%~~ **40%** of the preceding zone is reclaimed ~~and seeded~~. The sand and gravel operators will continue to provide the following information while pit operations and activities occur in the quick extraction zones:

- (a) apply for and obtain all further required authorizations for opening up the subsequent zone during the final stages of mining and reclaiming in the preceding zone;
- (b) submit notification with an updated reclamation plan to Sturgeon County and Alberta Environment that ~~75%~~ **40%** of the preceding zone is reclaimed ~~and seeded~~ before opening up a subsequent zone; and
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SW 16-54-26 W4M NW 29-54-26 W4M	4
<b><i>Westerly Zones</i></b>	
<b><i>Stage 1 – SW of CNR</i></b>	
1 (Campsite Road Closure)	<del>4</del> <b>9</b> (4)
2	<del>4</del> <b>8</b>
3	<del>4</del> <b>8</b>
4	<del>5</del> <b>6</b>
<b><i>Stage 2 – NE of CNR</i></b>	
5	<del>3</del> <b>15</b>
6	<del>5</del>

**3.3 Amendment of Section 8.6**

Section 8.6 read as follows:

Sand and gravel and associated materials will be moved by truck to one of two centrally located processing (crushing) and stockpile areas or removed from the Quick Extraction Area. These processing and stockpile areas will be developed and reclaimed sequentially, such that there is only one operating at

any time. One such site will be located to the south and one to the north of the CN Sangudo line. The south site will be developed and reclaimed first. Other than the crushing and stockpiling activities, no other secondary processing will be permitted in the Quick Extraction Area.

Section 8.6 should be amended to read as follows:

Sand and gravel and associated materials will be moved by truck to one of two centrally located processing (crushing) and stockpile areas or removed from the Quick Extraction Area. These processing and stockpile areas will be developed and reclaimed sequentially, such that there is only one operating at any time. **Each operator will have one** ~~One such site will be located to the south and one to the north of the CN Sangudo line. The south site will be developed and reclaimed first. Other than the crushing and stockpiling activities, no other secondary processing will be permitted in the Quick Extraction Area.~~ **Other than crushing, stockpiling and temporary washing with a portable crusher, no other secondary processing will be permitted in the Quick Extraction Area.**

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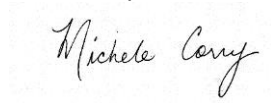
The following information has been attached in support of the amendment applications:

- Application for an Amendment to an Area Structure Plan – Lafarge
- Application for an Amendment to an Area Structure Plan – Inland Aggregates
- Certificates of Title
- Drawing of Area to be Amended

If you require any further information or have any questions please contact the undersigned at (780) 809-8191.

Sincerely,

Yours truly,



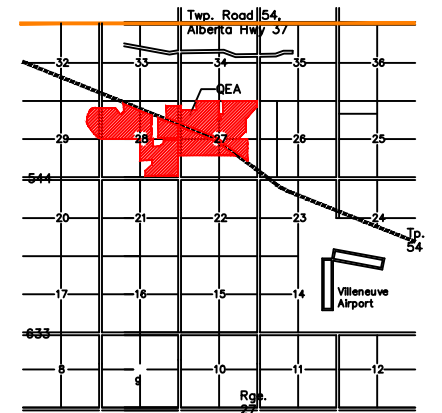
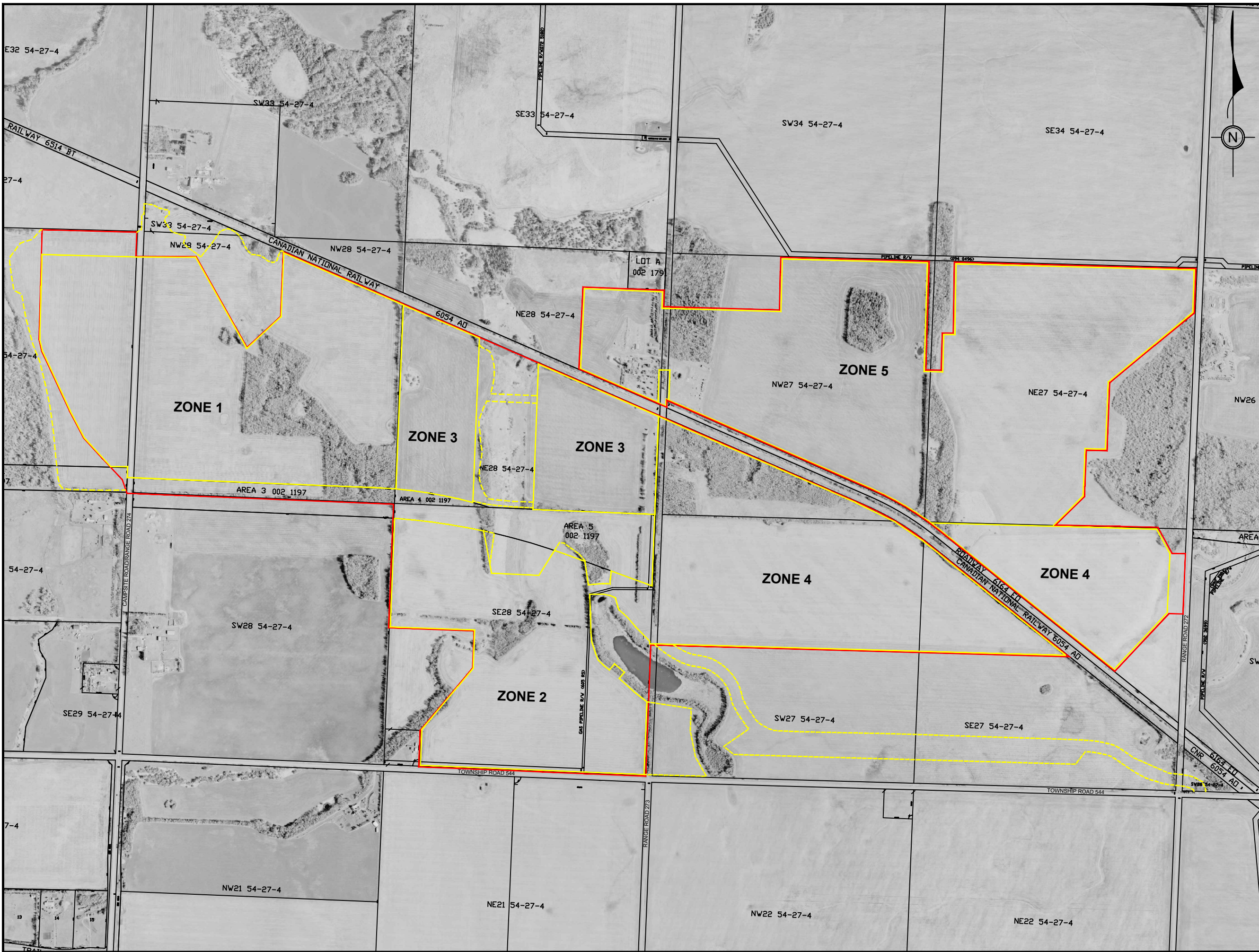
Michele Corry, P.Ag.  
Aspen Land Group Inc.

cc. Dale Soetaert, Inland Aggregates  
Caroline Jing, Lafarge Canada Inc.



## **Attachments**





**LEGEND**

- PROPERTY LINE
- QEA BOUNDARY
- PIT BOUNDARY
- ADDITIONAL PIT AREAS

Prepared By

Client

A division of Lehigh Hanson Materials Limited

Client

LAFARGE CANADA INC. 8635 Stadium Road, Edmonton, Alberta, T5H 3X1

Project **QEA EXTRACTION**

Title **ASP TEXTURAL AMENDMENT**

Checked By: M. CORRY & L. FOY	Scale: 1:11000
Designed By: M. CORRY	Drawing No.
Drawn By: T. FOY/J. GILSON	1 - 1
Air Photo: 2012	
DATE: APRIL 25, 2017	