Glacier Stone Industries Ltd.

Management Plan Proposed Concrete Plant On Crown Land Lease

Adjacent to Horsey Creek East Aggregate Pit, Mine #1641322, License of Occupation Tenure # 706956



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Prepared by: David A. Salayka, RPF, Agent Specialized Forest Management Inc.

1.0 Background

1.1 Project Overview

Croydon Enterprises has been operating a concrete plant in their present location on private land, south and east of Horsey Creek since 2008. Since acquiring a new pit on crown land (Horsey Creek East – License of Occupation # 706956, Mine # 1641322 in 2016, which provides a secure source of aggregate for the next 50+ years, Glacier Stone Industries Ltd. (BC Registered Limited Company, (with Myron Baer as a shareholder and also owner of Croydon Enterprises – the permit holder for the gravel pit and the concrete plant)) has been searching for a parcel of crown land in the vicinity for many years, as a new location for the concrete plant. The objective is to acquire a piece of land close to the aggregate source that would accommodate the proposed industrial use and be suitable for the operation as proposed.

The new plant area involves a small scale concrete plant supplying concrete and concrete products including lock blocks to the communities in the Robson Valley. Aggregate (pit run & crushed & screened materials) is available from the adjacent aggregate pit. In the past 4 years, 7,780 m3 of aggregate has been used annually, with a peak of 13,500 m3 in the busiest year. A total of 34,000+ m3 of aggregate has been removed between 2018 and 2024. In terms of scale, this is a fairly small operation.

The existing concrete plant and infrastructure, though operated successfully to date has limitations in that it is operating on leased private land within the ALR. There are risks and limited incentive to construct more permanent infrastructure that is required for a more secure, reliable, and streamlined operation including for example, a shop, service, and office building. The acquisition of this piece of land (long term lease) will enable GSI to construct the necessary more permanent infrastructure for smooth operations, provide security for long term use, planning, and development, and improve efficiencies.

1.2 Investigative Work

Archaeological Investigations: To our knowledge, no archaeological work has been specifically done on this parcel of crown land prior to July 2024. SFM had been in discussions with Simpcw First Nation since June 5, 2024 requesting that an archaeological PFR be conducted on the 2024 application area as proposed (includes both an area for the concrete plant, as well as an expansion of the aggregate pit license area). The PFR was scheduled and conducted on July 2, 2024. SFM received the report from Simpcw First Nation on August 21, 2024.and section 4.1.8 of this management plan provides the findings and recommendations made in the report and addresses and incorporates the recommendations to the greatest extent possible. From the PFR there were no archaeological or cultural values found, possibly due to the extent of modern day disturbance including construction of the FSR, the presence of mixed and moderately sloped terrain, and possibly trapping in the vicinity (including a private land parcel with an old trappers cabin). The PFR determined that the area has low archaeological potential, and that no further field work is required. See section 4.1.8 for additional details.

Norcan Consulting Ltd conducted work to the SW on the new access road to the adjacent aggregate pit which has been operational since 2016. The findings of that study indicated there were no archaeological or cultural values found, and the modern day disturbances – logging and gravel extraction were considerable and that the cultural, heritage, and archaeological resource values were likely low as a result.

A preliminary field reconnaissance (PFR) in late 2023 was also conducted by Simpcw First Nation on a previous area in the vicinity sought for a concrete plant to the SE. GSI had requested the report, but it was not received.

However, in a personal communication (agent) with one of the Simpcw representatives, it was indicated that there were no archaeological findings to report.

As per the findings of the July 2, 2024 PFR, no further archaeological investigations are required, as no cultural or archaeological values were found, likely due to the extent of modern day disturbance in this area. Since the FSR was constructed (late 1950's) on fairly level terrain so close to the high water mark (HWM) of Horsey Creek, it is likely that had there been any evidence of use by First Nations People (along the east side of Horsey Creek), the road construction would have obliterated it.

<u>Other investigations</u>: Field reconnaissance in April & December of 2024 was conducted by SFM Inc. and Myron Baer. The objectives of the assessments were to look at terrain suitability, access points, potential for road connectivity to the existing adjacent gravel pit, sources of water, and potential location of infrastructure and water supply and storage for a gravity feed system. Two possible areas for the concrete plant location (within the larger existing license of occupation amendment area) were assessed. Terrain and terrain features were assessed for suitability for the plant and associated infrastructure, as well as blending the operation into the existing terrain and timber with consideration of wildfire risk. Distance measurements between the east side of the FSR and the HWM of Horsey Creek were also made.

First Nations Consultations:

As noted in Section 1.2 above, SFM has been in contact with Simpcw First Nation and a PFR was conducted on July 2, 2024. The Simpcw First Nations has knowledge of travel routes along Horsey Creek, and potential concerns for this area. Other than the PFR request to the Simpcw First Nation, there has been no other investigative work with First Nations, nor have there been any advance referrals or consultation with First Nations for this piece of crown land, for the following reasons:

In 2015 when the aggregate pit was being acquired (old License of Occupation # 706527), advance referrals were sent out to 4 first nations that were considered to have an interest in the area. Only 1 reply was received at that time – and the reply indicated that they would not respond until the formal referral process – referred by the BC government – was underway. It is apparent that with the volume of referrals and the busy pace of everyday life, that the First Nations would prefer to address the area once at the referral stage and not spend additional time on advance requests.

1.3 Consultation with Neighbours

The closest neighbour (distance to the nearest residence) is approximately 1000 m from the	SW part of the land
	– close to Highway
16. The has no concerns about the proposed location of the concrete plant.	, the
neighbour to the SE of the aggregate pit was also consulted with – and his knowledge of the area was gleaned	
specifically regarding old logging trails, and terrain characteristics in the area. As with the previously proposed	
area, he has no concerns about the location or activities proposed on this piece of crown land	d.
The private property directly west of the proposed concrete plant is owned by	
Presently there are no habitable dwellings on the property. An old trapper's cabin from man	y decades ago is

located on the property between the FSR and the east property boundary. However, it is in very poor condition

with a collapsed roof and is beyond repair. The proponent (Mryon Baer) consulted with the landowner on Jan. 1, 2025. He has no concerns about the proposed concrete plan location adjacent to his property.

It is unlikely that any other local landowners would have any concerns with a concrete plant in this location. It is out of view of any local residents, and only glimpse views from the Horsey Creek FSR, might be available. Horsey Creek FSR does not see a lot of traffic generally, other than for industrial use (logging), and some limited sled use in the winter. There is also a grazing tenure up Horsey Creek and there is no anticipated impact on that tenure.

The concrete plant area will not be visible from any residence, and the small scale nature of the operation will have a negligible impact in terms of air quality, noise, dust, or visual quality. Most of the infrastructure will not be visible from the FSR due to the distance (>100m average), the timber cover, and the benched nature of the terrain. The 100m wide strip of private property east of the FSR to the west boundary of the proposed concrete plant area is covered in mature mostly deciduous timber (cottonwood, birch and aspen) with minor components of spruce, fir, and balsam) with a substantial understory shrub layer so there is good vegetative cover between the FSR and the proposed plant area.

2.0 Location

2.1 Description

The 2.67 ha parcel of un-surveyed crown land is a located immediately downslope to the west of the GSI aggregate pit, and east of a surveyed private lot (See Location and Site Plan Maps). The area is bounded on the west by the private land. To the south is provincial gravel reserve land. Immediately east is the existing aggregate pit land owned by Croydon Enterprises – Glacier Stone Industries Ltd. To the north is additional unsurveyed crown land, lying within the provincial forest, and this area has been applied for (in conjunction with this application) as an addition to the existing license of occupation for the aggregate pit.

See the attached Site Plan Maps (2), and a 1:10,000 scale Location map for the proposed plant area. Also see Figure 1 on the following page which shows the proposed plant location.

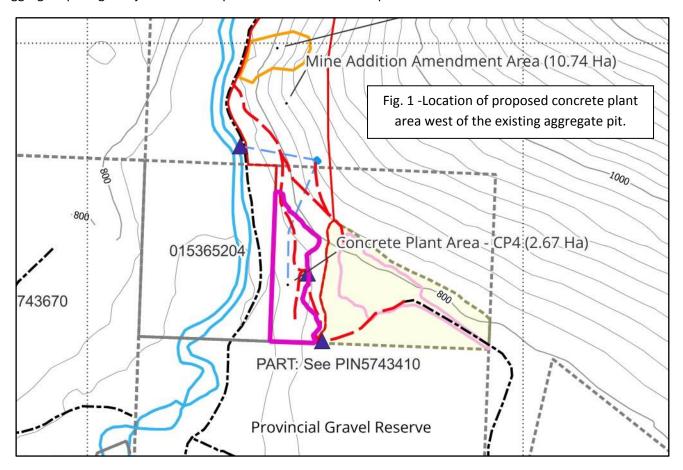
Access to the plant site will be via the pit access road from above. Connectivity to the FSR will also be made with a continuation of the pit access to the north (with approval of the amendment to the existing license) to provide access to the north part of the proposed area. The Horsey Creek FSR is currently covered by an existing industrial road permit (Carrier Lumber).

Road access to the site will be seasonal - about April 15 to November 30 of each year by trucks hauling aggregate from the pit, directly to the plant site for stockpiling aggregate, and with concrete trucks going loaded out to Highway 16 to destinations in the Robson Valley, and returning empty via the same route. The concrete plant will be closer to the aggregate source, and will eliminate the need to cross the highway with gravel trucks. The concrete plan will also remain central in the valley for distribution to the communities of McBride, Dunster, Tete Jaune Cache, Valemount, and beyond.

This area presently has limited use for any other purpose. It is benched and sloped with varied terrain and is covered by open merchantable & immature timber and a brush understory. The FSR is used lightly by the public, and there has been some active logging up Horsey Creek in the past, and more recently, Carrier Lumber

logged an active cutting permit further up the drainage near 10 km. Additional blocks are planned for the valley.

Regarding the aggregate pit upslope to the east, (and access to it) the only traffic off of Horsey Creek Road (at Colt Road) on to the pit road (#706992) is for personnel involved in the aggregate pit. This includes pickup trucks and gravel trucks with equipment operators and truck drivers to load and haul, and those involved in production of the aggregate which may include excavation, crushing, screening, stockpiling activities, etc. The aggregate pit is gated just inside the pit area. See attached maps which show access roads and other features.



2.2 Location Justification

As noted above, the rationale for utilizing this piece of crown land for the proposed use (concrete plant) is as follows. The location is close to the aggregate source – adjacent to the aggregate pit – which will reduce hauling times of aggregate for concrete production (fuel savings & reduced environmental impact). It will also increase highway safety with the elimination of loads being hauled from the pit across the highway to the present concrete plant location. Further, the location as noted is a piece of un-surveyed crown land within the provincial forest with limited suitable uses or other values of any significance.

Ownership or long term lease of this parcel with business security will enable increased infrastructure development and incentive for the addition of much needed concrete plant infrastructure including a shop,

service area, and office. Having a secure aggregate & concrete supply for the next 50 years+ is important as GSI and Croydon Enterprises are committed to long term concrete production. The planning horizon is decades into the future, and having this location for the concrete operation will allow for significant enhancement of the plant operations. Additionally, other parcels in the vicinity (crown and private) have been investigated (two parcels were rejected during the application process) and are not available for various reasons.

Available industrial land in both McBride & Valemount, BC was explored as potential options as well, but deemed to be too distant for efficient and consolidated operations. From environmental, safety, and economic perspectives, it is imperative to have the concrete plant located close to the aggregate source.



2.3 Season of Use, Environmental Controls, OHS

Concrete and aggregate supply operations are seasonal. The season typically runs from April 15 – November 30 of each year, 6 days per week – Monday to Saturday. Operations are confined to daylight hours and all operations are conducted to meet the requirements of the Notice of Work for the Mine Permit. This includes controls for meeting noise requirements, minimizing dust production, operating only during daylight hours, and maintaining OEM noise reduction controls on all equipment. Environmental considerations, and Health and Safety are also of the highest importance and all provincial regulatory requirements are met or exceeded with GSI operations.

3.0 Infrastructure and Improvements

3.1 Facilities & Infrastructure

As per the existing concrete plant located south of Highway 16 on private property, similar infrastructure and facilities will be required, with the addition of a shop-service and office structure, settling pond and water recovery for the wash plant, expanded aggregate storage, plus improvements to the batch plant with ancillary structures and facilities. The following facilities and infrastructure are planned for the new area.

- Concrete batch plant which includes powder silo and concrete truck ramp + ancillary support buildings.
- Wash plant for washing aggregate.
- Lined settling pond + water recovery for the wash plant (502 m2), (18.3 x 27.4 m).
- Generator building (40 KW diesel, 3 phase power)— provides power to the site (installed as part of the batch plant ancillary structures).
- Storage structures –to house tools and various equipment (part of batch plant & wash plant).
- Concrete truck lined wash pit (lined evaporation pit) of 232 m2 size (7.6 x 30.5 m).
- Areas for casting lock blocks, + areas for lock block storage, plus aggregate storage areas (aggregate bins utilizing lock block containment).
- Shop-Service/storage/office facility (truck storage and repair area, office section for administration)
- Parking area for trucks & trailers & equipment.
- Water Supply.
- A chain link fence will be constructed around the main concrete plant area for security & protection of wildlife (from water reclaim ponds). Final location of the fence will be determined once the project site is developed, but will include the batch plant area, wash plant area and reclaim pond, shop-office, block casting area, and stockpiles, as a minimum. See wildlife section 4.6 Wildlife Impact Mitigation for fence safety details.

All of the infrastructure and facilities proposed for the area are detailed on the large scale site plan map (1:1500 scale), within the proposed development area. This area is also overlaid on 2022 Google Earth Imagery at 1:1500 scale). Regarding construction schedule, the batch plant and wash plant transition (from the old plant site), would occur during the spring or early summer, and the new shop/office building could be constructed at some point forward, after relocating the batch plant, wash plant, generator building, and other components from the old concrete plant location. This transition would occur rapidly to minimize downtime of the plant through the operating season.

3.2 Access

As noted previously, access to the proposed plant site is via the existing aggregate pit (off Highway 16, north on Colt Road for 400 m, then 900 m on the private access road (#706992) to the existing aggregate pit which is gated). From the pit, the new pit access road descends to the proposed plant area from south to north. There will also be access from the proposed plant area to the north and will intersect the Horsey Creek FSR at approximately 1.8 km.

All road access to the aggregate pit is presently in place, and the section of road north of Horsey Creek Road is covered by a license of occupation – Croydon Enterprises (License # 706992). The road was constructed in 2016 by Croydon Enterprises and is operated and maintained by the company. Use of this road is by Croydon Enterprises – however, once it intersects the old access road to the cut block above this area – it joins with it several hundred meters north or so, then the road becomes potentially shared for any public or forestry traffic that may be using the road. The old road access was under permit with Carrier Lumber Ltd. (Road use permit # R15248, MT590-1.01). -This road begins in the provincial gravel reserve near old stockpiles of reject crush). The road then forks near the base of the slope, and turning NW will access the gravel pit, while turning SE will access the cut block on the slopes above.

The pit access road (from the aggregate pit to the proposed plant site) has been flagged in the field, and construction would be done concurrently with plant area clearing, grubbing, and final grading & landscaping for the proposed concrete plant area. The photo on the first page of this document shows terrain within the proposed concrete area. View is in an easterly direction looking upslope towards the existing aggregate pit.



The photo above shows the terrain east of the Horsey Creek FSR which is privately owned. The proposed plant area is 80-100m upslope from the FSR on benched terrain.

3.3 Utility Requirements and Sources

Presently there are no utilities on the proposed parcel, and no grid tied utilities are planned for the short term. Power for the concrete plant would be provided by a 40 KW diesel generator which produces 3-phase power for the electric motors, etc. as part of the batch and washing plants.

No telecommunications are required. Wireless cell phone coverage exists in the vicinity and will suffice for the operation.

3.4 Water Supply

3.4.1 Water Supply & Storage

Water will be pumped from Horsey Creek (Fish safe - screened intake) periodically from Horsey Creek to feed a lined containment pond located above the plant area. Locations of the pump station (PID) at Horsey Creek, the water lines, and the location of the lined storage pond are shown on the attached Site Plan Maps. Pumping will be required initially for filling the storage pond, then will occur periodically through the operating season as required to keep the pond at the prescribed level. The pond will hold approximately 750-1000 m3.

3.4.2 Wash Plant, shop & office, & Equipment Cleaning Requirements

Water to supply the batch plant and wash plant will then be gravity fed to provide the modest requirements of the wash plant and cleaning concrete from the truck mixer, chutes, etc. Based on a 255 day plant operations season, concrete plant daily usage is estimated at 360 gal. per loaded truck per day (daily range will be 0 to 15 trucks).

Wash plant consumption is 2,450 gal. per day (predominantly recycled). The wash plant operation includes a lined settling pond/water recirculating system to significantly reduce overall water consumption. This system has been used at the existing plant site for many years. Consumptive use numbers are considerably lower as a result, as the vast majority of wash plant water is reclaimed, and re-used, constantly being returned to the lined settling pond.

Based on 255 day operations for the shop and office, potable water usage is estimated at 250 gal. per day.

A proposed pump site location (and storage pond) is noted on the large scale Site Plan Maps. A high pressure gas powered pump will be used (with secondary fuel and oil containment) to top up the storage pond on a periodic basis throughout the operating season. The pump could be replaced with an electric pump at a later date.

Development would require a water license application and construction of a storage pond above the plant site. A 2 inch HDPE line will be required from Horsey Creek to the lined storage pond. The water from this storage pond will be gravity fed to the plant site for the concrete mixing, the wash plant, and shop-office use. As noted, the smaller volume for concrete mixing supply (and shop-office) is consumptive, whereas all wash plant water will be returned to the settling/reclaim pond, and be re-used indefinitely.

A water line to the shop and office structure will also be installed as part of the gravity feed system from the storage pond.

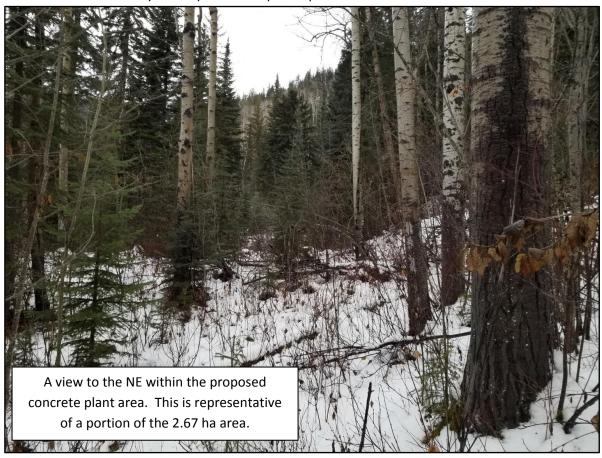
3.5 Waste Collection, Treatment and Disposal

As part of the operation and within the shop/office building, toilet facilities will be included, that will require disposal of wash water and toilet waste. It is intended that a septic system would be installed to address this waste. A health and sewage permit would be required and all requirements would be followed for installation of a septic system to handle the low volume of waste produced from seasonal use of this small scale plant. The building requirements would consist of two toilets, one shower, and three wash sinks (one for each of the toilets and one for general purpose hand washing in the shop area).

No other waste disposal is required. All plant generated waste will be removed from the site and disposed of or recycled at approved facilities in McBride BC. Waste that could attract wildlife will not be retained on site.

3.6 Fire Smart – Wildfire Risk Reduction -

Due to increasing risk of wildfires in BC as a result of climate change and other factors, the plant site would be constructed to minimize the risk of damage caused by wildfires in the vicinity. As portions of the area are covered with a mix of timber types and age classes, and some patches of coniferous timber, the following Wildfire Risk Reduction measures would be taken – particularly on the west, north and east portions of the area beyond the actual area initially developed for the plant operations.



Firstly, adequate setback of infrastructure from timber will be incorporated. All fire smart guidelines will be followed where practical and include choice of building construction materials and proximity of trees and other flammable materials to structures. Additional measures including removal of ladder fuels and a clean work site free of flammable debris will be incorporated.

Where possible, infrastructure will be located a minimum of 1-2 tree lengths from standing merchantable timber. In areas of mixed coniferous & deciduous timber, crown spacing (Layers 1 and 2) will be assessed and spaced (thin from below) to approximately 5-6 m. The crown base will be lifted by pruning of coniferous stems to 3 m+. Layer 3 spruce will be reduced and or removed, and retained stems will be pruned to a minimum 3 m height. This will also reduce ladder fuels. Coarse Wood Debris (Fine, Medium and Large fuels) will be removed to reduce the amount of continuous fuel on the ground which could feed a ground fire.

In areas of coniferous timber, similar methodology will be employed – increase crown spacing of Layers 1 and 2, with a thin from below, reduce ladder fuels by lifting the canopy base with pruning. Removal of Layer 3 spruce will assist as well, and CWD fuel levels (fine to large) will be reduced to break up fuel continuity and the probability of fast moving ground fires. The treatment in some portions may require removal of dominant L1 stems to increase crown spacing, so merchantable timber would be harvested to accommodate the prescribed crown spacing. The majority of the site is covered by mixed timber (deciduous leading) however, and the areas of predominantly coniferous timber consist of younger age classes and WRR measures can be easily implemented without removal of merchantable timber. Overall, wildfire threats from adjacent stands are limited by the prevalence of cottonwood and other deciduous species to the west and south. There will be very little timber to the east between the existing aggregate pit and the proposed plant site – and on these slopes, the timber is mixed (mostly deciduous) of a younger age class, and is fairly open. To the north, timber is predominantly deciduous immediately north and does not change to a predominantly Douglas Fir type until beyond the rock outcrop at approximately 1.9 km along the FSR.

The plant site area is covered by mixed timber including cottonwood, birch, aspen, spruce, & Douglas fir. To facilitate installation of the infrastructure and facilities, much of the timber will have to be removed in a 1+ ha area for the batch and wash plant, and related infrastructure. See the site plan maps as part of this application.

Additionally, some timber will have to be removed to allow construction of the pit access road upslope to the east. Clearing will be limited to conventional right of way construction limits as dictated by slope, and cut and fill requirements including ditching.

Concrete plant construction includes clearing, grubbing, and grading of the area required for aggregate stockpiles, the batch plant, wash plant, lined settling ponds, shop & office buildings, and road access as per the attached site plan. Within the proposed concrete plant area, any vegetation that does not require removal will be retained to accomplish other objectives including (but not limited to) retention of biodiversity, and meeting recommendations made in the PFR by Simpcw First Nation. Objectives are to minimize the footprint of this concrete plant area as much as possible to limit vegetation removal, maintain biodiversity, reduce cumulative impacts, and protect wildlife while the plant is operating seasonally, as well as during inactive periods Nov. 15 – April 15. A chain link fence for security and wildlife protection is proposed with the intention to protect wildlife from the wash plant water reclaim pond and truck chute washout ponds. Fence opening and closing procedures

will ensure that the site has been fully inspected to ensure that no wildlife become trapped by the fence at any time.

Additionally, the primary objective regarding erosion and sediment control is to ensure that no sediment leaves the concrete plant area. An erosion and sediment control plan (ESCP) will be in place to ensure construction and plant area operation strategies are implemented to meet this objective.

4.0 Environmental

4.1 Land Impacts

4.1.1 Vegetation Removal

Timber removal will be required as discussed in Section 3.6 above. As noted, the area is covered with a mix of coniferous and deciduous timber with a shrub understory of primarily, red osier dogwood, alder, willow, twinberry, maple and rose. Estimated merchantable volume on the area ranges from 200-325 m3 per ha, much of this deciduous (Black Cottonwood, Birch, Aspen). Heights range to 35+m for the dominant overstory trees (Layer 1). Timber will be removed to allow for clearing and grubbing for construction and installation of infrastructure and facilities, as well as access roads and paths for heavy equipment. However, contiguous patches of trees will also be retained beyond the distance to infrastructure limit – 1-2 tree lengths. No unnecessary timber removal will occur – steeper slopes will have live trees and shrubs retained, and as discussed in Section 3.6, WRR measures will implemented to reduce the risk of fire reaching the plant infrastructure and also to facilitate effective wildfire control measures as may be required in the event of a fire. Timber removal on the site will be limited to infrastructure and access development and WRR measures – otherwise, merchantable timber will be retained on site.

All layers of vegetation will have to be removed where complete clearing and grubbing is required for stockpiles, batch plant, wash plant, lined pits, travelled road ways, and high traffic areas (between stockpiles and batch plant, stockpiles and wash plant, block casting area, and for concrete and gravel truck pathways.

A License to cut will be obtained from FLNRO to facilitate the removal of merchantable timber.

4.1.2 Soil Disturbance

Soil disturbance will be required after vegetation is removed. The proposed plant area is on slopes ranging from 0-40% for the most part. Substantial portions of the area are level, while the steeper slopes to the east rise up to the bench where the active aggregate pit is located. The pit access road will begin in the north half of the plant area and traverse the slope between benches, as it climbs up to the south.

Grading & levelling, will be required for placement of the batch and wash plant, and generator building and other structures. Shallow excavations will be required for the lined concrete truck wash pit, the

wash plant recycle-reclaim pond, and the upper elevation storage pond (located above the plant site, but in the companion application area to the NE). The storage pond will provide the gravity feed water supply for all water needs at the plant site.

A concrete foundation slab will be poured for the shop/office structure. Where aggregate stockpiles are required, the working surface with lock block back and side wall containment needs to be smooth and clean. All of this infrastructure installation will require soil disturbance.

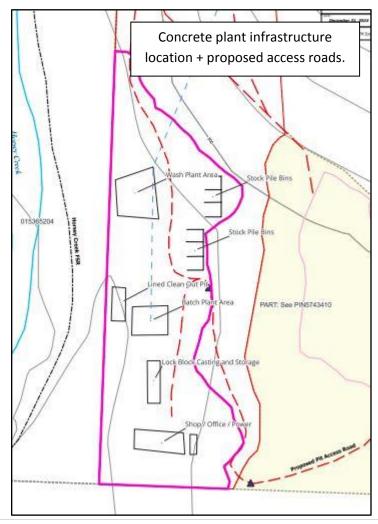
Travelled roadways and high traffic areas will require levelling and grading. The area is underlain by unsorted glacial till as well as fluvial and glaciofluvial materials moved by the Horsey Creek glacier and subsequent ice melting and down-cutting of the river. This location is close to where the Horsey Creek glacier would have met the main trunk glacier in the Fraser River valley (Rocky Mountain Trench). Some crushed gravel may be required to surface portions of the plant site including travelled roadways dependent on the ultimate nature of underlying materials uncovered by grading and leveling. If required, the crushed gravel will be supplied from the aggregate pit above.

Any surface soils and organic matter that exist will need to be stripped off the areas where these structures and facilities are to be installed. Upper soil horizons will be conserved as much as possible.

These upper mineral and organic soil layers will be stripped, and stockpiled to be saved for future reclaiming purposes.

Construction methods and Materials

The batch plant (powder silo, weigh hopper, conveyors), wash plant, diesel power plant and various other storage units are conventional and typical of a small concrete operation. Construction planned for the shop/office structure may be typical wood frame, steel building, or ICF (Insulated Concrete Form) construction depending on building costs and requirements at time of building. The building will be installed on a concrete slab on grade. See the large scale detailed site plan maps for all building, facility, and infrastructure locations. The image below also shows a portion of the site plan map with infrastructure locations.



4.2 Riparian Encroachment

Horsey Creek is a Class A stream. The Horsey Creek drainage is 201 square kilometers in size. The stream supports Chinook salmon in low numbers in the lower reach (1.9 km above the confluence with the Fraser River). Above 1.9 km, the stream gradient increases from moderate to steep). The stream is considered to have moderate salmon spawning and rearing potential in the lower reach. It also supports populations of Rainbow trout, Bull trout (Dolly Varden), Mountain Whitefish, and potentially Cutthroat trout, and Slimy Sculpin.

There are no tributary streams or riparian areas within this parcel of crown land. The Horsey Creek FSR was constructed to 9 km in the 1950's. In the late 1960's it had been pushed further up the drainage. It parallels Horsey Creek, and was constructed very close to the high water mark (HWM) of Horsey Creek in several locations. The proposed plant area is located on average over 80-100 m from the east side of the FSR. It is an additional 22-23 +m to the HWM of Horsey Creek. The FSR averages 9 m in width (which includes ditches and running surface). The road width ranges from 7-10 m generally, but there are widenings (pull outs and a cattle guard bypass near 1.9 km) that are much wider than average.

Numerous measurements were made from the east side of the FSR to the HWM of Horsey Creek. The average was 22-23 m, with a range of 7-56m.

With the distance from Horsey Creek, and the nature of the benched terrain where the plant will be located, there should be no impact whatsoever in terms of erosion or sediment introduction in to Horsey Creek. As part of the construction management plan, objectives will be to avoid any erosion and sediment movement off the proposed plant location area. An ESCP will be in place and all construction and plant operation strategies will be formulated to ensure that sediment does not leave the site.

4.2.1 Pesticides and Herbicides

No pesticides or herbicides will be used as part of this operation. They are not required.

4.2.2 Invasive Species

No invasive species have been noted on the subject parcel to date after several walkthroughs. However, upon granting of the lease, an additional thorough walkthrough of the area will be conducted prior to development, to assess the presence of invasive species. Several invasive species are known to occur in the vicinity, including *Cirsium arvense*, *Cirsium vulgare*, and *Hieracium aurantiacum*. *Cirsium arvense* does occur along the Horsey Creek FSR right of way. It was noted along the right of way during the site assessments and was also noted in the PFR summary of species (in the aggregate pit expansion area). Any invasive species that are identified on site will be treated with BC best management practices for control or eradication (Invasive Species Council of BC). Post Disturbance - Disturbed areas will be monitored annually (spring and fall) with walkthroughs to ensure invasive species are not establishing on the site. If detected, they will be marked and treated quickly, and with this protocol, any invasive species occurring should be controlled or eradicated. As noted in other sections of this plan, efforts will

be made to avoid disturbance of areas where possible and retain native vegetation where appropriate, as much as possible considering the nature of this operation.

4.2.3 Visual Impacts

This parcel of land is on benched and sloped terrain in the Horsey Creek valley with slopes ranging from level to moderately steep. The site is not visible from Highway 16, or from any residence in the vicinity. The development area will not be overly visible from the Horsey Creek FSR, with only some glimpse views of parts of the plant area. As there is an average of 80-100m of native vegetation east of the FSR, the visual impact will be negligible especially during the growing season.

This proposed development will only be visible from aerial viewpoints, and due to the small size of the proposed plant area, the plan to minimize the footprint as much as possible and also to retain as much of the vegetation as possible. The scale of industrial disturbance surrounding this site on both sides of Horsey Creek is also a consideration, and relatively, this development will have a very small visual impact on the landscape in this area, though it will add slightly to the cumulative effects of disturbance.,

4.2.4 Archaeological Sites - Field Assessments Pre - 2024 + Chance Find Procedures

As noted in Section 1.2 of this management plan, no archaeological work had been specifically done on this parcel of crown land prior to 2024. The access road to the aggregate pit to the east did have an archaeological assessment completed in 2016 by Norcan Consulting Ltd of Prince George, BC to satisfy the requirements of the aggregate pit application. At that time, they concluded this:

"Management Recommendations: The surveyed area has been reclassified as having low archaeological potential due to high amounts of modern-day disturbance. No further archaeological investigations are recommended for the gravel pit access road."

Simpcw First Nation conducted a PFR on the previous application area – (4.9 ha immediately west of DL 12772 CLD, and immediately east of the pit access road). A report has not been received from the Simpcw, however in a personal communication in December 2023, there were no archaeological findings.

Simpow First Nation was contacted in June of 2024 to conduct a PFR on this new parcel (both the proposed plant area, as well as the companion expansion area (aggregate pit) to the north – as part of an amendment to the existing aggregate pit license of occupation), and subsequently a field assessment was completed on July 2, 2024.

Simpcw First Nation provided GSI with a report that indicated no cultural or archaeological findings. However, a number of recommendations were made which are outlined in the following section. Additionally, GSI has an archaeological Chance Find Procedure in place for all construction and aggregate mining operations. Workers will stop work immediately, & implement the Chance find Procedure if a chance find occurs.

4.2.5 Archaeological – Preliminary Field Reconnaissance by Simpcw First Nation – Findings and Recommendations – August 21, 2024

The report classified the area as having Low archaeological potential. There were no archaeological findings as a result of the field assessment on July 2, 2024. The report also indicated that no further field investigations are required. The recommendations are listed below:

- 1 Medicinal & edible plant species it was recommended that the following species be buffered, avoided, or retained. They include High bush Cranberry, Blueberry, Devils Club, Soopalalie, and Chaga (on mature birch trees).
- 2 Retain Live Veteran mature trees. Species were not specified.
- 3 Retain 90% of Douglas Fir > 65cm dbh.
- 4 Wildlife trees Retain and buffer (25 m).
- 5 Bird nests (Avoid and buffer).
- 6 Elk beds Create a wildlife retention area
- 7 Horsey Creek Riparian Zone Buffer (25 m).
- 8 Utilize old skid trails.
- 9 Old cabin and homestead buffer (40 m). These old buildings are actually located on private land).

4.2.6 GSI Incorporation of PFR Recommendations into Construction Plan

GSI will incorporate the recommendations made in the PFR as much as possible. In the area of the batch and wash plants, and all associated infrastructure development, level gravel surfaces are required as well as for equipment travel – in these areas, there will be little vegetation retained. However during the PFR, only Blueberry and Soopalalie were identified in the plant area. Where possible, any and all of the species identified in the PFR with recommendations will be retained where feasible. In the PFR, most of the other medicinals and edibles were located outside of the plant area, and many of the recommendations refer to the amendment area (aggregate pit expansion area) proposed.

In this area (amendment area - which is part of the companion application), buffers around the plant species listed can be incorporated into the construction plan as much as possible. High value wildlife trees will be identified and they can be retained and buffered from roads, trails, or development as much as possible. Large old growth veterans can also be retained and buffered as much as possible. Prior to construction, the areas will be checked for wildlife use and bird nests. Cutting of vegetation will only occur outside of the nesting and breeding bird time periods (no cutting of vegetation between May 1 and July 31 without an assessment of a qualified professional). If high use wildlife areas are identified, they will be avoided and buffered as much as possible.

Wildlife retention areas may not be feasible as the proposed plant area is only 2.67 ha in size. However, GSI plans to retain all layers as much as possible (within the constraints of required access and infrastructure, as well as the proposed wildfire risk reduction – fire smart plans) for the application area. This strategy may allow for continued wildlife use as much as may be possible with the impending presence of a small concrete plant seasonally operated in the proposed plant area. Through the winter

months, there will be far less human presence and most of the parcel outside the plant area (fenced area) will likely see more wildlife use than during the operating season.

Existing skid trails from prior decades will be utilized as much as possible – as there is generally younger timber on them presently and overall disturbance will be lessened by incorporating them into the construction plan where feasible.

4.3 Atmospheric Impacts

4.3.1 Sound (Noise), Odour, Gas or Fuel Emissions

There will be no odours or gas emitted from this concrete plant, other than diesel exhaust from heavy equipment, and the diesel generator that powers the concrete plant and ancillary equipment. All equipment has OEM noise control and emissions equipment. The operation is as quiet as it can be with standard equipment. The 40 KW diesel generator has excellent noise controls and is housed in an insulated structure which further reduces noise levels. Sound levels meet or exceed permit requirements of 35 dB (nearest residence). Operations are only during daylight hours, Monday – Saturday from April 15 – November 30 each year. Impacts on wildlife and adjacent neighbours are estimated to be low.

Noise factors include the diesel generator, air hammer system on the silo and weigh hopper, and truck noise (mixing), and noise and dust from trucks coming and going.

4.3.2 Dust Production/Control

There are generally 3 sources of dust production in the operation of the concrete plant. These include 1 —truck movement, concrete trucks coming and going (and including aggregate stockpiling — movement from the aggregate pit to the concrete plant via gravel trucks, 2 — loading of aggregate into the weigh hopper, and 3 — loading of the concrete powder silo from the supply truck (intermittent through the season).

The first source is the largest potential source of dust and will be managed by wetting down of the road surface if conditions become excessively dusty. The latter 2 sources are generally insignificant. When concrete powder is loaded into the silo from the supply truck, a bag house captures any dust created by the filling operation. Concrete powder loaded into the mix trucks is largely contained by the mixer and water (present in truck) and generally produces negligible dust.

Loading aggregate into the weigh hopper generally produces little dust as well due to the short travel distances from the aggregate bins and low speed travel of the loader. If excessive dust is produced on the road surface by the loader, it can be wetted down in extreme conditions.

4.4 Aquatic Lands – Drainage, Public Access, Flood Potential, Fish & Wildlife Habitat4.4.1 Drainage Effects

There are no aquatic lands occurring on this parcel. Horsey Creek is a minimum of 70+ m to the west. The riparian zone is on the west (opposite) side of the FSR and was defined by FSR construction in the 1950's.

There are no wetlands on this parcel of land. The concrete plant location is on a bench 10-20m elevation above the HWM of Horsey Creek, so is not at risk of flooding.

4.4.2 Public Access

Public access will not be affected by the use of this land for the proposed activities.

The FSR may be used for concrete truck traffic on the short stretch of FSR from 1.8 to 0 km on occasion when road restrictions are in place and affect Colt Road – which is the primary access route (beginning of the Pit Access Road),

As the Horsey Creek FSR is currently an active logging road, radio control is in place for managing traffic with signage posted at 0 km. Additional signage will be installed to let all users know that this is an active FSR with active operations (including the concrete plant). Public users are aware that traffic is radio controlled and to call in their locations so trucks are aware of their presence. Concrete truck traffic will also monitor road traffic with VHF radios to ensure there are no conflicts with log truck traffic, forestry workers, or the public. Industrial users are aware that some users may not have vhf radios while traveling on the FSR's. Drivers adjust speed and are prepared for those without radios. It is important that when active industrial use is occurring on the FSR, that this be posted at 0 km to inform all users. It is incumbent on all industrial users to maintain current signage to this effect.

4.4.3 Flood Potential

There will be no change in flood potential with the proposed activities on this parcel of land. Historically, Horsey Creek does not have a history of flooding caused by rain storms, ice dams, or prolonged rainfall events or during the spring freshet. The plant site and all infrastructure are located well above the HWM (>15+ m elevation). The land in the proposed plant area includes terrain in Classes 1-4. There are no threats from flooding (from Horsey Creek) or landslides from the proposed activities.

Where cuts are made on moderately steep slopes, it is important to provide slope support where unsupported cuts may require retaining features and this will be incorporated into the construction plan as required. Drainage shall be maintained to minimize road ditch flows, as well as minimize any accumulations of water during intense rain events or runoff periods during snowmelt (where frozen soils may be an issue). As the area is underlain by coarse glacial till, fluvial and glacio fluvial materials,

percolation drainage should generally be good to very good. Incorporating best management practices during construction, grading, and landscaping, will ensure that site drainage is well managed.

4.5 Fish and Wildlife Habitat

4.5.1 Disturbance to Fish & Wildlife & Fish/Wildlife Habitat

There will be no impact on fish or fish habitat. Horsey Creek is a fish bearing Class A stream that likely has salmon in the lower reach and a variety of trout species and mountain whitefish further upstream. The proposed plant area is 80 - 100 m from the FSR.

GSI plans to pump water from Horsey Creek utilizing Best Management Practices with a fish safe screened intake. Pumping is only periodic through the operating season, used to top up the lined water storage pond above the plant site (after initial filling). As noted previously, GSI recycles and reclaims most of its wash water used on site. Some consumptive use does occur for each load of concrete produced (including mixer and chute cleaning), as well as small volumes for the office & shop sanitation. See Section 3.4.

Every effort will be made with the construction of the concrete plant area and ancillary access and infrastructure to minimize any erosion & sediment production that could potentially find its way off site.

Seeding of disturbed areas (that are not required to be gravel surfaces) with agronomic species will be incorporated during and post construction. Use of silt fences, and a variety of sediment control devices will be utilized where required to prevent any sediment from flowing off site – as may be required during and after construction. Erosion control products will be from natural fibers where possible to prevent the introduction of micro plastics into the environment in the proposed concrete plant area, or beyond.

Water will be pumped periodically throughout the season, likely monthly starting in April. The pump will be a gas powered pump located in a small pump house situated above the HWM. No permanent fuel storage will occur, and the pump will have secondary containment for any fuel leakage. See the site plan maps for location of the pump house.

Impact on local wildlife is anticipated to be fairly low as well. The terrain is benched with some moderately steep slopes on the east side of the plant area. No game trails were noted during several walkthroughs of the proposed area. The area is likely used by ungulates (deer, moose, elk), presently and small mammals to some degree. There will likely be some displacement and changed used by ungulates – browse of the understory red osier dogwood was noted in the area. With the light industrial activity and human presence for the operating season, it is likely that some wildlife will avoid the area, but this small area does not have any significant or high value wildlife features due to the nature of the undulating terrain and the presence of level terrain more suited on the private land below the concrete plant area. There is likely wildlife movement up and down the valley through the private property primarily and along the road with some movement higher upslope in the proposed area. Ungulates and furbearers may travel through this varied terrain above the road, but are likely moving through the

private land below. As noted, there were no game trails within the proposed area, and no evidence of significant use. Ungulates are known to use the roads at certain times of day and moose, deer, and bears are often spotted moving up and down the roads in the geographic vicinity, including the Holmes River, Horsey Creek, and Small River FSR's. This is likely to continue along Horsey Creek as well, even when the concrete plant is in place, as use by these animals is often in the dawn and dusk periods.

Species composition of the vegetation in the proposed area is somewhat diverse, including all tree, shrub and herbaceous layers. Browse for larger game is limited, though as noted, it is evident that ungulates do pass through this area. From mid- November until mid-April, there will be little activity at the plant site and use by wildlife will likely return to pre-operation levels (for that time of year). Horsey Creek is used through the winter by snowmobilers that travel by sled along the FSR – from the parking area located just west of Colt Road.

Given the fairly small footprint of this concrete plant, impacts on this and the surrounding area are anticipated to be low to moderate. The activities proposed will not contribute to erosion or sedimentation when constructed properly. There are no known terrestrial species at risk in this area. There are no known threatened or endangered terrestrial species in this area. As a result, the proposed activities will have a low to moderate impact on wildlife moving through the area during the operating season. For the fall and winter the site will be quiet and there will be less human presence and less impact on wildlife movement.

4.6 Wildlife – Impact and Cumulative Effect Mitigation (Wildlife, Biodiversity)

The following measures will be implemented to reduce impacts and cumulative impacts-effects on the proposed development area.

- > Bear and wildlife attractants will be managed. No waste that may be an attractant will be retained on site.
- ➤ Bear awareness training will be provided for all personnel. Non lethal methods of addressing bear conflicts will be implemented if conflicts occur. To date, there have been no issues with bear conflicts in the current concrete plant area.
- Avoid removal of old growth timber (>140 years) from the site. Avoid forest fragmentation of intact stands and reduce edge effects as much as possible.
- Construct, develop, and maintain the plant with as small a footprint as possible to reduce impacts and cumulative effects in this landscape unit.
- Avoid removal of large diameter wildlife trees to the greatest extent possible. The area will be Danger Tree Assessed to provincial standards, and any High Value Wildlife trees will be identified & retained where possible (unless within the concrete plant area, or where they may be a threat to worker or operations safety).
- ➤ No vegetation removal will occur during the nesting and breeding bird time periods. No vegetation will be removed from May 1 July 31, without a prior assessment and approval from a qualified professional. Additionally, prior to cutting, trees will be inspected for the presence of raptor nests, & other large bird nests.

➤ Protocols will be in place for fall closure & spring startup of the plant, to reduce the risk of wildlife mortality. The perimeter fence enclosing the plant area will protect wildlife from entrapment in the reclaim pond, and chute cleanout pond. Prior to spring startup, fall closure, and fence opening and closures, the plant area will be inspected to prevent wildlife entrapment, ensure any hibernating animals in or near structures are not harmed, and that wildlife is not entrapped within the perimeter fence.

4.7 Reclamation of the Concrete Plant Area at the Conclusion of Operations

Glacier Stone Industries intends to operate this concrete plant for many decades into the future along with the aggregate pit. As noted previously the planning horizon is decades into the future, and the lifespan of the aggregate pit is greater than 50 years. However, once the concrete plant life is concluded, the area will be returned to a condition at least as productive as it was prior to development. As noted in this plan, prior to significant landscape changes as part of the development process, the organic layers where they exist will be stripped from the footprint area within the constraints listed above, and be stockpiled for future reclamation use. These organic materials will contain seeds and roots of native plant species, and will be a reservoir of stored material that can be replaced onto the disturbed area once the area is reclaimed. The reclamation process will involve removal of all structures and equipment, removal or insitu bioremediation of any contaminated soils, re-contouring of the disturbed areas mimicking the original landscape, and then surface replacement of the organic soil material that was stockpiled for that purpose. The area will then be seeded (a reclamation specific agronomic seed mix, or a mix of native and agronomic species), and then also planted with tree seedlings. At the time of replanting the area, it may also be possible as part of the landscaping to transplant woody shrubs that will be growing on the organic stockpiles (and adjacent areas that may be disturbed as part of the landscaping process). Seed and plant storage in the stockpiles will be beneficial for the overall revegetation of native species on this area.

5.0 Socio-Community

5.1 Land Use

The setting for this area is as follows: The site is located east of Horsey Creek (and the FSR) and north of the old highway (Horsey Creek Road – an isolated section that is graveled only), which lies about 1000m north of the current Hwy 16. The southern boundary of the application area is approximately 1200 m up the Horsey Creek FSR.

Dunster is the closest community – the unincorporated community is approximately 10 km to the west, on the south side of the Fraser River. The Dunster area is generally lightly populated and is considered to include the area from King (Nevin) Creek in the West to Small River in the East and all of the section in between located in the Rocky Mountain Trench – on both sides of the Fraser River. The setting includes a mix of farm and agricultural land (most of which is on the valley floor and within the ALR) and rural residential properties. Depending on the terrain and soils some of the farm and pasture land can be partway up the valley side slopes.

The valley is bisected by numerous large side streams draining into the Fraser River with openings into both the Cariboo and Rocky Mountains. Horsey Creek is one of the significant side tributaries to the Fraser River in this area. The drainage as noted earlier is 210 square kilometers in size.

There is a considerable amount of industrial activity in this immediate area. It consists of farming, forestry, and aggregate production. A fairly large cut block (clear cut with retention) is right above this area and to the east – located above the active aggregate pit developed by Croydon Enterprises & Glacier Stone Industries. The active gravel operation is immediately east and upslope of the proposed area for the concrete plant.

An active grazing tenure up Horsey Creek exists, and has been in place for many decades. Cattle are grazed there from June to September generally. Also, on the west side of Horsey Creek (Horsey Creek West) is the active provincial gravel pit used by the current road maintenance contractor Emil Anderson (2022-2024)). The active pit area was expanded in the spring of 2025 (Additional 6 hectares). A significant amount of older disturbance occurs to the south and east, in the form of older once considered depleted gravel reserves. Older remnant piles of reject crush and various other stockpiles and disturbed areas remain – these are still part of the provincial gravel reserve.

And, as noted previously, the existing concrete plant directly south, and across Highway 16 has been in operation since 2008. This small scale operation has had very little impact on the surrounding area, and as proposed in its new location, very few people will even know that it exists. For example, many of the local residents may know where the concrete plant is located, but will not see or hear any evidence of its presence, unless they visit the plant during operation, or see a concrete truck pulling onto the highway.

There are no aboriginal communities in the Robson Valley. There are no known traditional use areas in the vicinity of this proposed concrete plant. However, there is likely some historic use of Horsey Creek, by at least one of the First Nations that has claims in the valley – and that is upstream on Horsey Creek (fishing, hunting, and possibly trapping). Access along Horsey Creek is provided by the Horsey Creek Forest Service Road (FSR), immediately adjacent to Horsey Creek.

5.1.1 Land Use Plans and Regional Growth Strategies

The area is administered by the Regional District of Fraser Fort George, and does not fall under any of the local municipalities. Dunster, as noted is an unincorporated entity.

The Robson Valley Land and Resource Management Plan (LRMP) began circa 1990 and was completed in 1992 or so. The plan is somewhat dated, but was unlikely to preclude this activity in the proposed location. Due to the small scale of operations and its location adjacent to active aggregate operations, distance from Horsey Creek, plus due to its limited land uses (on benched and moderately steep terrain, underlain by glacial till, fluvial and glacio-fluvial materials), the proposed use in this location would likely fit within the plans and strategies of the Robson Valley resource management plan. The land is currently zoned RU5 and if the proposed concrete plant is approved, will require a zoning amendment as well as an OCP amendment (Dunster Official Community Plan).

5.2 Socio-Community Conditions

5.2.1 Adjacent Users & Communities

The proposed use of this area is likely to have no impact on adjacent users or neighbours in the vicinity. Access is not restricted, the existing tenures in the area (old cutting permit - regenerating cutblock to the east), the active Carrier Lumber logging further up the FSR, and the existing grazing tenure) will not be affected by the proposed operations. Present use in the vicinity is fairly light for any other uses including forestry at this time. The public access to crown land is not affected by the proposed use – other than users having to pass by the concrete plant area (almost entirely out of sight) as they travel up the FSR.

There is a crown land lease located at 2.5 km on the FSR. It belongs to a guide-outfitter licensee and rarely sees any use. As noted, the FSR passes through the private property which straddles both sides of Horsey Creek, however the land has no habitable structures and is not occupied. It is mostly in its natural state. Access to the east portion of this property can be made from the FSR. The west portion of this private land parcel occurring on the west side of Horsey Creek has access from east end of Read Road). The landowner was consulted, and has no issues with the concrete plant and amendment to the existing aggregate operation as proposed (companion application).

Access to the farmlands is from private land and Horsey Creek Road (east of Colt Road), and no access to any part of those private lands is affected by this proposed use.

5.2.2 Existing Services

There is no anticipated impact on any services that may be required as a result of this proposed use of the area. No impacts on fire protection or health services are anticipated. The Croydon Enterprises concrete plant has been in operation within 2-3 km of this location since 2008 and there were no impacts on existing services. The scale of operation is anticipated to be similar, the number of employees is the same and collectively there will be no increase in need for any existing services that are provided in this rural area (fire protection, emergency services, etc.).

