



Aggregate Operator Data Analysis

AGGREGATES AND AGRICULTURE: UNDERSTANDING THE IMPACTS OF AGGREGATE PRODUCTION ON AGRICULTURE AND IDENTIFYING MITIGATING STRATEGIES

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1.0 Introduction

In spite of the generally negative public attitude toward aggregate extraction in Ontario, a number of the farmers interviewed indicated good relations with their aggregate industry neighbours. To understand how aggregate operators manage their relationships with their agricultural neighbours, we interviewed representatives from a small number of aggregate producers to understand their operational practices regarding the local agricultural community. Our key areas of interest are rehabilitation of the aggregate extraction site, as quality of rehab will have a determining influence on the immediate and long-term viability of agriculture on the exhausted lands, communication with neighbouring farmers throughout the entire lifetime of the site, and overall relationship building with agricultural neighbours. Understanding aggregate operators' approaches to these key areas can help us to understand how attitudes toward aggregate extraction are formed and potentially how to manage expectations at existing and future sites. Results from these interviews suggest that approaching neighbours with respect, including seeing them as partners on the landscape, as well as planning for successful agriculture as a critical outcome of the lifecycle of the aggregate extraction operation, are crucial aspects of creating a positive working relationship between the aggregate and agriculture industries.

1.1 Methods Potential interviewees were identified by first obtaining aggregate license location data from the Ontario Ministry of Natural Resources and Forestry's (MNRF) *Find Pits and Quarries* webpage¹. This information was then transferred to ArcGIS to locate satellite imagery to visually identify aggregate extraction locations surrounded by active agriculture. Contact information for the companies operating the selected locations was collected from the Ontario Stone Sand and Gravel's (OSSGA) contact list

¹ https://www.lioapplications.lrc.gov.on.ca/Pits_And_Quarries/index.html?viewer=Pits_and_Quarries.Pits_and_Quarries&locale=en-CA

(publically available on the OSSGA website²) and the companies contacted. This process resulted in representatives from three aggregate extraction companies agreeing to be interviewed. A fourth aggregate producer was recruited by way of the farmers' survey interview recruitment process (methods available in the farmers' survey report), as their company is both an aggregate and an agricultural producer and so received the farmers' survey by way of the OFA distribution. This farmer/operator identified themselves as a producer when the farmer interview (introduced in the farmers' report) commenced.

The interviews focused directly on the extraction site identified from the satellite images; however, as each of the interviewees operates more than one site, their responses are somewhat more general to the industry as a whole. It is important to note that the interviewees only spoke about their experiences operating gravel pits rather than quarries, which may be significant to this research, as pits' and quarries' operations are different in their natures: pits excavate their resources from a deposit of mixed aggregate and soil, whereas quarries blast solid rock to create their raw materials. Pits' raw materials are washed and some is crushed to create the desired product, whereas, following the blasting, all of quarries' raw materials are crushed to produce the desired product. Ultimately, four aggregate producers were interviewed for this report. Each of the interviewees is identified here by a coded label using the formula month.day.time of interview (ex. 12.14.1900) to provide anonymity for their commentary and contributions.

1.2 Demographics The identified aggregate sites which connected to the three aggregate companies interviewed are all located in Southwestern Ontario. Two of the companies (interview 6.29.1000 and interview 7.08.1145) are limited to Southwestern Ontario, and the third (interview 7.07.1400) is a larger company operating in several jurisdictions across the province. The fourth

² https://www.ossqa.com/active_members/#

company interviewed, the farmer/operator (interview 7.27.0725), is similarly located in Southwestern Ontario, operating a number of pits, alongside their agricultural production. Interviews 6.29.1000 and 7.08.1145 prefer to lease land from local owners for development, while interview 7.07.1400 indicates mixed ownership, with both purchase and leasing as options. It was not made clear by the farmer/operator in interview 7.27.0725 the balance of owned versus leased land for their aggregate development and extraction; however, they appear to be the sole farmers on the land following rehabilitation.

2.0 Results

Within the interviews, three major themes were examined: rehabilitation, communication and the producers' relationships with agricultural neighbours. The operators interviewed tended to focus most on rehabilitation, but also provided a great deal of information on communication and their ongoing relationships with their neighbours. Overall, the operators seemed to focus largely on the role of rehabilitation as their connection to local agriculture, but they provided insight into how they conceptualise and, in turn, work with their agricultural neighbours. All of the operators indicate that there is little interaction between the two industries, except that aggregate extraction generally occurs on agricultural land, which appears to be the prompt to focus closely on returning exhausted land to productive agriculture. In other words, because the land came from agriculture, it needs to be returned to the agricultural industry. The operators also recognise that they have an ongoing business to business relationship with the local farmers, noting that agriculture is a critical industry that, just like aggregate extraction, the land itself is its most critical resource, and that agricultural producers have a similar scale locally (especially in terms of equipment) to the aggregate producers that they abut. The aggregate

producers (interviews 6.29.1000, 7.07.1400 and 7.08.1145, not including farmer/operator 7.27.0725) all discussed the implications of new development versus having aggregate established in the area in terms of how the unknown can influence local attitudes toward aggregate production, most especially in terms of residents versus farmers.

2.1 Interview 6.29.1000

Interview 6.29.1000 described themselves as a national paving company that produces their own aggregate. This company does not own the land that it extracts from, instead identifying promising deposits and then leasing the land from its owners. The interviewee references this relationship directly in their comments, suggesting that leasing land from the owners “gives the landowner more control to make sure that the company that’s operating the site does, in fact, rehabilitate the property and holds a bit more accountability to the operator.” The company operates gravel pits exclusively and maintains close relationships with its lessors. They have experience with all types of agricultural neighbours, including dairy, cash crop and equine. No significant issues with neighbours were reported in the interview.

2.1.1 Rehabilitation The issue that the operator spent the most time discussing was rehabilitation, with a great deal of focus on the process of rehabilitation, as well as its outcomes. Significantly, this operator has won a number of industry awards for the quality of their rehabilitation of their exhausted aggregate sites. This company currently operates one site, indicating that “we’ve successfully progressively rehabilitated 60% of our [. . .] pit and it grows a variety of different crops. We don’t dictate what gets planted on there because we’re not the landowners, but they’ve rotated between soybean and corn. And one of our landowners, up until about a month ago, was leasing out a horse

stable facility at his site [. . .] and so the fields were growing hay to support the horses that were living there.” The operator further describes the rehabilitation done at another pit, where he says that “it takes a couple of years before the nutrients, the soil gets back to what it originally was. [The landowner, a well-known grain farmer] says he really notices a difference during drought seasons, because it’s an above water pit. And he says that because now the root zone is closer to the water table, the roots have better access to water in droughty years.” The operator also suggests that rehabilitation post-extraction can make improvements in terms of the land’s farmability: “So, post-extraction, what you’re left with is a more flat topography and a more uniform topography, so that when there is moisture, when there is rain, then all that water will have enough time to be retained by the soil and also provide a gentle drainage.” In sum, the operator recommends that “when you’re doing your studies and trying to determine how you’re going to operate the pit, we always tried to make sure that we’re designing a proper phasing program where only certain areas are going to be active at one time. And, as soon as we move to another phase, we progressively rehabilitate the phase that we just depleted so that we can have those areas back to agriculture as quick as possible.”

2.1.2 Communication Operator 6.29.1000 doesn’t provide a lot of commentary on communication but they do suggest that direct and early communication can be critical to good relationships. Two years prior to submitting their applications for the new license, they “knock[ed] door to door to the neighbours directly adjacent to the property to inform them that we’re doing some investigation on the site and that they’re going to see a drill rig. We’re testing to determine whether there’s enough aggregate on the property to warrant application. Letting people know early on is important and being open and transparent as much as possible. The reason we created this website, we’ve shared all our studies and our reports, we tried to make sure we’re an open book. Every time I get an email or a letter of concern, we make sure to offer to meet with the people who are concerned and give them that opportunity to meet with you.”

2.1.3 Relationship with neighbours Operator 6.29.1000 reports that their agricultural neighbours do not bring concerns to them about the operation of the pit. While truck traffic is a concern raised by many of the farmers interviewed, this operator indicates that all of their pits exit directly onto regional roads which already bear commercial truck traffic. This company is currently developing a new pit and similarly reports that virtually no concerns were raised by local agriculture. A neighbouring dairy farm had asked about effects on water, but “after meeting them a few times and discussing the hydrogeology, and the fact that it’s an above water pit, we’re not touching the water table, they got a lot more comfortable, but they never outright objected.” An equine facility near the proposed haul route, near the intersection of a provincial highway and regional road, has asked about the number of trucks that will be passing by their facility. The operator also recognises that there are concerns “whether or not aggregate pits can ever be fully restored back to productive agricultural lands just as good as it was before. [. . .] A lot of residents think it’s just going to be dead fields that are only going to be good for pasture.” The operator connects many of the concerns raised to residents, rather than farmers, where “some of the neighbouring landowners are concerned about their private wells. [. . .] I think it’s part of the total thing that there are residents that don’t feel that aggregate extraction belongs in that area.” Furthermore, they indicate, as do the other aggregate operators in this series of interviews, that much of the media attention has a very limited engagement with aggregate because “all the media attention is on new aggregate applications, but you rarely ever find an actual article or something in the news on existing sites. So the public doesn’t get to actually see and the media always seems to focus on the negative stories.”

2.2 Interview 7.07.1400

The individual interviewed for 7.07.1400 is a regional manager for a national aggregate extraction company. The site identified as per the methods above was located in the near North; however, the company directed us to the representative for Southwestern Ontario, where the speaker manages six closely spaced gravel pits. This operation neighbours exclusively cash crop farming, and many of the farms that abut the sites being discussed are still owned by the aggregate company and being farmed by contract farmers. This choice, as discussed below, is an economic choice made by the producer, as it gives them time to further develop the rehabilitated land to increase its resale value.

2.2.1 Rehabilitation Operator 7.07.1400 describes rehabilitation as part of the larger business plan – the speaker focuses directly on the value of rehabilitated versus unrehabilitated land, claiming that poor quality unrehabilitated land (rehabilitated to the minimum standards set by the MNRF) is currently worth approximately \$8,000 per acre (the interview took place in summer 2021), whereas land that’s been well rehabilitated can be worth as much as \$12,000 per acre more: “Out in [their area], you’ve got farmland that’s worth \$7-\$8,000 an acre if you leave it like that. That’s worth \$20,000 an acre if you pick the stones and put a cover crop on it for a couple of years, and that doesn’t cost near what the value increases, so it makes a lot of sense to do a good job.” They continue “We’re hopeful for a three year horizon to produce good quality soils, or maybe not fully developed soils, but a very good growth medium that allows good farm equipment to operate on it efficiently and to get into more modern farming practices on that land.”

2.2.2 Communication Communication is described as straightforward for this operator, with few inquiries about the sites’ operations. Operator 7.07.1400 describes calls as “in the spring like ‘someone changed the lock on the gate, what happened?’ if it’s safe to go in, or ‘where do you send the check

during COVID?” The operator does reference communication with a newer landowner (ownership of a developed property changed during the extraction process), saying that, because there is a small amount of friction with the new owner, “I usually put it in writing, as well as with personally talking about it just to say here’s what we’re doing,” commenting that “there’s different personalities. There’s a functional, business-related communication that’s not as flowing back and forth.”

This producer operates formal communication programs because “communications with your neighbours is important, regardless of who you are. [. . .] we have what we call community liaison committees or community engagement committees at a number of our sites. We canvass the neighbours and we have meetings so that they better understand what we’re doing and we can understand and have direct communication about what their questions and concerns about our operation are.” Furthermore, they “have open houses to take the mystery out of what happens behind the berms because it’s unfortunate that [. . .] we pile [topsoil] up around the outside of the site, which looks like a great big fence that doesn’t look very personal and inviting.” In reference to the open houses that they host to take the mystery out of aggregate site, the operator states that “You can’t just have people all the time but we do like to bring people in to see what’s going on and to better understand.”

2.2.3 Relationship with neighbours The speaker in interview 7.07.1400 does not report concerns from neighbouring farmers. Several of the farms discussed in the interview operate on land reclaimed by the aggregate company and are rented by a large, corporate farmer. Because farm equipment accessing these fields may have to cross active aggregate extraction, there is the possibility of interaction between farm equipment and equipment from the aggregate company, but “the farmer’s is green and ours is yellow, different big machines. You do have to make sure it is safe to access things, and we would create roads when they’re up on top of a plateau or have to go up the face of the site to get to [the farmable land].”

A portion of the land the company is currently extracting from has recently been sold and the new owner has concerns with access to the land. There does not seem to be actual complaints, but the situation is described as “we still have full rights to extract the aggregate, so the field is getting smaller as the operation expands. He’s not as happy as the other one. [. . .] It’s within the terms of our agreement we are going to be taking out two more hectares. He was happy last year because we did say there’s an additional two and a half hectares in this area that we finished back into farmland.”

When asked how the producer works with neighbours, the operator addressed the benefits that farm rental rates have for managing land not currently being used for active extraction. “Our farm rental rates when I started close to ten years ago were surprisingly low. We’re not always at full market value for rental land pricing. One reason is it’s a benefit to us to have it kept neat and clean. Our business isn’t renting farmland and having a crop on it looks better than a field of weeds. The other thing is where a lot of the gravel pits are placed” because where the soil has traditionally been underproductive is generally where good aggregate deposits can be found.

Similar to interview 6.29.1000, the speaker comments on farmers’ perceptions of aggregate operations in the area. They explain that “We’re not the first aggregate operation in a new location kind of situation. Gravel pits have been part of the landscape for the last couple of generations in most of the areas and it’s a matter of expansion and rehabilitation, and the farmers have seen it long enough that they get it that ‘okay, that’s the gravel pit now. I don’t know how long it’s going to be a gravel pit but it won’t be forever.’ [. . .] either you don’t hear from them because they don’t have any questions or it’s more curiosity questions with a lot of them. So there seems to be an acceptance and tolerance with the adjacent landowners in the complex I operate in Southwestern Ontario.”

2.3 Interview 7.08.1145

Operator 7.08.1145 is speaking about a single site in Southwestern Ontario that is both above and below the water table, with a mix of aggregate types: finer in the above water section, and coarser in the below water. As the operator notes, this site will not be rehabilitated to agriculture, due to being below water. Neighbouring agriculture is primarily cash crop with corn and beans in rotation, managed by a custom farmer on behalf of the land owner, which is not this aggregate operator. This custom farmer also farms lands owned by the owner of the land that the aggregate company is extracting from. The site under consideration has been in operation for approximately five years and is roughly one third completed. The product is used in larger construction projects in the regional city/centre and the company's other sites provide aggregate for concrete. Operator 7.08.1145 indicates that because of the cost of land, currently estimated at up to \$50,000 per acre in this area, they rent land for extraction rather than purchase it because renting the land makes much more economic sense ("better time-use of their money").

2.3.1 Rehabilitation As noted, because this is a below-the-water-table site, it will not be rehabilitated for agriculture. "It's an underwater extraction site, so all the outside perimeters are base sloped for a landscape kind or perspective. There is a little reserved [. . .] for some recreation area, but nothing for agriculture." The operator does, however, suggest that "if property owners who are tied to agriculture don't take care of the land after extraction, [the sites] are really turned into wasted greenspace or brownfields and that's absolutely true. If you're not active and working with the landowner, which is your requirement, and getting the rehabilitation done quickly, then the land goes kind of dormant. If the farmer is very active getting on top of it, you do a good job as the operator and get rehabilitation done in a quality manner quickly."

2.3.2 Communication Communication is described as open: “I’d hope that they would contact management or supervisors through our scale attendants who are on site all the time and then we would work directly with them for resolution [. . .] we always want to be on the positive end and be proactive with any challenges.”

2.3.3 Relationship with neighbours The operator indicates that there is little concern from the neighbours “because [this] is such a heavily resourced area. Everybody is used to it, everybody has an association with the resource plus agriculture so a lot of them are our business partners or to be honest those that are working with our competitors. We don’t have a negative relationship nor do we have a positive, it’d just be neutral.” They also claim that “everybody in the whole area is used to our presence and used to the industry, [with] usually no conflicts with farm equipment. If anything, we’re more of a challenge because of our frequency on the roads and volume of trucks versus when they have to get on even though they’re coming on larger.” The operator further suggests that it’s “best to just be open-minded to any concerns that [the neighbours] may have” and to “take care of those lands that they see, which is the fencing, the perimeter of the berms. It’s not a big expense to have them maintained for six months of the year, it’s just common courtesy.” They finish by stating that “those operators that are negligent and don’t care about land after the fact puts a bad taste in people’s mouths and paints the whole industry in the wrong light.”

2.4 Interview 7.27.0725

Interview 7.27.0725 was with an aggregate producer who also farms a significant area of land. They describe their operations as a number of gravel pits alongside a mid-size grain farm with some livestock within a relatively small radius in Southwestern Ontario. As mentioned above, farmer/operator

7.27.0725 came to our attention through the Farmers' Survey that was distributed for us by the OFA. This interviewee has contributed their expertise for both sets of analyses. Because this operator was not recruited using the same methods as the three prior interviews, the commentary addresses their experiences as an aggregate operator more generally, rather than focusing on a specific site. This operator comes from a generational farm background and has been in commercial aggregate extraction for approximately twenty years. It was not clearly articulated in the interview, but they seem to farm their rehabilitated land themselves rather than sell it, and they describe rehabilitation as an opportunity to improve marginal agricultural land. They both rent and own the land they develop for extraction and farm.

2.4.1 Rehabilitation Farmer/operator 7.07.0725 provides a great deal of information about rehabilitation of past aggregate land for agricultural use. In many cases, this operator uses the rehabilitated land for their own use and focuses on improving the land beyond what it was prior to extraction. Similar to other operators interviewed, this farmer/operator suggests that well-rehabilitated extraction sites can improve the quality of land for future agricultural uses: "typically, if that farm has gravel under it, I would say eight out of ten are not your best farms to start with." One of the most important steps that this farmer/operator suggests is to ensure that slopes are reduced to eight or ten to one to ensure better land usage, in terms of easier tilling and better moisture retention, compared to the required three to one. They also indicate that there is the opportunity to import topsoil that provides more fertility, as well as to reduce the slopes in the fields, because many of the projects they supply aggregate for have surplus soil for disposal: "everything's tested and we follow the rules but it is cumbersome and it is a chore. But the way we look at it, we can charge tipping and we can rehab the site as good or better." Similar to operator 7.07.1400, the farmer/operator claims that they build the soil's fertility over several years: "you can build that soil up. There's ways to increase the fertility of that soil year over year. I mean, it takes years, not a season." This farmer/operator acknowledges that these

practices go far beyond the minimum requirements for rehabilitation, but indicates that they provide a much greater outcome for post-extraction agricultural use.

2.4.3 Relationship with neighbours Farmer/operator 7.07.0725 didn't comment directly on their relationship with neighbouring farms, perhaps because they are their own tenant farmers. When prompted, they did indicate that they "can't say that we've had any neighbor complaints" but "the big one's always truck traffic. Traffic and dust from truck traffic." However, this is placed in the context of licensing applications. In their response, they also connected to water and noise, but not explicitly to agriculture. All of this farmer/operator's comments are directed more generally toward the application process and residential, rather than agricultural concerns.

When prompted for suggestions about working with agriculture, farmer/operator 7.07.0725 suggested that it is important to "work with them and set up strategic partners." They also focus on the trucks and traffic and that the "trucks driving by the farm" may be an issue, so "maybe they have to pave the road in front of that farm to eliminate the dust and the traffic."

3.0 Discussion and conclusions

3.1 Discussion The current interviews suggest that aggregate operators do not see the process of aggregate extraction as significantly interfering with agriculture beyond the temporary (although admittedly long-term) removal of farm land from production. These producers describe extraction as an interim land use and are largely confident that the land will be returned to agriculture in a condition as good as or better than prior to extraction, with all of the operators interviewed demonstrating concern for improving agricultural output on the land they use. It is, however, important to acknowledge that

one of the sites addressed here is below water and consequently cannot be returned to agriculture, somewhat contradicting the claim that extraction is interim and largely benefits agriculture. All of the interviewees describe neutral to good relations with their agricultural neighbours and claim that they do not receive complaints from farmers, but that the complaints they receive come from rural residents. In the interviews, the operators all demonstrate concern for agriculture, and two of the four state that they have a background in agriculture with one, the farmer/operator, currently farming as well as producing aggregate. The operators' concern for agriculture in the interviews is clear but, because the interviews cannot be connected directly to the survey results or the farmers' interviews collected elsewhere in this project, it is not possible to correlate farmers' assessments of these operators to the commentary received here. As noted by two of the operators in these interviews, they have received industry awards for their rehabilitation efforts; however, it must be acknowledged that these awards do not necessarily indicate farmers' approval.

The operators' interviews focused on three core areas: rehabilitation, communication and their overall relationships with neighbours. The three operators interviewed demonstrated a clear concern for their relationship with their neighbouring farmers as the farmer/operator relationship is a key partnership in the aggregate industry, especially in Southern Ontario where aggregate extraction occurs almost exclusively on privately held land. The operators generally described farmers as partners, building longer-term relationships that can include extended development of the farmers' lands. As such, these operators describe building these partnerships through demonstrations of respect for the relationships and concern for the agricultural capacity of the land. While the land is clearly transformed by extracting aggregate, these producers attempt to increase agricultural capacity by improving features such as moisture retention and drainage, fertility and overall topography, especially considering slopes and contours that might limit equipment access. Furthermore, the farmer/operator interviewed strongly

suggests that incorporating planning for agriculture into the aggregate planning process has resulted in increased crop yields for the agricultural aspect of their business.

Overall, these operators suggest that working with their neighbours and demonstrating respect for agriculture as a business and an industry are effective means of ensuring a relatively problem-free tenure in their respective communities.

3.2 Rehabilitation Each of the operators demonstrated a deep interest in quality rehabilitation of the lands that they extract from, and commit to returning that land to as good as or better quality farmland than when they began their extraction activity. The ultimate outcome of quality rehabilitation depends on whether the land is rented or owned. For example, operator 6.29.1000, who almost exclusively rents their land, sees rehabilitation as integral to the relationship with the landowner, recognising their responsibility to return the land to a productive state acceptable to its owner, which is a core aspect of their tenant obligation. However, operator 7.07.1400, a manager for a national corporation whose company owns the majority of the land they extract from, describes effective rehabilitation as a way to improve the resale value of a major asset, suggesting that they can increase the value of the land by as much as 150% over three years post-extraction through minimally exceeding MNRF requirements for rehabilitation. For this operator, taking care of the land in light of its potential agricultural value makes good business sense on top of being the right thing to do. Similarly, farmer/operator 7.07.0725, who farms the land they extract from, focuses on increasing the land's productivity through intentionally improving the quality of soil by increasing its organic content.

Most importantly for the agriculture industry, quality rehabilitation can result in better quality farmland and, ultimately better productivity and, for the operators interviewed high quality rehabilitation makes business sense. For operators who own their land, while land values generally increase over time, there

is the possibility that they can create a greater profit at resale by selling land that is demonstrated as being more productive than when they bought it. And, for any operator who retains and farms their rehabilitated land, it is possible to increase their lands' productivity. However, for all operators having a record of high quality rehabilitation also means they will have greater receptivity for future license applications, facilitating their aggregate operations and benefitting their businesses.

Perhaps significant to their relationships with neighbouring agriculture, each of these operators recognises the connection between the quality of the land and its farmability, and ultimately its productivity. Two of the four operators indicated that they have a farming background themselves, and all four were capable of discussing the relationships between rehabilitation and improving the lands for agriculture. All four associate gravel deposits with poorly performing fields and suggest that extraction can improve the fields' performance by directly mitigating features that interfere with farming. For example, hilly and rolling topography can be levelled, aiding moisture retention by slowing runoff, and levelling these features can also bring the crops' root zone closer to the water table for better access to available moisture. Similarly, removing the gravel can reduce the rate at which water penetrates the soil for drainage. Levelling due to extraction can also improve machine access.

The operators also demonstrate awareness that timely, progressive rehabilitation is a signal to the farmers and to the community at large that the site will ultimately be returned to agriculture. For example, operator 6.29.1000 indicates that they rehabilitate as soon as they move to another phase, and 7.07.1400 indicates that they rehabilitate within six months of completing a phase because prompt rehabilitation can take advantage of the time available to more fully rehabilitate the land in preparation for surrender.

Overall, these interviews demonstrate clear awareness that how the producers maintain and especially rehabilitate the properties has a direct effect on the way that their operations will be perceived. They

note that there are direct benefits from prompt and quality rehabilitation to their specific business, but they are also aware that how they maintain and rehabilitate the sites will affect how people see them and the aggregate industry as a whole. They all demonstrate willingness to work with the farmers and understand that how they treat the land will determine their ability to continue to productively work within the community.

3.3 Communication Each of the operators interviewed indicated that communication is a critical aspect of their relationship with neighbouring agriculture, with each of them claiming that they are always open to hearing from their neighbours and that they are committed to responding as quickly as possible. For example, operator 6.29.1000 makes sure to communicate directly with farmers from before any of their equipment is on the land, even at the exploration stage, to avoid any misunderstandings about the licensing and extraction process. Operator 7.0.1145 maintains an “open door policy” where anyone can approach them by way of the scale houses, and operator 7.07.1400 has their cell phone contact information posted at the gate. At the same time, operator 6.29.1000 makes a commitment to respond to any inquiries within a 24-36 hour timeframe. While these operators indicate that they do not receive serious complaints, their goal is to ensure that their neighbours understand what happens on the aggregate sites, as they describe a general lack of knowledge about the aggregate industry and extraction. In order to combat this, on top of their open door communication, several of the operators operate liaison committees to engage directly with concerned citizens and even periodically bring them onto the sites through open houses to see the operations directly. While communication was not addressed in depth in the interviews, it is described as critical because it allows the operators to deal directly with their neighbours. As operator 7.07.1400 notes, the “mystery behind the berm” is probably the biggest issue that the aggregate industry faces and ensuring that all

neighbours are aware of the process and its effects on the local environment means that the operators can defuse any problems before they reach a critical point. Each of the operators interviewed (farmer/operator 7.27.0725 did not address communication directly) described both proactive and reactive communication strategies that ensure that any issues can be quickly addressed.

3.4 Relationship with neighbours The operators interviewed indicate that they receive few complaints from their agricultural neighbours, with the concerns that they do receive focusing primarily on truck traffic and dust. However, two of the operators (6.29.1000 and 7.07.0725) acknowledge that the complaints received arise from residents rather than farmers. And, as previously noted, operator 6.29.1000 addresses this claim directly, suggesting that “residents” don’t feel aggregate “belongs,” suggesting that this might be because it results in brown fields rather than productive agricultural land. They connect this to the general lack of knowledge that many residents have of aggregate production. On the other hand, operator 7.08.1145 suggests that farmers may be more accepting of aggregate’s presence on agricultural land because it has been present in the rural landscape over the long term and “are used to it”, seeing it as a normal part of the landscape. They also suggest that the business-to-business relationship cultivated between the two industries adds to its acceptance. Where concerns are raised, the operators connect them to licensing applications, rather than ongoing operations. In other words, once the relationships have been established, especially those between the agricultural and aggregate operators, concerns and complaints are minimised. Where concerns are raised, the operators (6.29.1000 and 7.08.1145) recommend “being open-minded” and to address their concerns with evidence to ensure that the farmers understand how the operation will affect the local landscape. Operator 6.29.1000 indicates this as the driving reason behind their public-facing website that presents all of their assessment reports and licensing information. Overall, the operators recommend that, while

complaints from the agricultural industry are limited, directly addressing any concerns with proper evidence tends to satisfy their farming neighbours.

The ongoing state of the site is also a concern to the operators, as it can be seen as an indicator of their overall attitude toward the community and the land. Operator 7.08.1145 says it best as they described a trip north to where they observed some rather unkempt pits: “[There are] a lot of small things you can do to make sure they’re satisfied and to take care of those lands that they see. I recently came from a trip to the North with some old sites and terrible conditions. You could tell there was a gravel pit coming up the road because it was awfully manicured berms. You could see weeds all over the place. It’s not a big investment to have them maintained for six months of the year.”

3.5 Limitations The information gathered presents some important insights into the relationship between aggregate production and agriculture, but there are a number of significant limitations. First is the fact that the sample size is small. A number of producers were contacted; however, only these three agreed to be interviewed. It is unclear why aggregate operators did not participate in the interview, but the survey inviting them was sent out at the beginning of the COVID lockdowns and may have been missed, but cold calls were also rarely returned. Other attempts to contact aggregate industry representatives were met with similar responses. The second limitation is that only gravel pit operators are represented in the interviews. The farmer interviews indicate that there is a different response to sand and gravel pits than there is to quarries, and quarries are not represented in these interviews. Sand and gravel pits tended to receive mixed to positive reactions from the farmers interviewed, whereas quarries almost universally received negative responses from the farmers interviewed. The third major limitation to these interviews is that, while two of these operators have received industry awards for their rehabilitation efforts, it is not possible to correlate their efforts to work with their neighbouring

farmers with these awards. There is a commonsense-ness to their commentary, but the planned connection between the producers' comments and the farmers' surveys and interviews was prevented by COVID lockdowns, as the research team was unable to target (directly deliver) surveys to identified sites.

In spite of these limitations, the operators' commentary, as well as the farmer/operator's commentary is productive, as it is consistent with the research team's observations on site visits. Among several aggregate sites that the research team has visited, at least one of these operators' sites has been visited and their commentary can be verified.

3.6 Conclusions Overall, it is critical to recognise that agriculture is the primary industry in many of the areas where aggregate is produced, especially in Southern Ontario, and that, once exhausted, the land will be expected to revert back to agricultural use. Aggregate extraction is an interim use, but since the lifetime of a pit is frequently in excess of twenty years, long-term relationships must be created and then managed, and that there needs to be some sort of evidence that the land will return to agricultural production. This appears to be the most critical role of the aggregate producer: managing the expectation that lands will be returned to agricultural uses and demonstrating that the land that they do return will ultimately be productive. Incorporating planning for agriculture throughout the entire lifetime of the planning and operation of the site will ensure that rehabilitation has excellent outcomes, and quickly moving to rehabilitate closed phases is a clear indication that the land will be returned to agricultural uses. At the same time, engaging with local agriculture as partners in the development and use of these sites, regardless of whether they retain ownership of the land, demonstrates a willingness to be a part of the community in which the aggregate companies work. Ultimately, demonstrating respect for agriculture and those who practice it is the key tool modelled by these producers.

Appendix: Operators' Interview Questionnaire

Aggregates & Agriculture – Semi-Structured Aggregate Operator Questions

Opening, including thanks for being willing to discuss their experiences; gaining of consent; and asking permission to record (whether in-person & solely voice recording, or virtually & “Zoom” recorded)

All identifying information provided in this study will be maintained in strict confidence and will only be used for the purposes of this research. Personal, identifiable information provided by all participants will be protected and will not be published with the results of this study, nor will it be publicly accessible.

You will be asked to make statements related to the properties surrounding your aggregate extraction site or farm and/or agricultural business. To participate in this research project, locational data related to your property is required. While the identity of your property or site will remain confidential, it is possible that any description of activities or characteristics that you provide may make your identity more discernible.

I also wanted to mention that we can skip over any question or stop the interview at anytime. You are also able to withdraw your participation at any time before April 30, 2022.

The last piece of the ethics protocol is to ask if is okay for me to record this conversation for note taking purposes? (mention video)

The opening set of questions is intended to collect basic information about the operation and the operators (“break the ice”).

- How long has the site been operational? What has been the primary product retrieved? How long do you expect the site to last? How much product is expected?
- How big is the site? How many phases are in the site plan? What stage are you at? Has any remediation been started?
- Are you connected to a larger/parent company? Who is your primary customer? Where are they located? Where does the product get used?

The second set of questions is intended to establish the perceived relationship between the aggregate operation and local agriculture.

- How many farms butt up against your operation?
- What kinds of farms are they? What do they produce?
- How often do you see equipment in the field?
- Do you ever speak to neighbouring farmers?

The third set of questions is intended to understand perceptions of direct interaction with the farmers/farms.

- What is the most common interaction you have with your neighbouring farms? How did/does it go?
- Do they ever interfere with your operation? How?
- Do you interfere with their operation? How?
- Has a farmer ever complained to you about problems? Have you ever heard through the grapevine about problems? What did you do about them?
- Do you provide a discount for your neighbours to purchase material? How do you determine who qualifies? Do you feel this gets taken advantage of?

The fourth set of questions is intended to understand strategies to improve relations with local farmers.

- Do you see yourself as a good neighbour? Why?
- Do you do anything in particular to help your neighbours farm? What do you get from it?
- What do you think about the attitude that some people hold that aggregate is a negative industry? Does that help determine how you run your operation?
- Do you do any community projects to build your community presence in a larger context?

Do you have any advice for your industry peers to help build their relationships? What would you tell someone who is starting a new pit in a previously un-quarried community?