

MASTER SITE DEVELOPMENT PLAN

Rocky Ridge Gravel pit

NE1/4, 1, 27, 27, W4M

Submittal Date: August 2023,
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Applicant: Skland Consulting Corp



Revitalizing Abandoned Gravel Pits



Resource Utilization



Land Restoration



Return Land to Productivity

INDEX

Cover	
Index	
1.0 The Project	1
1.1 Overview of the project	1
1.2 Operator	2
1.3 Purpose of the Application	2
1.4 Site	3
1.5 Resource Demand	3
1.6 Site History	4
1.7 Landownership	4
1.8 Project Land Use and Zoning	4
1.9 Adjacent Land Use	4
1.10 Public Engagement	5
1.11 Assessment of Cumulative Aspects of Extraction Activities in the Area	7
2.0 Site Analysis	9
2.1 Topography	9
2.2 Vegetation	9
2.3 Soil	10
2.4 Wetlands and surface water	10
2.5 Groundwater and Geotech Report Summary	11
2.6 Environmental Screening Report Summary	12
2.7 Storm Water Management and summary	12
2.8 Access	13
2.9 Exploratory Testing	13
3.0 Utility Activities	14
3.0 Operational and Activities Plan	15
3.1 Hours of Operations	15
3.2 Site Security	15
3.3 On-site Safety Rules	17
3.4 Contractors	17
3.5 Site Access and On-Site Hauling	18
3.6 Phasing Plan	18
3.7 Processing	21
3.8 Loading & Scaling	21
3.9 Noise Evaluation and Plan	22
3.10 Dust & Air Evaluation and Plan	23
3.11 Haul Routes & Traffic Impact Assessment (TIA)	24
3.12 Hazardous Materials Management Plan	25
3.13 Environmental Monitoring & Complaint Resolution	25
3.14 Annual Reporting Requirements	26
3.15 Inactive Pit Conservation and Reclamation Techniques	26
4.0 Reclamation Plan	27
4.1 Landscaping Plan	27
4.2 Erosion & Sediment Control Plan	28
4.3 Waterbody	28
4.4 Revegetation	29
4.5 Site Maintenance & Weed Control	29
4.6 Reclaimed Land Use	29
5.0 Summary	30
5.1 RVC Application Requirements	30
5.2 Conclusion	30
MSDP SUMMARY OF POLICY COMMITMENTS	32

APPENCIES

APPENDIX 1.....	Drawings; Includes; Site aerial view, Test holes & X- Section locations, X-Sections A, B, C, Existing Site conditions, Proposed Activities & Mining Plan, Reclamation Plan,
APPENDIX 2	Traffic Impact Assessment (TIA)
APPENDIX 3	Storm Water Management Plan (SWP)
APPENDIX 4	Erosion Sediment Control Plan (ESCP)
APPENDIX 5	Environmental Screening Report (ESR), includes; Noise assessment, Air quality assessment, soils report, wetlands assessment, wildlife & fisheries.
APPENDIX 6.....	Landscaping Plan
APPENDIX 7	Geotech Report
APPENDIX 8.....	Summary of Policies
APPENDIX 9	RVC MSDP Technical requirements
APPENDIX 10	Historical Air Photos

FIGURES

FIGURE 1	LAND USE MAP
FIGURE 2.....	RVC ZONING MAP
FIGURE 3.....	PUBLIC ENGAGEMENT SUMMARY
FIGURE 4.....	PUBLIC ENGAGEMENT RADIUS MAP

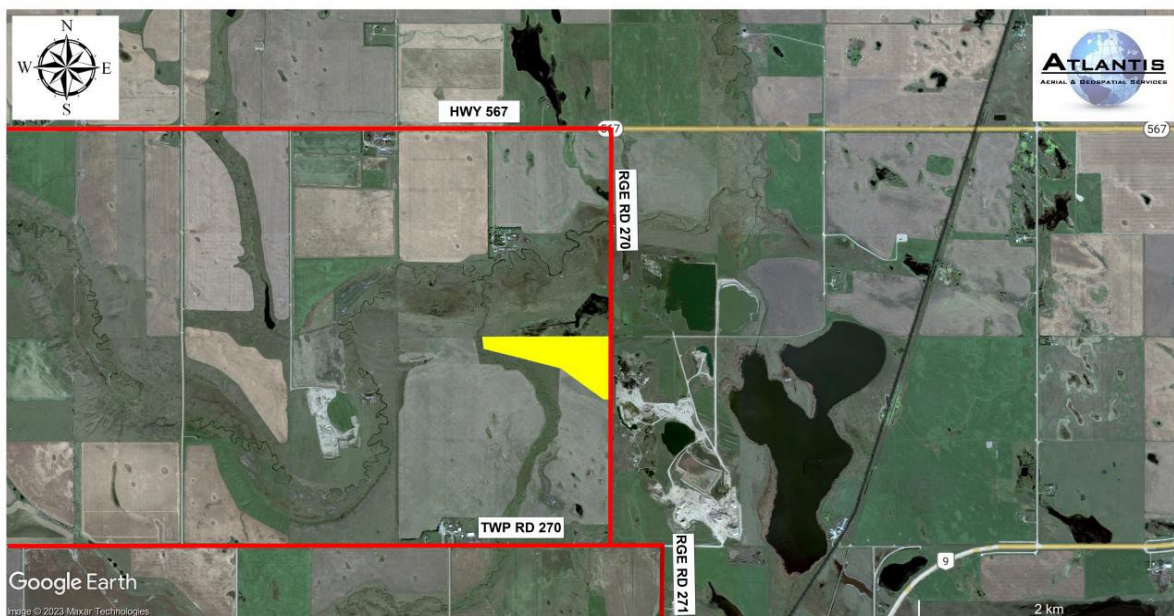
1.0 THE PROJECT

The project is named as the “Rocky Ridge Gravel Pit” (RRG) and is an existing inactive unreclaimed gravel pit. All proposed activities will take place within the footprint of previous excavation disturbances. The proposal includes excavating the remaining deeper portion of in-situ pitrun (raw aggregates) left behind from previous gravel pit operators, followed by reclaiming and cleaning up the site by removing gravel piles, berms, uneven surfaces and assorted garbage and construction items. The entire process is expected to be completed within 4 years from start to finish.

1.1 Overview of the Project

Skland Consulting Corp is applying to Rocky View County for all necessary permits to resume the operations of an existing abandoned gravel pit that has not seen activity for more than 40 years. Skland consulting currently has an agreement in place with Rocky Ridge Farms Ltd., the titled owner of the subject lands, to remove raw materials, operate and reclaim the subject site, a portion of NE1/4, 1, 27, 27, W4M. Richard and Anne Luft live on the subject ¼ section and are the titled owners of Rocky Ridge Farms Ltd. This application will specifically request approval for a “Master Site Development Plan” (MSDP). The project will first complete the extraction of the remaining raw pitrun (aggregates) then properly reclaim the land back to its productive capabilities. All proposed activities would take place within the footprint of unreclaimed previous gravel operations. Key notes to the project;

- Multiple active gravel pits are located adjacent to the project, directly to the east, northeast, north and another approximately 1/2 mile west.
- This project is small in comparison to all other operations with only 360,000 tonnes of pitrun remains.
- The site was first disturbed more than 80 years ago but has been inactive for more than 40 years.
- The site has not been reclaimed.



1.2 Operator

Skland Consulting is an independent consultant with more than 25 years of aggregate industry experience providing consulting expertise to landowners and organizations.

Operator skills & expertise;

- Resources; Prospecting, Permitting, public consultation processes.
- Processing; wet and dry aggregates, hard rock, and recycling of construction materials,
- Managing; permitting, dirt moving, mining, production operations, Marketing, and sales activities.

Achievements:

- Successfully managing gravel pits located within the following regions; Rocky view, Parkland, Leduc, foothills, Wheatland, Red Deer, Lacombe, Ponoka, Vulcan, Lethbridge, Clearwater, COC, along with several pits within Alberta parks.
- More than 100,000,000 tonnes of aggregates sold into the Alberta construction market.
- More than 2,000 acres of land reclaimed post gravel operations.

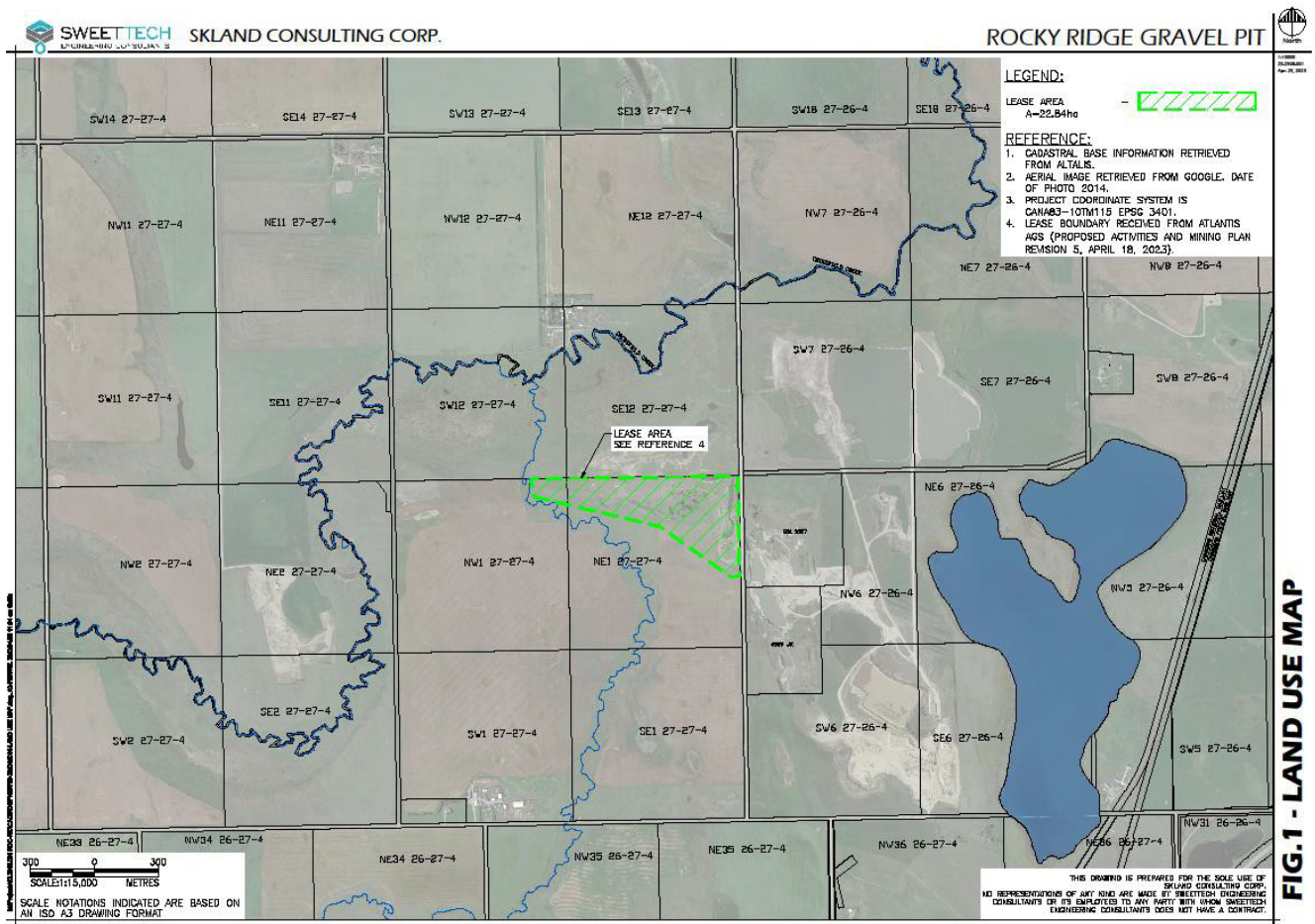
1.3 Purpose of the Application

The purpose of the project would be to extract the remaining 360,000 tonnes of In Situ pitrun left behind from a series of gravel mining activities dating back to as early as the 1940's & 50's. The quality of the raw material is naturally clean and well graded, which is highly sought after within the local region for construction projects. Aggregate will be utilized for projects within RVC with the expectation that most materials will be used in the Balzac and Airdrie markets. There is no intention of opening a traditional day-day gravel pit but instead provide aggregates to a few larger projects eliminating a need for day-to-day operations. The proposed extraction area is approximately 19.3 acres in size. This area is within the footprint of a pre-disturbed larger area of approximately 45 acres resulting from a history of gravel extraction activities over the past estimated 80 years. The site was left unreclaimed, but nonetheless, through the natural process of reclamation, some overburden/organics has reestablished on the pit floor. Vegetation coverage is sparse resulting in a less than effective pasture.

Skland is requesting to receive approval for a Master site Development Plan, to extract the remaining aggregates from a site with a long history of gravel extraction activities. Gravel from phase one will be removed and immediately reclaimed with the dirt from phase two and once the gravel is removed from phase two all remaining dirt in stockpile will be used for final reclamation to pre-disturbance land capabilities. The pitrun (aggregate) that remains is valuable in today's market where years ago the same material was considered waste. The raw material will be utilized for road gravel, drainage rock and blend sand for construction materials. Skland is committing to revitalizing the subject lands by returning it back to productivity once resources are extracted. The timeline to complete the project is expected to be approximately 4 years.

1.4 site

The subject site is a portion of the **NE1/4, 1, 27, 27, W4M**, approximately 7kms SW of the town of Irricana. The landowner is registered as “Rocky Ridge Farms Ltd.” (Figure 1, Land use map). Skland Consulting Corp. has an agreement with Rocky Ridge Farms to extract the remaining pitrun material from the subject land followed by cleaning up and reclaiming the site.



1.5 Resource Demand

The resource is of excellent quality due to its naturally clean well graded composition which is highly sought after for construction material applications. Although it is difficult to estimate the precise timing and sales rate of the materials, it's anticipated that Sales will be 90,000 tonnes per year, which will deplete the 360,000-tonne reserve within 4 years. The market area for this operation is Balzac, the City of Airdrie and RVC. Considering that sales would first begin in the opening year of the site, final reclamation would be planned for the fourth year.

1.6 [Site History](#)

The land is owned by Rocky Ridge Farms which was previously approved for the development and reclamation of 10 acres for a gravel pit (Approval No. SG-162-86), but no gravel extraction or reclamation activities took place under that approval. It's understood through conversation with the landowner that Rocky view County (RVC) originally initiated the first gravel extraction from the site with the specific use of coarse aggregates for local road construction projects. RVC was also the last operator on-site dating back to the early 1980's. Other operators were also noted to draw aggregates from the site for construction projects including Alberta Transportation. From past air photos and correspondence with the original landowner, the gravel pit was first disturbed back in the 1940's and over time expanded to the current footprint of ~45 acres in size. A series of historical air photos for Rocky Ridge Farms were obtained for 1950, 1977 and 1985. The photos demonstrate the activity changes (See Appendix 10, historical air photos).

1.7 [Landownership](#)

The subject lands are privately owned and located within Rocky View County, southwest of the Town of Irricana. The proposed project area is ~45 acres. Skland Consulting Corp has a lease agreement with the owner to excavate the remaining gravel and reclaim the site.

Location –	NE1/4, 1, 27, 27, W4M
Land ownership –	Rocky Ridge Farms Ltd, Richard & Anne Luft, 270224 TWP270, Rocky view County, T4A 3A7, 403-935-4414
Occupants -	Richard & Anne Luft, 270224 TWP270, Rocky view County, T4A 3A7, 403-935-4414

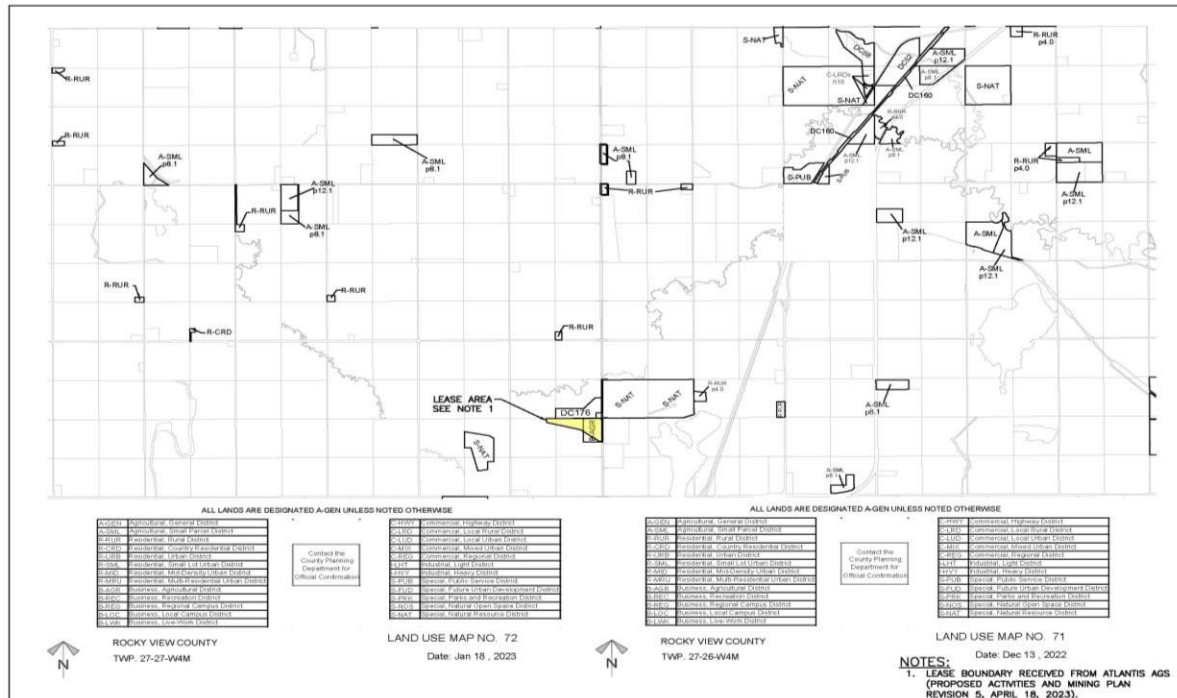
1.8 [Project Land use and zoning](#)

The lease boundary of the proposed project consists of 24.2 hectares (59.8 acres) that was previously mined for aggregates pre-1985. The exact date to when the last activity took place on site is difficult to pinpoint, however through conversation with the landowner it's estimated to be around 1985. Land use in this region is agricultural, oil and gas, and aggregate mining. The Project is located on private land, owned by Rocky Ridge Farms Ltd., and is currently zoned as Business, Agricultural District and Agricultural, General District (B-AGR & A-GEN) (RVC 2003). This property is an existing gravel pit that has not been reclaimed but is currently used for grazing cattle to a limited extent due to pasture quality during the summer.

1.9 [Adjacent Land Use](#)

The property to the north is owned by H. George (RVC 2021), and the land is designated AGEN and

DC176 which is used for pastureland and bee keeping (RVC 2021). It is understood that this property has recently been approved for gravel extraction and aggregate production activities for Burnco operations. The properties to the south are owned by D. Culp and S. & F. Punkert (RVC 2021) and the land is designated A-GEN (RVC 2003). Lands to the east of the Project area contain active and reclaimed gravel pits, which are owned by Burnswest Corporation (RVC 2021), leased by BURNCO, and designated A-GEN (RVC 2003). Properties to the west are owned by V. & S. Senger (RVC 2021) and land is designated A-Gen and Special, Natural Resource District (SNAT) (RVC 2003). (Reference RVC zoning map, Figure 3)



RVC ZONING MAP – figure 2

1.10 Public Engagement

The public consultation process is an important step for any new development to engage and inform the community of proposed project details. This project is an unreclaimed existing inactive gravel pit that has seen continuous activity on and off over the past 80 years. The proposed project is surrounded by several active gravel pits that have been active for decades. The access road to the project site, from RR270, has no other occupants along the entire length of road. Minimal impact is expected due to the very limited local traffic, planned short time frame for the project, low volume of pitrun on-site and the limit to operational hours as seasonal and operations limited to twelve hours per day when site is active.

Skland personally contacted all parties of land ownership and occupants within a one-mile radius of the proposed project, Rocky Ridge Gravel Pit (RRG). Project information was provided to all parties with the opportunity given to express any concerns they may have about the project. Concluding the process, conversations with four of the five occupants (fifth being the project site landowner), after conversation all were in support of the project with no concerns not addressed within the application.

A summary of the contact list, findings, and location of each occupant in relation to the proposed project follows.

Public Consultation Review Process										
All neighbours living within a one mile radius (1.6 kms) of proposed project were contacted and consulted										
Site	Location from proposed project	Legal Land Descr.	Residence (yes/no) if yes distance (kms) and shown on map	Date of contact	Land ownership	Contact	Contact number	Project Concerns	Concerns addressed	Support for the project
1	North adjacent lands, SE 12-027-27 W4M		yes, 1.1 km north west	09-Aug-23	Hazel George Landowner	Hazel George	403-935-4883	Dust, noise	Yes	Yes
2	East adjacent lands SW 06-027-26 W4M		No	28-Apr-23	Burnswest Properties Operated by Burnco	Travis Coates, Director lands w/Burnco	403-836-5288	None	n/a	Yes
3	dwelling is South 900m, SW 1-027-27 W4M		Yes, 0.9 km south	N/A	Richard & Anne Luft Landowner	Richard & Anne Luft	403-935-4414	RR270 safety	Yes	Yes
4	West adjacent lands, SE 2-027-27-W4M		No	08-Jun-23	Senger Pit, Operated by Aecon	Aaron Vimy, VP Aecon Transportation West	403-461-2779	None	n/a	Yes
5	Land 1.0 km East, 8-027-26-W4M		No	02-Aug-23	Murray Poffenroth Landowner	Murray Poffenroth	403-935-4472	None	n/a	Yes
<u>Information Provided</u>										
1	Extracting/mining the remaining sand/gravel/rock that was left behind from previous operators. Approx 350,000 t									
2	The footprint of the operation will be kept within the footprint of what has already been disturbed									
3	The rockier material will be crushed. Expect to crush one season for approx. 10 weeks total time.									
4	All aggregate material to be hauled offsite									
5	Reclaiming and cleaning up the site which has been disturbed for more than 80 years.									

Figure 3

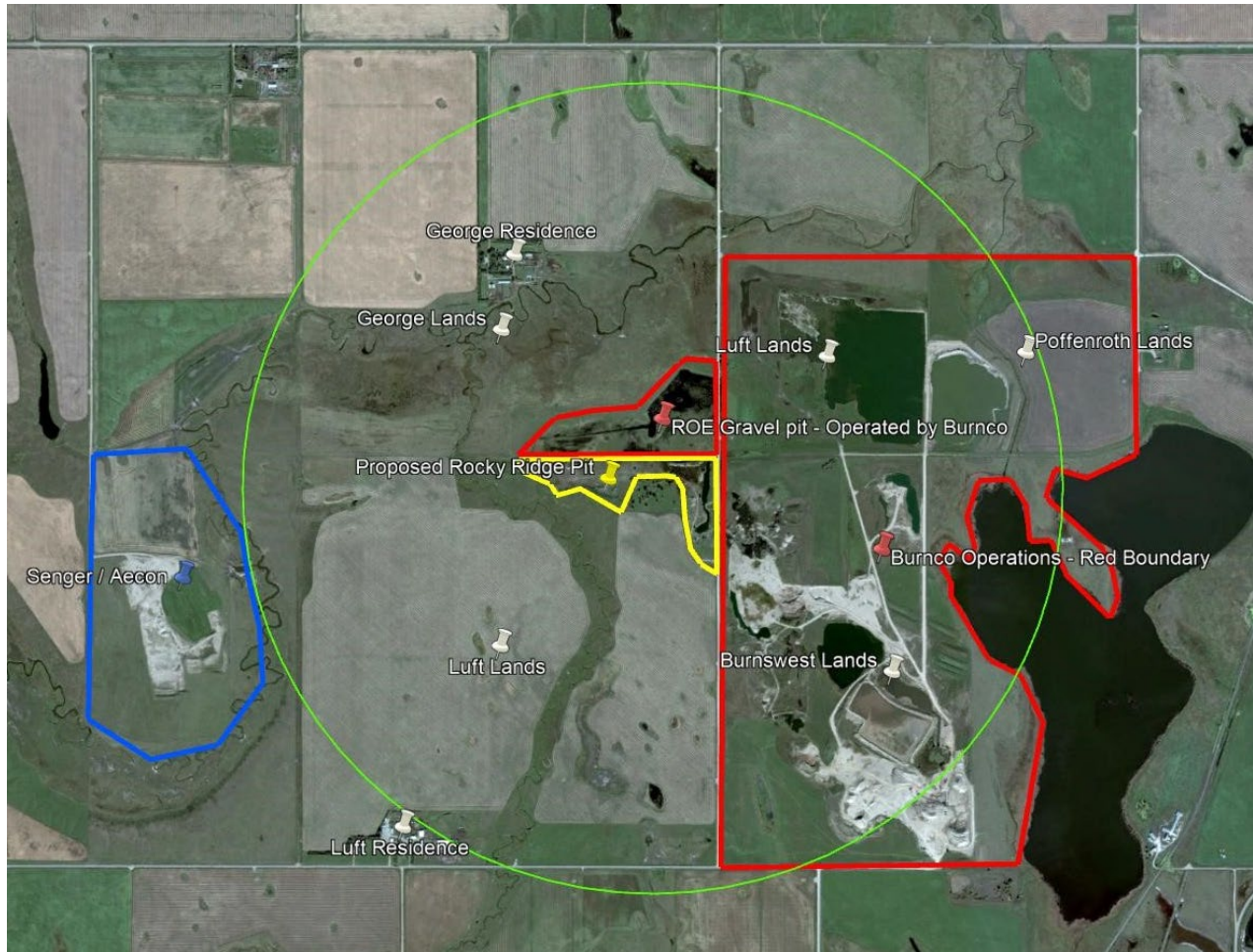


Figure 4
1 mile Radius map

1.11 Assessment of Cumulative Aspects of Extraction Activities in the Area

Historically and currently, the project area has been and is used for extracting aggregates and aggregate production. Burnco Rock Products Ltd. currently owns and/or operates the following three immediately adjacent gravel pits to the east, and northeast in relation to the proposed RRG development:

- Irricana 1, (Burnswest) located in SE 06-27-26 W4M (active);
- Irricana 2 (Luft), located in SW 07-27-26 W4M (reclaimed); and,
- Irricana 3 (Poffenroth), located in SE 07-27-26 W4M (reclaimed).

Combined, these three Burnco sites represent a total of 323 hectares (799 acres) in size. It is understood that since the end of 2022, Irricana 2 and Irricana 3 have been depleted and in the process of reclamation approval, while Irricana 1 still contains an estimated 2,100,000 tonnes of aggregates with roughly 400,000 tonnes of material sold annually into market. Additionally, it is understood neighboring Burnco has recently been approved for another aggregate extraction site named the Roe Gravel Pit, located in SE 12-27-27 W4M, adjacent and north of RRG. Also, west approximately 1 km there is another active gravel operation named the Senger pit which is operated

by AECON and uses natural bank sand as blend sand for their asphalt plant located in the Balzac east community. It is understood that the Senger pit is nearing depletion.

The proposed RRG development will be 7.81 hectares (19.3 acres) and is substantially smaller than its neighboring sites with active gravel operations since the 1960's. The additional impacts of the proposed RRG development is anticipated to be very small when compared to the surrounding existing operations and a minimal influence on the overall cumulative impacts of gravel extraction activities in the immediate area. Cumulative impacts contributed by RRG would be;

1. An increase in dust and noise from aggregate production. Considering that crushing will take place for approximately 10 weeks in the first year only, any impact will be very minimal. RRG will mitigate these impacts by following the measures laid out in sections, "3.9 Noise Evaluation and Plan" and "3.10 Dust & Air Evaluation and Plan".
2. An increase in traffic volumes is anticipated over the four years of operation, which are noted as acceptable and well within the design capabilities of the road and not require further mitigation, as detailed in the appended "Traffic Impact Assessment".

2.0 Site Analysis

The Rocky Ridge Pit is an existing gravel pit dating back to the 1950's. The landowner has informed Skland that most recent activity in the early 1980's was operated by RVC as a gravel crushing source, however, not aggregates were removed, and the site was left unreclaimed. A thin layer of vegetation has been re-established on top of the gravel pit surface. This project would mainly be a reclamation exercise to clean up the piles of debris and reclaim the land back to a productive pasture.

Approximately 360,000 tonnes of good quality pitrun still remains that should be extracted prior to reclamation. The site has existing drainage flowing west to east with no presence of wetlands. An existing waterbody on site is surrounded by excavated gravel piles that impede water access to wildlife and livestock. The proposed project does not extend beyond the footprint of the existing pre-disturbance.

Sweettech Engineering completed an Environmental Screening Report (ESR) to assess and evaluate the sites biophysical. A complete copy of the report can be found in Appendix 5. The ESR covers sections 2.1 – 2.7.

2.1 Topography

The mining area is generally flat with grades of less than 1%. The pre-disturbed area and proposed disturbance lies along the most southern - eastern portion of the property. The perimeter of pre-disturbance area to the south and west exposes steep banks where excavation ended. The glacial terrace deposit varies in quality and depth. For further information reference Appendix 5 and Appendix 1, Drawings #3-#8.

2.2 Vegetation

The Foothills Fescue Natural Subregion is characterized by creeping juniper, Parry oatgrass, Blue bunch fescue, and June grass (dry, steep slopes). Addition of mountain rough fescue with increased soil moisture.

The Alberta Conservation Information Management System (ACIMS) has a database of vascular and non-vascular plants and invertebrate species of special conservation concern. A search of the ACIMS database in April 2023 showed no elements of concern, protected areas, nor crown reservations in the section 1-27-27 W4M (AEP 2018).

The Project area was previously permitted for gravel pit operations and was never reclaimed. As a result, topsoil/organic materials are lacking, and vegetation is sporadic with very low density. Considering the Project area has been modified from its pre-disturbance state and the potential for rare plant species is low, it is anticipated that there will be no negative impacts within the project site or surrounding areas, and the conditions for vegetation will improve following reclamation.

2.3 Soil

Sweettech Engineering assessed the existing environmental conditions and reclamation plan. According to the Agricultural Region of Alberta Soil Inventory Database (AGRASID 2023) the landscape model for the Project area is within soil order Chernozemic, described as having regohumic gleysol on fine textured (C, SiC) materials (not till) over medium textured (L, CL) till (BZC). Soils are coarser textured than the dominant or co-dominant soils and Solonetzic soils. The Project area resides in a valley with floodplain, low relief landform with slopes ranging from 1-5% on the floodplain and up to 15% on the side slopes. As a result of previous aggregate mining activities, without reclamation, the topsoil depths identified within the Project area were thin between 50 to 75 mm. Topsoil removed due to the gravel extraction activities will be stockpiled onsite and used for reclamation. The average topsoil/OB thickness within the unreclaimed site is 8 cm. The reclamation depth is planned at 15cm to completely utilize the existing stockpiled topsoil. (Skland, 2023)

Two existing topsoil piles are noted on the existing site plan and a 50-75 mm layer of substandard topsoil vegetation that has naturally reestablished on top of the pit floor over the past 40+ years due to inactivity. This overburden material will unlikely be successfully salvaged due to the shallow depth and the inability to effectively separate from the gravel surface. Instead, the OB will be separated and stockpiled adjacent and along the north fence line to be used as future fill material during reclamation. (For further details see drawings in Appendix 1 and the environmental screening report from Ridge Environmental Planning Ltd in Appendix 5).

Policy 1: Skland will obtain Historical Resource Act approval will be obtained prior to Development Permit issuance.

2.4 Wetlands and Surface water

Sweet-Tech Engineering provided wetlands and surface water assessment. Through a review of the Alberta Merged Wetlands Inventory Map and field assessment there are confirmed no wetlands identified within the boundaries of the Site. The only hydrological feature of note within the project area is the exposed groundwater table at the northeast corner which was daylighted from previous operators (Alberta Transportation) excavating of deeper pitrun. Outside of the project area, Crossfield Creek and its Unnamed Tributary are the closest mapped waterbodies, which are located more than 500 and 100 meters away, respectively. Crossfield Creek is not a classed watercourse, as per the Code of Practice for Watercourse Crossings (AESRD 2012). Surface drainage within the pre-disturbance boundary flows to the east away from the unnamed tributary. Due to the distance of the Project area from waterbodies, surface drainage patterns, the nature of aggregated deposits in the area, and that no dewatering activities are expected to occur, negative impacts to surface waterbodies are not expected.

The current on-site hydrological feature daylighting from previous operations is approximate 2-acres and holds an agriculture water license for livestock. The waterbody is irregular shape with very steep side slopes along most of the perimeter making it difficult for livestock to access water. Through initial exploratory test holes (Skland 2023), a deeper pocket of high-quality aggregate remains in the NE corner. This deeper pocket is approximately 4 acres in size. Final reclamation proposes to expand the existing 2-acre water body, that is limited in function, to 6 acres by excavating the deeper

pocket of gravel like what the previous operator (Alberta Transportation) had previously done to create the existing 2-acre water source. Excavation of sand and gravel will, however, interfere with the surface water groundwater table and therefore a Water Act application on behalf of Alberta Parks and Protected Areas (APPA) for the disturbance of surface water will be required. No impacts to groundwater are expected to occur because of the Project.

Sweettech Engineering concludes, considering that the gravel extraction will be within the pre-1980 disturbance footprint and that no wetlands were identified, it should be concluded that there will be no negative impacts to wetlands or watercourses in the surrounding area. The only hydrological change would be to expand the current 2-acre waterbody to 6-acres in which a Water Act application will be required. (See Appendix 5 - Environment screening report, for supporting information).

Policy 2: Skland will obtain water license approval to excavate sand and gravel, through AEPA and Water Act for an additional 4 acres of water body.

2.5 Groundwater and Geotech Report Summary

Sweet-Tech Engineering assessed the groundwater and water well survey data. Conclusion is that the project will not affect the groundwater aquifer as the excavation for the proposed aggregate extraction is too shallow (maximum depth of 5 m) to interfere with groundwater resources to affect the surrounding water wells. A review of the Alberta Water Well Information Database (GOA 2023) was conducted in April 2023, and identified five Water Wells within a radius of ~ 2 km of the Project area. Of the five existing water wells, all are completed in bedrock aquifers, greater than 40 meters below ground level. The water well ID# 161222 does not exist as per Hazel George during the field assessment conducted by Millenium EMS Solutions Ltd. (2022). It is anticipated there will be no risk of a negative impacts to the local water well users.

Water wells that occur within 2 km of the Project area.			
Well ID	Owner	Location	Depth (m)/(ft)
147201	Luft, Richard	SW 1-27-27 W4M	60.96 m/200 ft
251329	Luft, R	SW 1-27-27 W4M	48.77 m/160 ft
251335	Luft, RJ	SW 1-27-27 W4M	60.96 m/200 ft
299884	Luft, Roger	SW 1-27-27 W4M	61.57 m/202 ft
161222	Hazel, George M.	SE 1-27-27 W4M	24.38 m/80 ft

Skland will commit to working with its neighbors, including other gravel pit operators, to address local water well problems while the Rocky Ridge gravel pit is active. If water wells within a one-mile radius are disrupted, Skland will commit to the following;

- Assist with assessing the problem and provide water to the impacted household.**
- Support an independent analysis and share the responsibility to determine the cause of reduced water well volume;**
- If it is determined that mining operations were the direct impact on a water well, Skland will share the cost to repair the well.**

Skland Consulting Corp. (Skland) retained SweetTech Engineering Consultants (SweetTech) to address geotechnical, hydrogeological, and groundwater considerations. The report summarizes that the groundwater is stable with no impacts to the groundwater are expected. (see Appendix 7 – Geotechnical Report, & Appendix 5 - Environment screening report for further details).

Policy 3: Skland will provide a Geotechnical Assessment at time of development permit application which provides slope stability recommendations for the proposed gravel pit. The assessment is to provide recommendations for slope design and setbacks in active pit areas as well as for final reclaimed conditions.

Policy 4: Submit a water testing plan at time of DP application and commit to following the plan and take monthly ground water elevations and annual water quality tests from residential water wells within or near a 800 m radius of the site measurements to be taken at a frequency of once a month.

Policy 5: Skland will work with neighboring gravel pit operators to address any local water well problems while the Rocky Ridge gravel pit is active.

2.6 Environmental Screening Report Summary

Sweettech Engineering provided the following ESR summary of the project. Topsoil/organic materials are lacking, and vegetation is sporadic with exceptionally low density. After initial desktop and on-site screening and based on the lack of findings to support the potential for negative impacts to the site and the surrounding area as it relates to rare vegetation, air quality, surface drainage, soils, wildlife, wetlands, and groundwater a Biophysical Impact Assessment is not recommended at this time.

There is no evidence of endangered wildlife species in the area, however, based on the recommendations from Sweettech Engineering assessment, a wildlife sweep should be completed within 7 days of any construction activities taking place. For further information on supporting information and site findings for rare species, endangered species and critical wildlife species and fish species, refer to the ESR report by Sweettech Engineering in Appendix 5.

Skland is currently applying for the necessary permits with Alberta Environment Protection to operate and reclaim a gravel pit and to the Alberta Water Act for permission to excavate into water and expand the current water license from 2 acres in size to a larger 6-acre water body.

Policy 6: Skland will Conduct a wildlife sweep within 7 days prior to any proposed activities commencing.

Policy 7: A Biophysical Impact Assessment (BIA) is not required to be submitted unless deemed necessary by Alberta Environment and Parks (AEP), and in accordance with the approved Environmental Screening Report (ESR).

Policy 8: Skland will apply for the necessary permits with Alberta Environment Protection to operate and reclaim a gravel pit as listed in the MSDP. As a condition of future development permits, Skland will provide RVC with AEPA registration for the site.

2.7 Storm Water Management and summary

Sweettech Engineering conducted a stormwater management study assessing the existing, proposed operational plan and reclaimed drainage behavior over the site. The findings conclude that all conditions; predevelopment, operational and post development will behave in a similar manner and that the proposed development is not expected to induce any negative impacts to the site or the surrounding area. The study concludes that there are no concerns, however, if the site differs in an extensive way from what was assessed or if the proposed changes are significantly different from what's planned, then, the site will be re-evaluated.

Policy 9: Skland will follow the storm water management plan and recommendations from Sweettech study in Appendix 3.

Policy 10: Skland will submit a site-specific stormwater management plan at the development permit application stage to address the specific stormwater management requirements of each operational phase.

Policy 11: Skland will submit an Erosion & Sediment Control Plan at the development permit application stage in support of each operational phase.

2.8 [Access](#)

Existing access to the property is located on the west side of RR 270 which parallels the proposed site (NE-01-27-27-W04). During operations and transporting material, trucks will use this same access point in and out of the site. The site will be gated and locked with two new 10- foot cattle gates. (Site Aerial View in Appendix 1)



Existing Access

Policy 12: As a condition of future DP, the applicant will be required to upgrade the site access to a commercial/industrial standard, in accordance with the County Servicing Standards.

2.9 [Exploratory Testing](#)

Test pits were dug early in the process (June 2022) to determine the depth, extent, and quality of aggregate. Twelve test holes/pits were dug with an excavator and three with a drill rig to log across

the site and assess soil depths and estimate resource volume. The site contains an estimated 360,000 tonnes of aggregate.

Average depths: Topsoil: 0 cm Subsoil: 0 cm Overburden (OB): 0.15 m Gravel: 2.6 m

2.10 Utility Activities

A locate was completed on-site prior to digging exploratory test holes. No utilities are located within the proposed operational boundary, nor will there be utilities be brought onto site for the duration of the project. (Skland Consulting Corp.)

There is one active wellsite (License 0241344) owned by Ember Resources Inc. (Ember) located in SE-13-06-27 W4M (Surface 01-12-27-27 W4M). There is also a pipeline (License AB00057357-342), owned by Ember, extends from the wellsite to the east to another wellsite in 4-07-27-26 W4M (Millenium EMS Solutions Ltd. 2022). Ember was contacted and was not concerned about the proposed project. The project will not impact any adjacent wellsite and pipelines. (SweetTech Engineering, ESR, Appendix 5)

It can be concluded that there will be no conflict or concern with utilities, pipelines and well sites within or outside of the project boundary.

3.0 Operational and Activities Plan

The operational and activities plan provides information on all proposed on-site activities that will be expected over the duration of the project. These operational activities include phasing plan, dirt moving, excavating pitrun (aggregates), crushing of material, loading, and hauling aggregates, and finally reclamation of the site. This section also provides proposed planning around access, haul routes, and mitigative measures for dust, noise, security, safety, water, and hazardous materials. There are no existing structures or utilities on the proposed site nor plans to introduce structures or utilities.

3.1 Hours of Operations

The site is not open on a day to day basis but only as needed to supply a few controlled projects or when operational activities such as dirt moving and others are required. All activities will work within the hours noted below, on an as needed basis, which includes hauling aggregates, dirt moving and processing (crushing) with no activities allowed outside these hours.

- 7:00 am to 7:00 pm - Monday through Saturday
- No activities on Sundays or Statutory Holidays
- Gravel crushing will take place in the first season of operation and for a duration of up to 12 weeks.

Policy 13: Skland will follow hours of operations stated in the MSDP throughout the life of the project.

3.2 Site Security

The proposed site will be secured on the north and east sides with 4 strand barbed wire fencing. Fencing will be monitored on a regular basis checking for damage. Access to the site from RR270 will be through two 10-foot cattle swing gates that will be locked outside of active operating activities. Safety signs displaying "Open Excavation", "No Trespassing", will be installed every 200 m on the property fence line along RR270 and the north, east-west property fence line.



Property Security Sign 1



Property Security sign 2



Proposed two 10-foot cattle gates at access.

Signage identifying the site name, location and contact number for project information will be displayed on a 6 foot by 4-foot post sign. (No image currently available)

General buffers, setbacks and screening measures for the site are proposed as follows:

- Setbacks for excavation activities to the north property line to be 3 meters. Reclamation will be required within the 3-meter zone to properly reclaim pre-disturbance activities.
- Setback along roadway RR270 to be 30m for excavating of pitrun. Reclamation will be required within this 30-meter zone to properly reclaim pre-disturbance activities.
- A temporary overburden Berm will be placed 3m offset and adjacent to the north, east-west property fence line. The berm will serve as visual screening and sound suppression from production activities. This berm will be removed during final reclamation.

Policy 14: Skland will take security measures as per the MSDP to secure the site.

Policy 15: Skland Consulting Corp shall provide a 24-hour number on the entrance sign to address all questions and concerns.

Policy 16: Skland will not excavate material within the setback area of 3 meters of the north property line and 30 meters of the east property line. Reclamation will occur within the setback areas to reclaim pre-disturbed areas.

3.3 On-site Safety Rules

The following rules will be adopted by all workers, contractors, subcontractors while on the work site.

1. No one is expected to work in an unsafe manner or to perform an unsafe act.
2. No person will engage in any improper activity or behavior at a workplace that might create or constitute a hazard to him or her or to any other person.
3. All work will be carried out in accordance with appropriate safe work practices and procedures.
4. Appropriate personal protective equipment (PPE) must be worn as required by the manufacturer of each product.
5. Consuming or being in possession of alcohol and/or illegal drugs on the project site is prohibited.
6. All accidents/incidents must be reported immediately to Skland Consulting Corp.
7. First Aid treatment is to be obtained promptly for any injury.
8. All employees must work within the limits of all applicable government acts, codes, and regulations such as Occupational Health & Safety, Worker's Compensation Board, and Fire Codes.
9. No person can operate equipment that they are not authorized and qualified to use.
10. Only tools that are inspected and in good repair, with guards and safety devices in place, will be used.

Policy 17: Skland will enforce on-site safety measures as noted within the MSDP

3.4 Contractors

All work performed on-site will be through subcontractors. All contractors working on site will need to meet the following expectations;

- Hold a minimum of 2 million liability insurance,
- Be in good standing with WCB,
- Assume "Prime Contractor" responsibilities for their work area and/or work scope.
- Abide by OH&S safety standards,
- Follow site rules, safety protocols and reporting requirements.
- Adhere to local bi-laws and Government laws.

Skland will monitor working contractors to ensure activities and plans are followed, reviewed, and signed off. In the event such requirements are not being met, work will be halted until expectations are satisfied.

Policy 18: Skland will ensure all contractors working on site will abide by MSDP rules while performing on-site operational activities.

Policy 19: Skland will as a condition of future DP provide a Construction Management Plan in accordance with the County Servicing Standards.

3.5 [Site Access and On-Site Hauling](#)

Access to the site will be via RR270 shown on existing site conditions. Both the access and internal haul road are surfaced with compacted gravel and rock from previous operations. No further changes to access and on-site haul roads are necessary. A maximum 20 km/hr speed limit will be enforced. As needed, on-site haul road and site access will be graded and controlled for dust to ensure noise and dust is kept to a minimum. For final reclamation, the on-site haul route will be removed but access will remain. See existing site conditions drawing for location of the haul road and access point. (See Appendix 1, drawings, existing site conditions.)

Policy 20: Skland will ensure the site access and on-site hauling commitments are followed and ensure that the roads are well maintained and controlled for dust.

3.6 [Phasing Plan](#)

The following phasing plan includes all activities with regards site setup, dirt moving, excavation of aggregates, processing of aggregates and reclamation.

Dirt moving will be minimal due to the limited amount of overburden that lies on top of the pre-disturbed gravel source. Equipment could include; scrapers, push dozer, grader, and excavator. The scope of the Project consists of two aggregate extraction phases. Phase 1 and Phase 2 with maximum areas of ~4.10 hectares (10.0 acres) and ~3.64 hectares (9.0 acres), respectively. An estimated 360,000 tonnes of aggregate will be extracted from the two phases over a period of three years. Reclamation will be completed within the fourth year. The maximum size of disturbance is estimated at approximately 19 acres.

Site setup and pre-operational activities will include;

- grading of existing haul road
- replacing existing gate to a locked doublewide cattle gate
- Install perimeter signage and site information signage at access.
- Secure existing barbed fencing.

Phase 1 activities in chronological order

- Prior to dirt moving activities, the existing pitrun stockpile on the eastern edge of the property

will be contoured to provide visual screening from the east road allowance. The Berm will be approximately 3-meters in height. Since the berm is made of pitrun/gravel, no topsoil, shrubs or trees will be planted on the surface for the fact they will not grow. See the landscaping plan in Appendix 6, Landscaping plan, for an illustration of the berm. This berm will be removed during final reclamation.

- To access the pitrun in phase one, the overburden will be stripped off the pit surface to expose the resource. The average depth of overburden on top of the pit surface is approximately 5 to 8 CMS or 2-3 inches in depth, which is very shallow and will require extreme care to minimize the mixing of soil and rock. Due to the high content of rock in soil, this material will be used as overburden for final reclamation.
- The overburden stripping from phase one will be stockpiled into a temporary 150m long, 3-meter-high berm along the north property fence line. The berm will be adjacent to the fence line but offset by ~6 meters. This temporary berm is intended for sound suppression and visual screening between the processing site and landowner (George) residence to the northwest. The berm will be removed during final reclamation.
- After the overburden has been removed from the phase one surface, the pitrun resource will be extracted with an excavator and hauled by loader to a small portable crusher on the stockpile area noted on the proposed activities plan.
- Crushing is only planned in the first season of operations and is expected to last less than 12 weeks.
- After all pitrun has been removed from phase one, the overburden from phase 2 will be stripped off its surface to be used to reclaim phase one.

Phase 2 activities, continued from phase 1 activities

- Overburden from phase 2 will be stripped off from the pitrun surface and used to reclaim phase one. The overburden will reclaim the western edge of the water body and established reclaimed grades as defined in the proposed reclamation plan. It's important to reclaim the excavated site as soon as possible to reduce dust emitting from the area.
- Because overburden from phase 2 will not completely reclaim the excavated area on phase 1, approximately ½ of the topsoil that's stockpiles from pre-disturbance activities that are located along the south edge of the site will be used to finish off the reclamation of phase one. The average depth of topsoil will be 0.15m or 6 inches.
- Immediately following the topsoil placement for phase 1, a seed mixture will be applied using the techniques of no-till drilling, broadcasting and light harrowing.
- Once the dirt is removed from the surface of phase 2 pitrun, the raw material will be removed with an excavator and placed into gravel trucks to be hauled off site to construction projects.

Final reclamation activities continued following excavating pitrun from phase 2. All activities for final reclamation will be completed simultaneously.

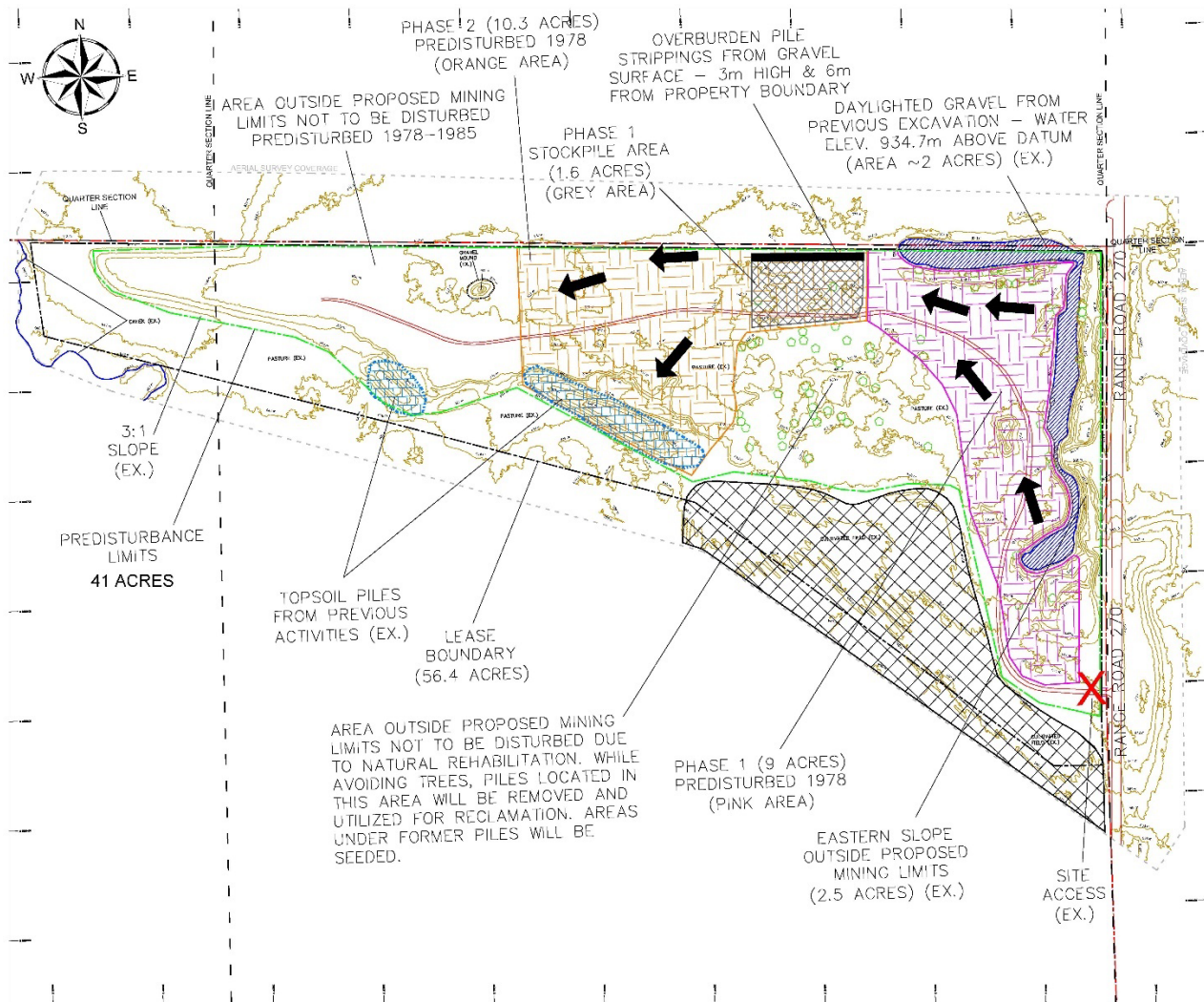
- The temporary berm along the north boundary will be removed and used to fill in and grade the phase 2 extraction area.

- The eastern visual berm located on the east side of the waterbody will be dozed to grade along the eastern water edge as per the final reclamation plan.
- Along the eastern edge of the property a 150-meter shallow berm ~1.0 meter high and 6.0 meters wide is proposed using excess surrounding OB materials. The purpose of the berm is strictly for safety to prevent vehicles from driving off RR270 and entering the pond. This berm is displayed in the reclamation drawing.
- Topsoil stockpiles from pre-disturbance activities located at the south edge of the site will be used to reclaim the remaining pitrun excavated areas in phase 2 with an average depth of 0.15m or 6 inches.
- All side slopes will be graded to no steeper than 5:1.
- All remaining topsoil from pre-disturbed activities will be used to reclaim all side slopes with a 6" coverage.
- Immediately following topsoil placement, a pre-approved seed mixture for pasture use will be applied to the topsoiled areas using the techniques of no-till drilling, broadcasting and light harrowing.

Following final reclamation, the site will be permanently closed with all signs removed. Once vegetation has reestablished itself for one full growing season, Reclamation approvals will be applied for with AEPA. For additional information, see Reclamation 4.0.

Once both DC & MSDP approvals are obtained from RVC, Skland will seek to obtain a development permit for gravel extraction, development and operational activities for the site.

Skland has received AEPA approval for the operation, gravel extraction and reclamation of the RRG gravel pit. Skland has received approval from The Alberta Water Act, to extract pitrun from a water source and leave a 6-acre waterbody for final reclamation. Skland has received approval from Historical Resources to commence operations. See below for phasing snapshot, for further information on Phasing, see Appendix 1, Proposed activities, and Mining Plan.



Phasing & Extraction Plan

Policy 21: Skland will follow the operations and phasing plan as displayed in the MSDP and in the activities and phasing plan drawing.

Policy 22: Skland will at time of DP submit a berming layout drawing and a written report outlining details of the berms on site.

3.7 Processing

Saleable good quality pitrun remains on less than 20 acres within the pre-disturbed area. The site will be limited to a maximum excavation area of 20 acres in size which is within the pre-disturbance area. Processing of aggregates will be limited to a relatively small amount of pitrun suitable for crushing. The only processing of aggregates will be to crush the larger pitrun material from phase 1. Material will be excavated and hauled with a loader to a small crusher. The crusher would be located on the stockpile and processing site noted on the activities plan drawing. Crushing will take place for up to 12 weeks in the first year of operation only, making this temporary crushing which typically would require a temporary permit to process. Material will be stockpiled with a stacker to the north and

northwest of the crusher on the proposed stockpile pad. Stockpiling in this manner will create additional sound and visual barriers from the neighbors to the northwest. All other materials planned for extraction will be hauled offsite.

Processing hours will be limited to Monday – Saturday 7am – 7pm with no Sundays or holidays allowed. Processing would take place during the spring, summer or fall time periods (May – November).

An Operations & Management Plan shall be submitted at the development permit application stage to clarify details for processing.

Policy 23: Skland will seek DP approval to process gravel on-site and provide a detailed plan to process aggregates.

Policy 24: Skland will limit the area of operation to a maximum size of 20 acres as stated in the MSDP.

Policy 25: Skland will meet the requirements of relevant provincial legislation (Code of Practice for Pits, Water Act) and the requirements of the County Servicing Standards to ensure that environmental impacts are minimized.

Policy 26: Skland will ensure that any proposed disturbances that have identified wetlands within the MSDP area will receive approval from Alberta Environment and Sustainable Resource Development in accordance with the requirements of the Provincial and Municipal Wetland Policy and the Water Act.

Policy 27: Skland will ensure aggregate development will align with all relevant municipal, provincial and federal legislation, regulations and policies.

3.8 [Loading & Scaling](#)

Since the project will only supply a few larger projects, a loader operator will only be on-site to load trucks occasionally when a project demands material. Scaling will take place from the loader. The loader will have attached to the bucket a legal for trade scale along with in cab ticket print out. Scaled information will be accessible to through cloud accessible software. Aggregates removed from site will be tracked.

Policy 28: Skland will ensure all loads are weighed and tracked as noted in the MSDP.

3.9 [Noise Evaluation and Plan](#)

Sound absorption in the Project area is moderate, as the land is relatively flat with no significant slope and consists mostly of grasses and some sporadic woody vegetation. The closest occupied resident, excluding the landowner, is the Hazel residence ~ 1000 m to the northwest. To provide additional sound absorption, a 3-meter-high berm from the overburden/topsoil stripping is proposed and to be constructed parallel to the north property fence line, which is direct in line between the proposed operation and the George Residence. Based on the proposed berm, the relative distance to the nearest residential receptor, the plan for only limited daytime production and a Burnco operating

gravel pit located between the proposed RRG and George property, it is not anticipated that the project will have any significant noise impact to the George residence. To note, a full noise impact assessment and permanent noise monitoring is not recommended at this time.

- Measures will be taken to reduce any noise impact from the operations. Processing on-site will be limited to a one-time 10-week crushing period for the first year of operation. Proposed processing for RRG is minimal in comparison to other local gravel pit operations. A request to process aggregates will be 7 am to 7pm Monday through Saturday, this will keep noise to minimal hours and least impactful to locales. The site will not be open for general sales but instead specific and few larger projects. Skland will establish further steps to minimize noise effects on the surrounding community and environment.

The following proposed controls & procedures will reduce any noise impacts from the operations:

- Grade the access road to reduce noise emanating from the surface while trucks and equipment move through the site.
- During operating hours, the back-up alarm will be kept at the dBA levels allowed under Alberta Occupational Health guidelines. A strobe warning light system will also be utilized as an extra safety measure during operating hours.
- All on-site equipment will be required to follow regular maintenance to prevent unnecessary noise from equipment failure. In the event equipment does emit audible signs of wear and breakdown, the equipment will be repaired at the earliest convenience possible.
- The use of engine retarder brakes will not be allowed within the site.
- Vehicle traffic noise will be minimized by controlling the on-site speed limit to 20 km/h while operating in the pit area.
- Provincial and municipal regulations for noise will be enforced at the site and are as noted:
- Alberta Occupational Health and Safety Act, Noise Regulation 314/81, and Amendment 439/81 - Exposure limits and guidance for hearing protection.
- Alberta Energy and Utilities Board (AEUB) Noise Directive ID 94-4 - Guidance for noise and sound control for Alberta energy related developments.
- BYLAW C-8067-2020, noise bylaw of Rocky View County. 2021 bylaw was created to regulate and control noise within Rocky View County.

Based on the limited operational activities of the Project, it is not anticipated that the Project will have excessive noise impact to the surrounding area given the minimal amount of processing, the restricted activity to 7am – 7pm and the existing aggregate operations that is adjacent to the proposal. Further noise impact assessment is currently not required, due to the minimal temporary impacts from the operations. Noise concerns will be assessed on a case-by-case basis with immediate and direct contact with anyone with concerns. If noise monitoring is found to be necessary, Skland will commit to monitoring the site.

Policy 29: Skland will follow the steps in the MSDP and all recommendations from Sweettech ESR to reduce noise impacts.

3.10 Dust & Air Evaluation and Plan

Skland takes air quality seriously and will implement the following management plan to reduce any impact. A relatively minimal amount of processing will occur limiting dust impacts to the environment. The project plans a one-time 10 week crushing schedule. Outside of the onetime crushing planned, other equipment will include a loader used for loading trucks, dirt moving equipment used for site setup and reclamation and an excavator for excavating in-situ pitrun from below water.

The most common contributors to fine dust particulates from aggregate operations are on-site traffic, material handling, material crushing, wind erosion of conveyance systems, disturbed areas, and unprotected stockpiles. Fine dust particulate can be managed using industry best practices for erosion and dust control. To effectively control and mitigate the impacts of dust, the following best practices will reduce dust and potential impacts throughout the project life.

1. Visually inspect for equipment and wind gusts that kick up dust, and immediately address concerns.
2. Use of calcium chloride or water sprays during production and dry periods. Increasing the frequency if the environment changes, becoming windier and/or drier.
3. All on-site equipment will be required to follow regular maintenance to prevent unnecessary dust.
4. Water sprays on crushing equipment to control dust will be required.
5. Dust from vehicle traffic will be minimized by controlling the on-site speed limit to 20 km/h.
6. Control wind erosion from stockpiles by contouring and hydroseeding all piles immediately after construction. Piles will be shaped to reduce steep slopes and the heights of all stockpiles will be kept to a minimum to reduce erosion from wind.
7. Upon the completion of mining of aggregates in each phase, areas will be reclaimed and seeded. Monitoring for erosion and an effective seed catch to ensure vegetation growth catches and erosion causing dust is then minimized.
8. The use of erosion control blankets will be used for steeper slopes.
9. Reduce site activities or potentially shutdown of site during periods of poor air quality,
10. Zero tolerance for idling and non-productive movement of equipment.
11. Be compliant with the Alberta Ambient Air Quality standards.

These measures will minimize air quality impacts and successfully meet the expectations required to operate within the community while ensuring compliance with Alberta ambient air quality limits. Further air quality impact assessment is not required at this time, due to the minimal impacts expected from operations. Air quality will be assessed on a case-by-case basis if complaints or concerns arise or changes to the local air becomes extensive or continuous. If air quality monitoring is found to be necessary, Skland will commit to monitoring the air quality of the site. SweetTech engineering had assessed the impacts on the air quality from the RRG operations. The report summarizes the impact from operations to the air quality on the surroundings would be very minimal due to 1) the limited on-

site processing, 2) the distance to the nearest residence and 3) following the list of industry best practices. (See ESR report in Appendix 1)

Policy 30: Skland will follow all recommendations in the ESR and ensure operations at the pit will be compliant with the Alberta Ambient Air Quality Objectives (AAAQO).

3.11 Haul Routes & Traffic Impact Assessment (TIA)

A traffic impact assessment was completed by JCB Engineering to look at the proposed haul routes along with the potential impacts on the road system. The detailed report along with conclusions, recommendation and supporting documentation can be found in Appendix 2 of the Traffic Impact Assessment (TIA).

Though it's difficult to truly predict the accuracy of the aggregate market, it's estimated that 50% will move into the City of Airdrie and 50% into the Balzac community. Access to the site will be via Range Road 270. When hauling to Airdrie, trucks will travel north on 270 to 567 then west, and when hauling to the Balzac community, trucks will travel south on RR270 to TWP270 then south on Hwy 9 then west on 566. It is expected the project will generate a total of 4 trips per hour (i.e., 2 trips entering, 2 trips exiting) or 40 trips during a typical day of operations between May and October.

In summary of the TIA, the only impact would be on Range Road 270, which will increase traffic volumes from 90 to 110 vehicles a day. While truck traffic will be increased greatly from current conditions, overall, this is significantly less than the 500 vehicles per day threshold for a Regional Moderate Volume roadway in the Rocky View County Servicing Standards. Based on the expected daily traffic volumes and the very minimal local traffic on RR270, RRG pit would have no unreasonable impact on surrounding roadways.

Once a development permit is approved, a road use agreement will be signed. Skland will share the responsibility for maintenance on RR270 with the adjacent Burnco ROE operation.

Policy 31: At time of Development Permit issuance Skland will enter into a road use agreement with RVC and share the responsibility for road maintenance on RR270.

Policy 32: Skland will enforce the proposed haul routes in and out of RRG.

Policy 33: All commercially licensed trucks directly controlled by the operator will participate in the ASGA truck registry program (or equivalent).

Policy 34: An updated traffic impact assessment shall be submitted at the development permit application stage in support of each phase.

3.12 Hazardous Materials Management plan

A waste management plan provides a structure to all workers and subcontractors providing business activities on-site and what will be the expectations for handling hazardous waste. The plan will provide guidance as follows;

Fuel stored on-site will follow the Alberta Environmental Protection Guidelines and the Alberta Fire Code for tank registrations for secondary containment for Above Ground Storage Tanks. This includes, containing fuel tanks with clay or an approved liner capable of holding 110% of tank

capacity. If a spill does occur within or outside the containment area of the storage tank, the spill must be immediately controlled using one of the following approved techniques (clay berm, absorbent pads, vacuum machines) to contain and remove the spilled material.

Any product used for on-site activity that may be labelled as a Hazardous material like, engine oil, lubricants, coolants etc. and kept on-site must have labels identifying the product according to WHIMIS regulations and be safely stored as per the products MSDS recommendations.

Portable toilets will be on-site when operations are active. All sanitary waste will be hauled to an approved waste management treatment facility.

All waste material from operations will be collected, stored in approved containers, and hauled offsite to an approved disposal facility. No Burying of waste will be allowed at any time and No waste material will be imported onto the site.

Policy 35: Skland will follow the Hazardous Materials management Plan noted in the MSDP.

3.13 Environmental Monitoring & Complaint Resolution

The nearest occupied residence is 1,000m NW from the Rocky Ridge property. This resident is the landowner of the adjacent approved gravel pit (ROE Pit) in 2023, operated by Burnco Rock Products. The second occupied resident within a one-mile radius is the landowner of the proposed gravel pit (Rocky Ridge Gravel Pit). No other occupied residences are located within a 1-mile radius. Since the two residents have vested interest in the two adjacent gravel operations in the vicinity, no monitoring stations are deemed necessary at this time. If complaints do arise from the local community, then monitoring will be introduced following an investigation that warrants it. The pit access sign will have posted 24-hour contact information for providing complaints or to request information.

In the event a complaint is issued, the following process to resolve the concern will be in place.

1. Receive the complaint.
2. Investigate the problem.
3. Respond to the complaint with an action plan if available.
4. Place plan into action, which may include the monitoring of air quality or Noise.
5. Document the information,
6. Provide follow-up within 30 days of when first received complaint.

Policy 36: Skland will follow the complaint response process provided in the MSDP related to noise, dust and all other complaints.

Policy 37: Skland will as a condition of future DP, provide payment of the Community Aggregate Payment Levy in accordance with Bylaw C-7748-2018, as amended, in the amount of \$0.40 per ton of aggregate extracted and removed.

3.14 Annual Reporting Requirements

Skland will submit an Annual Report to Rocky View County by early spring following the operational year to include the following operational details;

- Site plan detailing extraction operations,
- Reclamation activities highlighting progress and next year plans
- A summary of any complaints and/or incidents from on-site or from the Community.
- Summary of local landowners (George's & Luft) water well conditions
- The volume of aggregates removed from the pit.
- Water testing results and levels from on-site piezometers

Policy 38: Skland will provide an Annual Report to RVC in line with what is required to be reported.

3.15 Inactive Pit Conservation and Reclamation Techniques

The project is only expected to be operational for four years, from initial opening to final reclamation. For areas where there is inactivity for more than six months, the pit will be clearly identified by signs that indicate danger to discourage trespassing. Slopes, stockpiles, open pit faces and excavation edges to be stabilized with a 3:1 slope or shallower. Stockpiles will be seeded, and the weeds will be sprayed or mowed. The site will be regularly monitored to ensure soil stability, checking for erosion and reclamation is controlled for weeds. The site will be checked for security, proper fencing, and locked entrances. Signs will be erected around waterbodies that discourage entering the water or swimming.

Policy 39: Skland will follow the protocols provided in the MSDP related to inactive pit conservation and reclamation.

4.0 Reclamation Plan

Reclamation is key to gaining trust within a community where gravel pits exist. If permitted to do so, Skland will reclaim this long-standing gravel operation back to predevelopment or better land capability through a progressive, responsible, and diligent approach. This site will be cleaned up from the litter of garbage accumulated over years of buildup and reclaiming the disturbance back to pasture, agricultural use with a 6-acre water body to supply cattle with water. Further detail of the reclaimed land use is shown in the reclamation and cross section drawings provided in Appendix 1. A landscaping plan can be found in Appendix 7 to add further detail to the reclamation drawing by clearly identifying grades and a conceptual layout of the finished site.

Policy 40: Ensure reclamation follows Part 5 of the Code of Practice for Pits, which sets requirements regarding the conservation of soil and subsoil and the characteristics of reclamation.

4.1 Landscaping Plan

A detailed landscaping plan can be found in Appendix 7 titled "Reclamation Plan". The project will undergo progressive reclamation throughout, placing disturbed soil directly onto previously mined out areas to reduce stockpiling of soils. Overburden from phase two and a portion of the stockpiled topsoil will be used to reclaim phase one. The remaining previously stockpiled topsoil to the south and the temporary berm to the north will be used for the reclamation of phase 2 and final reclamation. All perimeter slopes will be graded to blend with the reclaimed lands with slopes not to exceed 5:1.

Much of the site will be contoured with grades of 0.5-1.0% to minimize erosion and maintain current surface water flow direction towards the proposed expanded water body to the northeast. All disturbed edges of the site will be contoured to a maximum steepness of 5:1 (see attached x-sections and reclamation plan). The topsoil will be spread evenly over the newly disturbed areas at a depth of 0.15m. If required, the site will be thoroughly rock picked. The existing access, haul road and aggregate stockpiles will be removed. Scarification of soils may be required if soils become compacted.

All topsoil, overburden materials will be salvaged and used in the reclamation process. Movement of soils will only occur during the spring, summer, fall construction season; no movement of soil will take place during winter. No movement of soil will occur during high winds to avoid loss, erosion, and unnecessary mixing of materials. Erosion control measures listed in the erosion control plan by Sweettech will be implemented. (See Appendix 3 for guidance on minimizing erosion).

Approximately 21 acres will be reclaimed back to agriculture/pasture use and a 6-acre waterbody will remain for livestock. At the request of the landowner, a one-meter-high berm along the east fence line along RR270 will be constructed with surrounding overburden piles to provide security from an event where a vehicle could drive off the road and enter the pond, this will be a permanent feature. All slopes along the perimeter of the disturbance will be no steeper than 5:1 slope. The site will be seeded to an approved local seed mixture and a weed inspection program will be implemented. Once the pasture is thoroughly established, a reclamation certificate will be obtained from AEPA followed by the land use changed back to agriculture.

Policy 41: Skland will as a condition of future DP, provide a detailed reclamation plan for the site in accordance with the MSDP and the requirements under the Code of Practice for Gravel Pits published by AEP. The plan will include progressively reclaiming the site in terms of un-reclaimed areas compared to reclaimed areas to ensure a maximum open pit area of 40 acres at any given time; the reclamation monitoring and maintenance plan to ensure the success of the reclamation activities; and following recommendations for the slope stability assessment that was prepared by Sweettech Engineering, Geotechnical report.

4.2 Erosion & Sediment Control Plan

Sweettech Engineering developed a critical ESC Plan, proposing measures to ensure practices are established to limit soil loss due to site runoff, run-on, and exposed earth for the duration of on-site activities. The objective of this ESC Plan is to minimize the risk of mobilization and transportation of the soil resource from the proposed mining area onto adjacent lands. Topsoil erosion into the water will be avoided by following the erosion & sediment control plan. For complete details of the plan refer to Sweettech Engineering's erosion & sediment control plan found in Appendix 4.

Policy 42: Skland will follow recommendations to manage soil to minimize the effects from erosion as noted in the Erosion & Sediment Control plan, Appendix 4.

4.3 Waterbody

Currently there is a hydrological feature at the north-east corner, which was daylighted from previous aggregate extraction operations. The project proposes to expand the groundwater feature from a current 2-acre size to 6-acres through the excavation of deeper gravel. The proposed 6-acre area contains excellent quality aggregates at a greater depth of up to 4 meters below surface water. Since there is no excess soil available for backfilling this excavated depth, then, the most viable option is to enhance the water body size (area) to follow the deeper excavation. This will add an enhancement to the water body by cleaning up the excavation piles along the water's edge and promote better air flow to the water surface creating better aeration. This will provide stronger vegetation and a higher quality of water for livestock and wildlife, such as deer that frequent the area for tree coverage and to access drinking water. The general design of the water body will be irregularly shaped but open with shallow slopes with soil to the water's edge.

The shoreline will be constructed with a 5:1 slope for one meter above and one meter below the water surface. The current perimeter of the water feature is not ideally safe for cattle and wildlife which provides limited access to the water due to the steepness and instability of the side slopes. A Alberta Water Act application has been submitted to allow for further excavation of aggregates from beneath water and to also obtain approval to increase the size of the water body as a permanent feature. Sweettech engineering has provided an assessment of the current and proposed larger water feature. (Further information see Appendix 5 environmental screening report). All surface water runs to the northeast corner into this excavation that was created some time back in the 1970's by removing pitrun aggregate from below the water's surface. The current water body area is approximately 2-acres in size and holds a water license for agricultural use. The quality of water will be maintained throughout the project by adhering to construction best practices.

Policy 43: Skland will follow the sloping and grading plan for construction of the water body noted in the MSDP, ESR by Sweettech and the reclamation drawing.

Policy 44: Prior to Development Permit application, Skland will obtain all permits and approvals under the Water Act and public lands act for gravel excavation which will include the expansion of the existing waterbody.

4.4 Revegetation

Once topsoil has been evenly placed, the areas will be seeded back to pasture. The seed mixture to be used will be under the guidance of a certified agriculture specialist. Copies of the Seed Analysis Certificates shall be supplied to AEPA for review prior to the application. Copies of seed mixtures will be kept until a reclamation certificate is obtained. A mixture of grasses and legumes will establish quickly along the edges of the water body. Prior to seeding, rock picking may be required. To apply the seed mixture, an application with no-till-drill and broadcasting equipment will be used to ensure rock is not pulled back up to the surface. Erosion control steps will be in place for slopes steeper than 5:1. Once seeding is complete, a program of cutting and fertilizing will be in place until the grass becomes established.

Policy 45: Skland will follow the guidance of a certified agriculture specialist when purchasing and applying the seed mixture as stated in the MSDP. Seed mixture information will be kept until a reclamation certificate has been obtained from AEP.

4.5 Site Maintenance & Weed Control

Once seeding is complete a monitoring program will begin to watch for germination of seed and areas that may be susceptible to erosion. If erosion is noted, then steps will be implemented to reduce the negative impact along with the potential need to reseed by hand areas badly impacted. Once seeds begin to germinate and plants grow, a weed control program will be established to ensure control over any noxious weeds.

Policy 46: Skland will implement a weed control program in accordance with the Weed Control Act and Rocky View County Land Use Bylaw.

4.6 Reclaimed Land Use

The site will be returned to its original land use, which is pasture. After 80 years of disturbance, approximately 19.3 acres of proposed excavation along with 4 acres of slopes caused by previous disturbances will be returned to pasture. The reclaimed pasture is expected to be much more productive than what the land is today since there has been no reclamation completed to date. An additional 4 acres of water body will be added to the existing 2 acre licensed for agriculture water body to provide a more functional 6-acre waterbody. The proposed landscaped water body will be more effective than what is current by providing livestock and wildlife safer access to drinking water, enabling better airflow to the water surface which will result in healthier vegetation.

Policy 47: Skland will commit to returning the land back to pasture use with equal to or higher productive capabilities than what is current and obtain a reclamation certificate through AEPA.

5.0 [Summary](#)

This project is a previously disturbed unreclaimed gravel pit that was never reclaimed. This application proposes a temporary gravel extraction that will last just 4 years to remove the remaining deeper pitrun aggregates. The operation proposal will only operate during the spring, summer, and fall construction seasons. The operations will be kept within the footprint of previous gravel extraction activities with no further area disturbed. Once gravel extraction is complete, the land will be reclaimed to an improved end use as a pasture for livestock. Since this is mainly a bulk earthworks cut/fill exercise, no permanent infrastructure or structures are proposed. Skland is working with Alberta Environment and all other necessary regulatory bodies, including the surrounding neighboring residents to properly restore it from a long history of gravel extraction activities.

5.1 [RVC Application Requirements](#)

The process required to attain approval from RVC for an existing gravel operation is extensive. It is our understanding that some of the requirements would be specific to a new gravel operation. Burnco Rock Products was approved this past year for a gravel extraction operation adjacent to this proposed application. Since Burnco was approved for the same type of project but larger and more environmentally impactful, it is believed following Burnco's approach was the right recipe to obtain approval. A checklist summary showing the minimum requirements of RVC and the information Skland has provided summarizes the information for meeting approval, (Appendix 8, RVC MSDP technical requirements). The checklist also provides reasoning with alternative responses to what is expected. From the MSDP guideline, it appears the RVC expectations is relevant and specific for new applications, rightfully so, this is a new application, however, this is an application for an 80-year-old unreclaimed gravel operation, that through feedback from public engagement with the community, would like to see reclaimed. Skland requests that some of the requirements be given relaxed consideration. From RVC's MSDP it states, "The County **may** require studies, reports, and tests to be submitted as per section 29". Also, "Applications for aggregate extraction shall include a master site development plan that addresses the following". Skland believes all items have been addressed when considering this is a new application for a longstanding gravel operation that has up until now, negatively impacted the community and the environment because of the lack of reclamation.

5.2 [Conclusion](#)

Skland Consulting Corp is requesting MSDP approval to operate and reclaim a gravel pit that has a long history of extraction activities leaving the site unreclaimed. With plans to extract the remaining 360,000 tonnes of excellent quality aggregate for use on projects within RVC, followed by cleaning up and reclaiming the site back to a more productive pasture that once was almost a century ago. This project is relatively small when compared to other local gravel pit operations with the plan to complete the project

within a 4-year window.

Skland consulting has more than 25 years of experience working within the RVC community on several gravel pit projects and understands the challenges that exist between the gravel industry and community. The summary of outlined policies from the proposed Master Site Development Plan are the commitments Skland Consulting Corp will stand behind and ensure are met while providing a form of assurance to the community and to RVC that a minimum standard will be secured.

Policy #	Heading	Skland will: Policy / Commitment
1	2.3	Historical Resource Act approval will be obtained prior to DP issuance.
2	2.4	Obtain water license approval to excavate sand and gravel, through the Alberta Water Act for an additional 4 acres of water body.
3	2.5	provide a Geotechnical Assessment at time of development permit application which provides slope stability recommendations for the proposed gravel pit. The assessment is to provide recommendations for slope design and setbacks in active pit areas as well as for final reclaimed conditions.
4	2.5	Submit a water testing plan at time of DP application and commit to following the plan and take monthly ground water elevations and annual water quality tests from residential water wells within or near a 800 m radius of the site measurements to be taken at a frequency of once a month.
5	2.5	Work with neighboring gravel pit operators to address any local water well problems while the Rocky Ridge gravel pit is active.
6	2.6	Conduct a wildlife sweep within 7 days prior to any proposed activities commencing.
7	2.6	Has recommended a Biophysical Impact Assessment (BIA) is not required at this time since the entire proposed project site has been excavated by previous operations. If Alberta Environment and Parks deems the BIA is necessary, then Skland will perform the study.
8	2.6	Apply for the necessary permits with Alberta Environment Protection to operate and reclaim a gravel pit as listed in the MSDP. As a condition of future development permits, Skland will provide RVC with AEPA registration for the site.
9	2.7	Follow the storm water management plan and recommendations from Sweettech study in Appendix 3
10	2.7	Submit a site-specific stormwater management plan at the development permit application stage to address the specific stormwater management requirements of each operational phase.
11	2.7	Submit an Erosion & Sediment Control Plan at the development permit application stage in support of each operational phase.
12	2.8	As a condition of future DP, upgrade site access to a commercial/industrial standard, in accordance with County Servicing Standards.
13	3.1	Follow hours of operations stated in the MSDP throughout the life of the project.
14	3.2	Take security measures to secure the site as noted MSDP
15	3.2	Provide a 24-hour number on the entrance sign to address all questions and concerns.
16	3.2	Not excavate material within the setback area of 3 meters of the north property line and 30 meters of the east property line. Reclamation will occur within the setback areas to reclaim pre-disturbed areas.
17	3.3	Enforce on-site safety measures as noted within the MSDP
18	3.4	Ensure all contractors working on site will abide by MSDP rules while performing on-site operational activities
19	3.4	As a condition of future DP provide a Construction Management Plan in accordance with the County Servicing Standards.
20	3.5	Ensure site access and on-site hauling commitments are followed ensuring that the roads are well maintained and controlled for dust.
21	3.6	Follow the operations and phasing plan as displayed in the MSDP and the activities and phasing drawing.
22	3.6	At time of development permit application submit a berming layout drawing and a written report outlining details of the berms on site.
23	3.7	Seek DP approval to process gravel on-site and provide a detailed plan to process aggregates.
24	3.7	Limit the area of operations to a maximum area of 20 acres in size as stated in the MSDP
25	3.7	Meet the requirements of relevant provincial legislation (Code of Practice for Pits, Water Act) and the requirements of the County Servicing Standards to ensure that environmental impacts will be minimized.
26	3.7	ensure that any proposed disturbance that identifies that wetlands are present within the MSDP area will receive approval from Alberta Environment and Sustainable Resource Development in accordance with the requirements of the Provincial and Municipal Wetland Policy and the Water Act.
27	3.7	ensure aggregate development will align with all relevant municipal, provincial, and federal legislation, regulations, and policies.
28	3.8	Ensure all loads are weighed and tracked as noted in the MSDP.
29	3.9	Follow the steps in the MSDP and all recommendations from Sweettech ESR to reduce noise impacts.
30	3.10	Skland will follow all recommendations in the ESR and ensure operations at the pit will be compliant with the Alberta Ambient Air Quality Objectives (AAAQO).
31	3.11	Enter into a road use agreement with RVC and share the responsibility for road maintenance on RR270.
32	3.11	Enforce the proposed haul routes in and out of RRG.
33	3.11	All commercially licensed trucks directly controlled by the operator will participate in the ASGA truck registry program (or equivalent).
34	3.11	An updated traffic impact assessment shall be submitted at the development permit application stage in support of each phase.
35	3.12	Follow the Hazardous Materials management Plan noted in the MSDP.
36	3.13	Will follow the complaint response process provided in the MSDP related to noise, dust, and all other complaints.
37	3.13	As a condition of future DP, provide payment of the Community Aggregate Payment Levy in accordance with Bylaw C-7748-2018, as amended, in the amount of \$0.40 per ton of aggregate extracted and removed.
38	3.14	Provide an Annual Report to RVC in line with what is required to be reported.
39	3.15	Follow the protocols provided in the MSDP related to inactive pit conservation and reclamation.
40	4.0	Ensure reclamation follows Part 5 of the Code of Practice for Pits. which sets requirements regarding the conservation of soil and subsoil and the characteristics of reclamation.
41	4.1	as a condition of future DP, will provide a detailed reclamation plan for the site in accordance with the MSDP and the requirements under the Code of Practice for Gravel Pits published by AEP. The plan will include progressively reclaiming the site in terms of un-reclaimed areas compared to reclaimed areas to ensure a maximum open pit area of 40 acres at any given time; the reclamation monitoring and maintenance plan to ensure the success of the reclamation activities; and following recommendations for the slope stability assessment that was prepared by Sweettech Engineering, Geotechnical report.
42	4.2	Follow recommendations to manage soil to minimize the effects from erosion as noted, the Erosion & Sediment Control plan
43	4.3	Follow the sloping and grading plan for construction of the water body noted in the MSDP, ESR by Sweettech and the reclamation drawing.
44	4.3	Prior to DP, Skland will obtain all permits and approvals under the Water Act and public lands act for gravel excavation which will include the expansion of the existing waterbody.
45	4.4	Follow the guidance of a certified agriculture specialist when purchasing and applying the seed mixture as stated in the MSDP. Seed mixture information will be kept until a reclamation certificate has been obtained from AEP.
46	4.5	implement a weed control program in accordance with the Weed Control Act and Rocky View County Land Use Bylaw.
47	4.6	Commit to returning the land back to pasture use with equal to or higher productive capabilities than what is current and obtain a reclamation certificate through AEPA.