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**Mountain Ash Limited Partnership Aggregate Operation
NW and SW 31-26-03 W5M, Rocky View County, Alberta**

Visual Appraisal



**February 2020
SLR Project No.: 212.06650.00003/008**



VISUAL APPRAISAL

MOUNTAIN ASH LIMITED PARTNERSHIP AGGREGATE OPERATION

NW AND SW 31-26-03 W5M

ROCKY VIEW COUNTY, ALBERTA

SLR Project No.: 212.06650.00003/008

Prepared by
SLR Consulting (Canada) Ltd.
6940 Roper Road
Edmonton, AB T6B 3H9

for

MOUNTAIN ASH LIMITED PARTNERSHIP
1945 BRIAR CRESCENT NW
CALGARY, ALBERTA T2N 3V6

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Prepared by:

Reviewed by:

Simon Higson
Technical Director

Frances Delaney
Principal

CONFIDENTIAL

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1 PDF – SLR Consulting (Canada) Ltd.

EXECUTIVE SUMMARY

Mountain Ash Limited Partnership (MALP) is proposing to develop an aggregate resource in the west half of Section 31, Township 26, Range 3, west of the 5th Meridian (NW and SW 31-26-03 W5M) approximately 9 km northeast of Cochrane in Rocky View County, Alberta. SLR Consulting (Canada) Ltd was retained to provide a visual appraisal of the development to support MALP's Land Use designation. The NW ¼ section is currently zoned Natural Resource Industrial District (NRI), a designation that allows development of the aggregate resource under the County's Land Use Bylaw; the SW ¼ section is zoned Ranch and Farm District (RF) and requires re-designation to allow for development of the aggregate resource (RVC 2019).

Visual Resource Inventory / Baseline Conditions (Section 2)

The visual resource management inventory considers scenic quality evaluation, sensitivity level analysis and delineation of distance zones and forms the baseline for the visual appraisal.

An initial Zone of Theoretical Visibility (ZTV) has been prepared based on the existing topography within the proposed extraction area using 3D modelling software and combined with property boundary information and reviewed against aerial photography and other mapping datasets, such as the Rocky View County land use zones, to identify potential visual receptors and suitable observation viewpoint locations.

Six key observation viewpoints have been selected for this study, including the north-west corner of the site between Highway 567 and Range Road 40; the western edge of site, near Range Road 40; the south-western corner of the site on Government Road Allowance; and from the north-eastern corner of the site between Highway 567 and Private Gravel Road. High quality panoramic photographs from each observation viewpoint are included in this report.

Generally, the key observation points showed open views towards the site, which was in a rural area, mainly of a ranch farming land-use, with some tree groves (particularly to the south of the site).

The overall scenic quality of the site and immediately surrounding areas is classified as Class C, having only features that are common to the physiographic region. There are no outstanding features. This is influenced by the following factors including: Landform (based on the presence of low rolling hills foothills, or flat valley bottoms and few or no interesting topographical features); Vegetation (based on some variety, but only one or two major types (natural and farmed grassland); Water (being mostly absent, and where present in the sloughs, not being noticeable); Colour (based on subtle variations, contrast, or interest and generally muted tones of the grassland and treed vegetation cover); Scarcity (based on the grassland and treed / aspen groves being interesting within their setting, but fairly common within the region); Cultural modifications (based on ranch farming modifications adding a little visual variety to the area, and the introduction of no discordant elements, other than Highway 567, scattered oil/gas wells and overhead powerlines); and the adjacent scenery is distant and typically wide horizons, with little or no influence on overall visual quality.

The site and immediately surrounding area is assessed as being of low sensitivity. The only public using the site are the occupiers of dwellings on the site and which will be removed as a result of the project. Workers will pass along Highway 567 immediately to the north, as well as people living at ranches and farms, farmsteads and residential districts in the nearby areas. The area is

generally remote and not seen by large numbers of people. No evidence of public interest with the site or immediately surrounding area has been noted as part of this appraisal.

In terms of distance zones delineation relative to Highway 567, around half of the area proposed for extraction is located within the foreground-middleground zone and half is within a seldom seen zone.

The Proposed Development (Section 3)

The proposed aggregate project (Project or development) would extract sand and gravel to meet the high demand for aggregate resources in the Calgary region. The Project is to be worked in six phases starting in the southeast corner of the property and moving in a counter-clockwise direction. Each phase is expected to occur over a period of 5 to 7 years. The sand and gravel will be extracted under dry conditions, with no dewatering of the underlying aquifer needed. Topsoil, subsoil and overburden will be salvaged separately and stored either in berms along the edge of the property to create a visual barrier from adjacent roads and properties or into a reclamation stockpile area. Surface water will be managed during development and operation by temporary and long-term drainage features in accordance with the stormwater management plan being developed for the Project. Development will not occur in the northwest portion of the property where two wetlands will be retained on the landscape and a section in the southwest corner will also be excluded to retain an additional four wetlands. Reclamation will be undertaken in a progressive manner, after each extraction phase.

Appraisal of Changes to the Visual Resource (Section 4)

The appraisal of changes to the visual resource considers contrasts to the scenic quality baseline conditions as described above, during operational phases and after restoration.

During operational phases, landform would be progressively lowered, and active working face gradients would be steeper than naturally occurring and the configuration and scale of the active working areas would introduce new contrasting topographical features, within the wider characteristic low rolling hills / flat valley bottom. The mainly simple and short-growing grassland vegetation, with some taller and rougher treed areas would be progressively cleared, as would be the small and scattered seasonal wetlands (although the grassland and treed / aspen groves are fairly common). The muted green and brown tones would be replaced by darker browns of the exposed overburden and lighter yellows of the sands and gravels. The working phases would also introduce plant and vehicle movements and contrasting metallic colours and overall the ranch and farming land use would be altered to natural resource industrial land use, which would be a noticeable contrast, albeit carried out on a phased basis.

After restoration a ranch and farm land use would be reinstated, along with Range Road 40 at the lower level. The whole of the worked-out landform would be permanently lowered below existing ground levels, but with restored embankments no steeper than naturally occurring and with the main central bowl comprising a simple, large-scale low rolling / flat valley bottom. At this stage there would be no introduction of any new contrasting topographical features and the site would assimilate with its surroundings. After reinstatement of the soil layer, a suitable mainly grassland cover would be established and managed. A similar variety of vegetation would be restored to the existing pre-worked conditions, with opportunities for wetland communities in the lower-lying areas and groves of trees elsewhere.

Key mitigation measures include applying standoffs to Highway 567, the inclusion of temporary screening berms and the shape of the berms, progressive working and restoration and final slope gradients to be no steeper than existing natural valley-side slopes.

In conclusion, although the aggregate development would necessitate the disturbance and alteration of several visual resources, such as landform, vegetation, colours, the overall impression retained after driving through, walking through or flying over the site would be mostly unchanged as a result of the proposed development and mitigation measures. In particular when the progressive and phased approach to working and restoration is considered.

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1.0 INTRODUCTION

Mountain Ash Limited Partnership (MALP) is planning to develop an aggregate resource in in the west half of Section 31, Township 26, Range 3, west of the 5th Meridian (NW and SW 31-26-03W5M) approximately 9 km northeast of Cochrane in Rocky View County, Alberta.

SLR Consulting (Canada) Ltd. (SLR) was retained to provide a visual appraisal of the development to support MALP's Land Use designation.

The objective of the visual appraisal is to characterise the existing local visual resources and visual receptors and to assess the potential changes resulting from proposed activities throughout the project lifetime. The results of the appraisal will be used as an aid in minimizing potential detrimental changes to visual resources.

The visual appraisal follows the relevant aspects of visual resource management as set out within the United States Dept of the Interior (USDI), Bureau of Land Management guidance (such as Technical Note 407, 2001 and Manual H-8410-1 – Visual Resource Inventory, 1986). This includes the characterisation of existing visual resources based on scenic quality, user sensitivity, and distance zones, as well as anticipated visual resource contrast for the project.

The main components of the development considered in this visual appraisal include 6 phases of extraction, with each phase including: site clearance and establishment; progressive stripping of soils and overburden and temporary storage; progressive aggregate extraction (with plant and vehicle movements and surface water management); and progressive and final restoration / closure.

A study area of approximately 3.5km radius was adopted for this appraisal, following the preparation of the zone of theoretical visibility (as discussed below) and fieldwork was undertaken by a professional photographer during suitable weather conditions in late summer 2019. High quality photographs from key observation viewpoints are included in this report.

This visual appraisal makes use of SLR reports undertaken during 2019 including a Hydrogeological Assessment, Surface Water Management Plan and Biophysical Report, as well as several other publications referenced below.

2.0 VISUAL RESOURCE INVENTORY / BASELINE CONDITIONS

2.1 Introduction

MALP would like to develop an aggregate resource in the western half of Section 31, Township 26, Range 3, west of the 5th Meridian (NW and SW 31-26-03 W5M) in Rocky View County, Alberta.

This section of the report sets out the process of compiling the visual resource management inventory, which forms the baseline for the visual appraisal. This includes consideration of scenic quality evaluation, sensitivity level analysis and delineation of distance zones.

2.1.1 Zone of Theoretical Visibility

An initial Zone of Theoretical Visibility (ZTV) has been prepared based on the existing topography within the proposed extraction area using 3D modelling software, as shown in Drawing 1. The initial ZTV does not include for any screening berms which may be constructed around the boundaries (i.e. the buffer strip to the north and east), nor does it account for the extraction landform, both of which are likely to reduce the extent of visibility of the development (with it being set down and or hidden).

The ZTV is split into degrees of vertical angle as a guide for the reader – e.g. in the zone where the vertical angle is greater than 3 degrees the portion of the view occupied by the development will be higher than where the vertical angle is in the zone shown as between 1 and 3 degrees. This apparent size of viewed object is influenced by distance, but also landform and elevation.

However, the ZTV does not account for any buildings or vegetation (trees and shrubs) which will also result in screening effects. Typically, therefore the actual visibility of a development will be less than the theoretical visibility shown on a ZTV, when reviewed as part of the fieldwork.

The ZTV extends for approximately 0.7km to the north, 2km to the east and south and 3.6km to the west and this informs the maximum study area for the visual appraisal (3.5km radius), along with experience of other similar projects.

2.1.2 Key Observation Viewpoints

The initial ZTV has been combined with property boundary information and reviewed against aerial photography (refer to Drawing 2) and other mapping datasets, such as the Rocky View County land use zones, to identify potential visual receptors and suitable observation viewpoint locations.

The main visual experience of the wider study area is by travellers along Highway 567 (situated approximately 30m to the north of the extraction area), people living at ranches and farms, and farmsteads (to the north, east and west) and at residential districts (mainly to the south), and recreational visitors to Bighill Springs Provincial Park at 1km to the south-east.

The key observation points, as well as representing potential visual receptors, need to be positioned within the ZTV coverage, accessible and provide a range of directions / angles of view towards the site. Six key observation viewpoints have been selected for this study and a professional photographer has visited and recorded 360-degree panoramic photographs from each of the representative locations.

The method of capturing the panoramic photography included the use of a tripod, 50% overlapping frames and positional information and known height from ground level for each photograph.

Bighill Springs Provincial Park is not included within the ZTV and therefore a viewpoint has not been included at this location, as visibility of the proposed extraction is not anticipated.

The existing photographs of the views towards the site are shown on Drawings 3 to 14, with annotations / labels to describe key elements and features and the visibility of the site and include the following locations:

- North-west corner of the site between Highway 567 and Range Road 40 (Viewpoint 1);
- Western edge of site, near Range Road 40 (Viewpoint 2);
- South-western corner of the site on Government Road Allowance (Viewpoint 3); and
- North-eastern corner of the site between Highway 567 and Private Gravel Road (Viewpoint 4).

Generally, the key observation points showed open views towards the site, which was in a rural area, mainly of a ranch farming land-use, with some tree groves (particularly to the south of the site).

2.2 Scenic Quality Evaluation

Using a combination of desk-based review and fieldwork photography, scenic quality evaluation of key factors has been completed, considering aspects such as; landform, vegetation, water, colour, scarcity, cultural modifications and adjacent scenery.

Scenic quality is defined as the overall impression retained after driving through, walking through or flying over an area of land. The rating criteria is defined with the USDI guidance and is set out below against each category being considered.

2.2.1 Landform

The rating criteria for landform is that topography becomes more interesting as it gets steeper or more massive, or more severely or universally sculpted (USDI, 2001).

The site is located within the Bighill Creek watershed and the study area topography based on LiDAR data is presented on Drawing 1.

The site is situated in the Southern Alberta Upland physiographic region of the interior plains division (Pettapiece 1986). The geomorphological characteristics of this physiographic region are provided by the proximity of bedrock to the surface, which causes a varied topography with elevations up to 1,650 metres above sea level (masl).

As shown by Viewpoints 1 and 4, the site slopes gently to the south and southeast from the higher ground to the north-eastern (1,298 masl) and western boundaries (1,294 masl).

The site hosts a c250m wide low-relief valley feature sloping northwest to southeast across its centre (minimum elevation of 1,282 masl on the eastern boundary), as shown by Viewpoint 5. This valley is contained by a gentle ridge along the southern extraction area limit (elevations sloping from 1,294 to 1,291 masl) which in turn forms a valley side to land further to the south (minimum elevation of 1274masl on southern boundary).

As shown by Viewpoint 2 and 6, south of the site boundary is a broader c350m wide low-relief valley feature also sloping northwest to southeast and the two valley features converge approximately 700 m south-east of the site.

There are high points of 1,304 masl approximately 500m north of the site, set amongst a typically gently undulating area, and there is a more pronounced hill at 1,354 masl, approximately 2 km to the south-west.

Gradients within the proposed extraction area mostly range from flat to gentle slopes of 1:15, but with steeper slopes of 1:8 along the central valley and up to 1:3 along the southern boundary / valley side, with a total elevation change of approximately 20 m.

The physiographic region coincides with the Foothills natural region, which encompasses dissected plateaus and rolling uplands with surficial geology comprising glacial till and fluvial deposits.

The site and immediately surrounding areas are rated as 1, based on the presence of low rolling hills foothills, or flat valley bottoms and few or no interesting topographical landscape features.

2.2.2 Vegetation

The rating criteria for vegetation gives primary consideration to the variety of patterns, forms and textures created by plant life (USDI, 2001).

Soils in the Rocky View County have developed on materials of glacial origin and are relatively thin, fine grained, with significant organic content and tend to temporarily retain water. It is this layer that supports vegetative growth and land use such as range land or cropping, as well as natural ecosystems.

Below the soils are 3.0 m to 6.0 m of moraine (unsorted mixture of clay, silt, sand and gravel with local water-sorted material) draped over the underlying sand and gravel up to 27 m thick. Consolidated bedrock of calcareous sandstone interbedded with siltstone or mudstone and minor conglomerate or thin limestone beds underlies the soils at a depth of 15 m to 28 m.

The climate in this natural sub-region is typically characterised by cool summers and cold winters but highly influenced by the periodic warm Chinook winds (Downing and Pettapiece 2006). Compared to the rest of the country, Alberta receives relatively low precipitation at the site locale with total average annual precipitation estimated to be around 440 millimetres (mm) (70% rainfall and 30% snowfall).¹

¹ Government of Canada (2019). Data extracted from weather station at Calgary, Gauge ID: 3031093, available at: http://climate.weather.gc.ca/index_e.html

The site is within the Foothills Parkland Natural Subregion, a transitional zone between prairie and boreal forest. The area is characterised by fertile to clay loam and vegetation includes groves of aspen stands in the south and native grassland (under natural conditions) and shrub dominant communities on north facing slopes, ravines and areas that accumulate snow during the winter in the grassland dominated areas.

As shown by Viewpoints 1 and 4, the project site has been assessed to include mostly native grassland including shrubs, tame pasture or hay crop, but as shown by Viewpoint 5, there are smaller areas of treed cover (aspen, prickly rose and prairie rose) in the southern half. As shown by Viewpoint 3, this vegetation cover becomes quite dense and tall in places, obscuring views.

Several of the residences on site contain non-native vegetation and it has been noted that tree belts around properties are also characteristic of the wider area, for example as shown by Viewpoint 4.

The pattern of the mainly grassland cover within the site and immediate surrounding areas is simple and short / low-growing, with some complexity derived from taller vertical forms and rough textures from the treed areas and shrubs.

The site and immediately surrounding areas are rated as 3, based on some variety of vegetation, but only one or two major types (grassland).

2.2.3 Water surfaces

The rating criteria for water describes it as that ingredient which adds movement or serenity to a scene; the degree to which water dominates the scene is the primary consideration (USDI, 2001).

The site is located approximately 1 km upslope of the Big Hill Springs Provincial Park and is located within the surface water catchment of an Unnamed Watercourse which forms a tributary to the larger Bighill Creek.

No surface water bodies (streams or lakes) have been identified within the site area itself; however, there are two larger sloughs in the northwest corner considered as seasonal marsh wetlands and around eighteen smaller wetlands scattered across the property. There is also a small dug-out containing water in the south end of the site.

The sloughs located in the northwest corner are fed by rainfall and snowmelt from the local catchment and from the catchment to the north of Highway 567 (via a culvert located beneath the highway).

Giving the impermeable nature of the surficial soils at surface, infiltration of precipitation (snow or rainfall) landing on the existing site would be limited; therefore, the predominant hydrological regime would be characterised by stormwater runoff.

The site and immediately surrounding areas are rated as 0, based on water being mostly absent, and where present in the sloughs, not being noticeable.

2.2.4 Colour

The rating criteria for colour considers the overall colour(s) of the basic components of the landscape (e.g. soil, rock, vegetation) as they appear during the seasons or periods of high use.

Criteria to use when rating colour can be described in the context of variety, contrast and harmony (USDI, 2001).

As shown by Viewpoints 1, 4 and 6, the colours of mainly grassland vegetation is green and brown muted tones, with some variation during cropping cycles or seasons, but generally harmonious. The taller trees are still green and brown, but as shown by Viewpoints 3 and 5, typically darker elements within the landscape than the lower-growing open grassland, derived from the shadows within the canopies.

As shown by Viewpoints 1 and 4, contrasts in the landscape colours derive from vehicles using Highway 567 to the north and pumpjack oil/gas wells which are more metallic and the overhead powerlines on wooden poles as well as wooden fencing posts.

The site and immediately surrounding areas are rated as 1, based on subtle colour variations, contrast, or interest; generally muted tones.

2.2.5 Scarcity

The rating criteria for scarcity provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare. Rating scores are based on the degree of the features' rarity and on the opportunity for consistent exceptional wildlife or wildflower viewing (USDI, 2001).

No rare plants or rare communities were identified during the biophysical assessment field investigations. The site does provide habitat for numerous wildlife species, including four provincially sensitive species and one threatened (Barn Swallow, with nests observed on two residences in the project area).

The site forms a small part of a much wider area of rolling Foothills, characterised by natural and farmed grassland, with tree groves, is sparsely settled and is typical of the transitional zone between prairie and boreal forest.

The site and immediately surrounding areas are rated as 1, based on being interesting within its setting, but fairly common within the region.

2.2.6 Cultural modifications

The rating criteria for cultural modifications relate to the addition of structures, and how they may detract from the scenery in the form of a negative intrusion or complement or improve the scenic quality of the landscape (USDI, 2001).

The northern part of the proposed site is currently zoned by the Rocky View County as Natural Resource Industrial District, with the southern part as Ranch and Farm District (Rocky View County Land use map No.67, dated Mar 20, 2019 and No 68-NE, dated Aug 18, 2017).

As shown by Viewpoint 5, its current use is ranch farming by a tenant occupier who lives in a dwelling on the site with cattle, horses and sheep, and uses some of the land as hay pasture. Range Road 40 extends along the western boundary and provides access to several properties and a private road extends into the site from Highway 567 to a further dwelling. Thus, the site is heavily modified by existing land uses / human activity.

The surrounding area is also mostly Ranch and Farm District by Rocky View County, with Farmstead Districts approximately 1km to the east and Residential District 1km to the south and south-west. There are further Natural Resource Industrial Districts immediately adjacent to the west and at 2.5km to the east, and Bighill Springs Provincial Park is 1km to the south-east.

As shown by Viewpoints 1 and 4, other physical changes to the immediately surrounding area caused by human activities include Highway 567 to the north, the pumpjack oil/gas wells and the overhead powerlines on wooden poles as well as wooden fencing posts. Although these additional structures detract slightly from the sparsely settled, remote character of the area, their concentration is at a low-level.

The site and immediately surrounding areas are rated as 0, based on modifications adding a little visual variety to the area, and introducing no discordant elements.

2.2.7 Adjacent scenery

The rating criteria for influence of adjacent scenery describes whether the scenery outside the area being considered enhances the impression of the scenery within the area being considered (USDI, 2001).

The higher ground often has open, long-distance views to wide horizons to the south and glimpsed views of mountains to the north-west, for example Viewpoints 1 and 4, although the adjacent scenery has limited influence on the visual quality at each location.

Viewpoint 5 is positioned within the low-relief valley feature which extends across the centre of the site and is enclosed by rising land to the north, west and south, with no influence of adjacent scenery in those directions.

Viewpoint 2 is positioned on the slightly elevated edge of the larger valley feature to the south of the site and offers views over the wide valley and adjacent scenery, albeit wide and typically horizontal. Viewpoint 6 is positioned on the opposite side of this valley and provides views back towards the site. In each case the immediate topographical variation and natural vegetation cover within and around the site itself offers scenic quality and the influence of adjacent scenery is limited.

The site and immediately surrounding areas are rated as 0, based as the adjacent scenery having little or no influence on overall visual quality.

2.2.8 Overall Scenic Quality

The overall scenic quality of the site and immediately surrounding areas has been reviewed with reference to the USDI guidance and overall is rated as 6, summarised as follows:

- Landform is rated as 1, based on the presence of low rolling hills foothills, or flat valley bottoms and few or no interesting topographical features;
- Vegetation is rated as 3, based on some variety, but only one or two major types (natural and farmed grassland);
- Water is rated as 0, based on water being mostly absent, and where present in the sloughs, not being noticeable;

- Colour is rated as 1, based on subtle variations, contrast, or interest and generally muted tones of the grassland and treed vegetation cover;
- Scarcity is rated as 1, based on the grassland and treed / aspen groves being interesting within their setting, but fairly common within the region;
- Cultural modifications is rated as 0, based on ranch farming modifications adding a little visual variety to the area, and the introduction of no discordant elements, other than Highway 567, scattered oil/gas wells and overhead powerlines; and
- Influence of adjacent scenery is rated as 0, as the adjacent scenery is distant and typically wide horizons, with little or no influence on overall visual quality.

Thus, the site and immediately surrounding area is classified as Class C, having only features that are common to the physiographic region. There are no outstanding features.

No further delineation of scenic quality rating unit areas beyond the site and immediately surrounding areas has been carried out as part of this appraisal.

2.3 Sensitivity Level Analysis

Visual sensitivity is defined within the USDI guidance as the measure of human attitudes in the evaluation of a landscape and determined primarily by user types, volume and user or public interest or reaction.

The only public using the site are the occupiers of dwellings on the site and which will be removed as a result of the project.

Workers will pass along Highway 567 immediately to the north, as well as people living at ranches and farms, farmsteads and residential districts in the nearby areas. The ranches and farms, farmsteads and residential districts themselves however are often wholly or partially outside of the ZTV and/or have tree belts surrounding them, and therefore the development would form little to no part of their viewshed.

There are little to no recreational sightseers anticipated to the site or immediately surrounding area; there are no known promoted recreational routes or destinations identified as part of this appraisal.

As noted above, Bighill Springs Provincial Park at 1 km to the south-east is not included within the ZTV and therefore no visibility of the development is predicted for visitors.

The site and immediately surrounding area is generally remote and not seen by large numbers of people.

No evidence of public interest with the site or immediately surrounding area has been noted as part of this appraisal.

Thus, the site and immediately surrounding area is assessed as being of low sensitivity.

No further delineation of sensitivity rating unit areas beyond the site and immediately surrounding areas has been carried out as part of this appraisal.

2.4 Distance Zones Delineation

The site and immediately surrounding area can be subdivided into two zones relative to Highway 567:

- the foreground-middleground zone extends for approximately 1-2 km from the northern boundary, southwards and typically covers land above the 1,290 masl contour (refer to Viewpoints 1 and 4); and
- the seldom seen zone covers the lower-lying parts of the valley (below the 1290 masl) that extends across the centre of the proposed extraction area and the larger valley south of the proposed extraction areas (refer to Viewpoints 5 and 6).

No further mapping of distance zones beyond the site and immediately surrounding areas has been carried out as part of this appraisal.

2.5 Overall Visual Resource / Baseline Conditions

As demonstrated by the analysis of mapping data, fieldwork photography to 6 observation points, the site and immediately surrounding area is rated as low scenic quality and sensitivity, with around half of the area proposed for extraction located within foreground-middleground zone and half within a seldom seen zone, relative to Highway 567.

3.0 PROPOSED DEVELOPMENT

The proposed development includes 6 phases of sand and gravel extraction. Each phase would require:

- site clearance / removal of vegetation and any other structures;
- establishment of roads and access (include use of Range Road 40 and specific spurs, its removal and subsequent reinstatement);
- planting of trees along the eastern standoff strip to provide enclosure and screening of operations, as well as replacement of tree blocks to be removed;
- stripping of soils and overburden and temporary storage;
- aggregate extraction operations (with plant and vehicle movements and surface water management); and
- progressive and final restoration / closure, including re-vegetation and aftercare management.

The northwest quarter of Section 31 covers a total area of approximately 65 ha, whereas the southwest quarter covers approximately 70 ha. The proposed excavation footprint covers a continuous parcel occupying most of the north-west quarter and overlapping part of the southwest quarter and would be approximately 81 ha.

Access would be gained from Highway 567 and Range Road 40, with the Range Road later removed and mineral extracted underneath before reinstatement. New access roads would be formed as required to spur off from Range Road 40 into each working Phase.

As the working phases progress northwards, a temporary screening earth berm would be built along the outer northern perimeter of the extraction area to act as a noise barrier and to restrict views in from Highway 567. The mineral extraction area would be approximately 30 m standoff to the highway, except for a rectangular area of approximately 4.7ha in the northwest corner which steps in 190 m from the highway and would be left undisturbed to retain the existing slough wetland areas.

The valley to the south of the proposed extraction area would be left undisturbed, covering approximately 39.5ha. A standoff of approximately 15 m of unworked land would be retained along the eastern boundary and would be utilised for temporary soil storage / screening berms or planted with trees.

Once permitted, the development would be operated in six phases of uneven size (depending upon setbacks), each lasting about six years.

Each phase will be worked via individual cells and a summary of the individual phases is provided below:

- Phase 1 commencing extraction from 13.7 ha in the south-eastern corner and construction of soil and overburden berms;

- Phase 2 extends the open excavation immediately to the north comprising of about 15 ha with direct placement of overburden into the worked-out void in Phase 1;
- Phase 3 extends the open excavation immediately to the north comprising of about 15 ha with direct placement of overburden into the worked-out void in Phase 2, construction of the northern screening berm;
- Phase 4 extends the open excavation immediately to the west comprising of about 12 ha with direct placement of overburden into the worked-out void, for example in Phases 2 and 3;
- Phase 5 extends the open excavation immediately to the south comprising of about 17 ha with direct placement of overburden into the worked-out void, for example in Phases 3 and 4; and
- Phase 6 extends the open excavation immediately to the south comprising of about 8 ha with direct placement of overburden into the worked-out void in Phase 5 and remainder into Phase 6 itself.

As part of the final restoration works, the northern screening berm and any other temporary berms would be removed and all contours evenly graded and completed.

Progressive grass seeding would be carried out as parcels of land are disturbed and restored, for example; temporary soil and overburden mounds, surface water management ditches and/or as each Phase is backfilled with overburden and restored.

Subsequent tree and shrub planting and wetland habitats would be created and managed on restored areas.

The surface water management measures for each phase are similar and entail upslope ditches to prevent stormwater runoff from the up-gradient catchment entering the extraction areas and perimeter ditches at the outer foot of the screening berms / overburden stockpiles to route runoff from the mounds to settlement / attenuation ponds. Sumps will be created within the works and connected to outer settlement ponds, as necessary.

4.0 APPRAISAL OF CHANGES TO THE VISUAL RESOURCE

The appraisal of changes to the visual resource considers contrasts to the scenic quality baseline conditions as described above, during operational phases and after restoration.

This process utilises 3d models of the proposed phased development and references perspective views for each of the key observation points.

4.1.1 Landform

During operational phases, landform would be progressively lowered below existing ground levels, with temporary above ground storage berms being formed at certain phases. Active working face gradients would be steeper than naturally occurring around the site, introducing a more diverse and angular appearance and with horizontal and vertical planes. The storage berm gradients would be no steeper than naturally occurring around the site and would be formed to, as far as practicable to have soft, rounded shapes. The configuration and scale of the active working areas would introduce new contrasting topographical features, within the wider characteristic low rolling hills / flat valley bottom.

After restoration, the whole of the worked-out landform would be permanently lowered below existing ground levels, but with restored embankments no steeper than naturally occurring and with the main central bowl comprising a simple, large-scale low rolling / flat valley bottom. At this stage there would be no introduction of any new contrasting topographical features and the site would assimilate with its surroundings.

At Viewpoint 1 next to Highway 567, the standoff in the north-west corner of the site means that changes to the landform in views at this location are mostly limited to the appearance of the northern screening berm and potentially other temporary berms, each being removed as operations progress through the Phases. Typically, these berms would appear as a small part of the wide panoramic view. The excavation areas are set down from this location and less visible.

At Viewpoint 4 next to Highway 567, the northern screening berm extends much closer to this location, whilst any other temporary berms would be further away. The excavation areas are set down from this location and less visible.

At Viewpoint 5, adjacent to the eastern side of the site and with clear uninterrupted views over the central valley feature, the progressive disturbance and working through of each of the phases would be visible, although restoration works would mitigate the extent of disturbance at any particular stage / or point in time.

At Viewpoint 6, on the southern side of the undisturbed valley, south of the extraction area, the progressive working into the northern valley slope would be visible, alongside the formation of the overburden storage berms and reclamation backfill / stockpile.

4.1.2 Vegetation

During operational phases, the mainly simple and short-growing grassland vegetation, with some taller and rougher treed areas would be progressively cleared. The resultant disturbed and bare ground / exposed mineral would contrast with the adjacent farmed and vegetated areas, in terms of rougher textures and vertical faces and mounds (as described under landform above).

After progressive restoration and reinstatement of the soil layer, a suitable mainly grassland cover would be established and managed. A similar variety of vegetation would be restored to the existing pre-worked conditions, with opportunities for wetland communities in the lower-lying areas and groves of trees elsewhere. Any additional planting of trees along the eastern would include enclosure to the site.

At Viewpoints 1 and 4 next to Highway 567 the removal of tree groups around the dwellings would be noticeable, although they currently appear as a small part of the wide panoramic view, characterised by other tree belts and blocks off the site and in the surrounding area. The excavation areas are set down from this location and the disturbance of the lower-growing grassland would be less visible.

The trees around Viewpoint 3 would be undisturbed and consequently there are no views of the development anticipated at that location.

4.1.3 Water

During operational phases, the small and scattered seasonal wetlands would be progressively cleared. However, visible water is mostly absent from the site and where present is not noticeable, thus there would be no contrasting effect on this element as a result of the development.

After restoration, there are opportunities for wetland communities and possible introduction of water in the lower-lying areas and depending on seasonal variations.

4.1.4 Colour

During operational phases, the progressive clearance of the grassland and treed vegetation cover would result in subtle variations and contrast, by replacing the muted green and brown tones, with darker browns of the exposed overburden and lighter yellows of the sands and gravels.

The working phases would also introduce plant and vehicle movements and contrasting metallic colours.

After restoration and reinstatement of the soil layer, a suitable grassland cover would be established and managed. A similar variety of vegetation to the existing pre-worked conditions would be reintroduced, with opportunities for wetland communities in the lower-lying areas.

At Viewpoint 5, adjacent to the eastern side of the site and with clear uninterrupted views over the central valley feature, the progressive changing of greens to browns and lighter yellow colours from the disturbance and working through each of the phases would be visible, although restoration works would mitigate the extent of disturbance at any particular stage / or point in time. Movement of colourful vehicles, plant and machinery would also be noticeable at this location.

At Viewpoint 6, on the southern side of the undisturbed valley, south of the extraction area, the progressive changing of greens to browns and lighter yellow colours working into the northern valley slope would be visible, alongside the formation of the overburden storage mounds in Phase 6. Movement of colourful plant and machinery would also be noticeable at this location.

The additional movement of colourful vehicles accessing the site would be particularly noticeable at Viewpoint 1, on the site entrance.

4.1.5 Scarcity

During operational phases, the fairly common grassland and treed / aspen groves would be progressively cleared. As noted above the resultant disturbed and bare ground / exposed mineral would contrast with the adjacent farmed and vegetated areas.

After restoration and reinstatement of the soil layer, a suitable mainly grassland cover would be established and managed. A similar variety of vegetation would be implemented to the existing pre-worked conditions, but with opportunities for wetland communities in the lower-lying areas and groves of trees elsewhere.

4.1.6 Cultural Modifications

During operational phases, the ranch and farming land use would be altered to natural resource industrial land use and would be a noticeable contrast, albeit carried out on a phased basis. After restoration a ranch and farm land use would be reinstated, along with Range Road 40 at the lower level.

This would be most noticeable at Viewpoints 5 and 6 to the south of the site and less so for Viewpoints 1 and 4, near to Highway 567 at the north of the site.

4.1.7 Adjacent Scenery

During operational phases, the lowering of levels within the working area and addition of mounds may reduce the influence of adjacent scenery, by obscuring and enclosing views. However, as noted above the area is characterised by already typically distant and wide horizons, with little or no influence on overall visual quality.

At Viewpoint 1 and 4 next to Highway 567, the mounds are anticipated to appear as a small part of the wide panoramic view and the influence of adjacent scenery would be unaltered.

4.2 Key Mitigation Measures

The development proposals seek to mitigate any potentially adverse visual effects, either by avoidance, reduction or replacement / compensation; this is often referred to as the mitigation hierarchy.

Key mitigation measures for the changes identified to visual resources consist of:

- Applying a wide standoff to Highway 567 to the north and inclusion of the temporary screening berm to minimise views into the working area;
- Shaping of the temporary storage berms to avoid sharp corners and angles and provide a rounded, softer appearance and use of 1:3 slopes, which would be no steeper than the existing natural valley-side slopes to the south of the site;
- Additional planting of trees along the eastern standoff strip to provide enclosure and screening of operations, as well as replacement of tree blocks to be removed;

- Progressive working and restoration of the disturbed areas as previously described to minimise the area affected at any point in time and replace existing mainly grassland landcover;
- Use of embankment slopes of up to 1:3 around the excavation boundaries, which would be no steeper than the existing natural valley side slopes to the south of the site; and
- final restoration, including removal of the temporary berms and aftercare management would ensure little to no perceivable change to visual resources overall.

5.0 CONCLUSIONS

The conclusions of the assessment are as follows:

- the site and immediately surrounding area is rated as low scenic quality and sensitivity, with the area proposed for extraction located either within foreground-middleground zone or within a seldom seen zone relative to Highway 567; and
- although the development would necessitate the disturbance and alteration of several visual resources, such as landform, vegetation, colours, the overall impression retained after driving through, walking through or flying over the site would be mostly unchanged as a result of the proposed development and mitigation measures. In particular when the progressive and phased approach to working and restoration is considered.

6.0 REFERENCES

Alberta Geological Survey, 1999. *Geological Map of Alberta, 1:1,000,000 scale*.

Downing, D.J. and Pettapiece, W.W., 2006. *Natural Regions and Subregions of Alberta*. Natural Regions Committee.

Rocky View County (2013). *County Servicing Standards*

Shetsen, I. 1987. *Quaternary Geology, Southern Alberta*. 1:500,000 scale map. Alberta Research Council

SLR Consulting 2019. *Biophysical Report*. Report Reference: 212.06650.00003.

SLR Consulting 2019. *Hydrogeological Risk Assessment*. Report Reference: 212.06650.00003.

SLR Consulting 2019. *Surface Water Management Plan*. Report Reference: 212.06650.00003.

United States Dept of the Interior, Bureau of Land Management, 1986. *Manual H-8410-1 – Visual Resource Inventory*

United States Dept of the Interior, Bureau of Land Management, 2001. *Technical Note 407 Integrating GIS Technologies with the Visual Resource Management Inventory Process*

7.0 STATEMENT OF LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for Mountain Ash Limited Partnership, hereafter referred to as the "Client". The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. It is intended for the sole and exclusive use of Mountain Ash Limited Partnership. Other than by the Client and as set out herein, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of SLR.

This report has been prepared for specific application to this site and site conditions existing at the time work for the report was completed. Any conclusions or recommendations made in this report reflect SLR's professional opinion.

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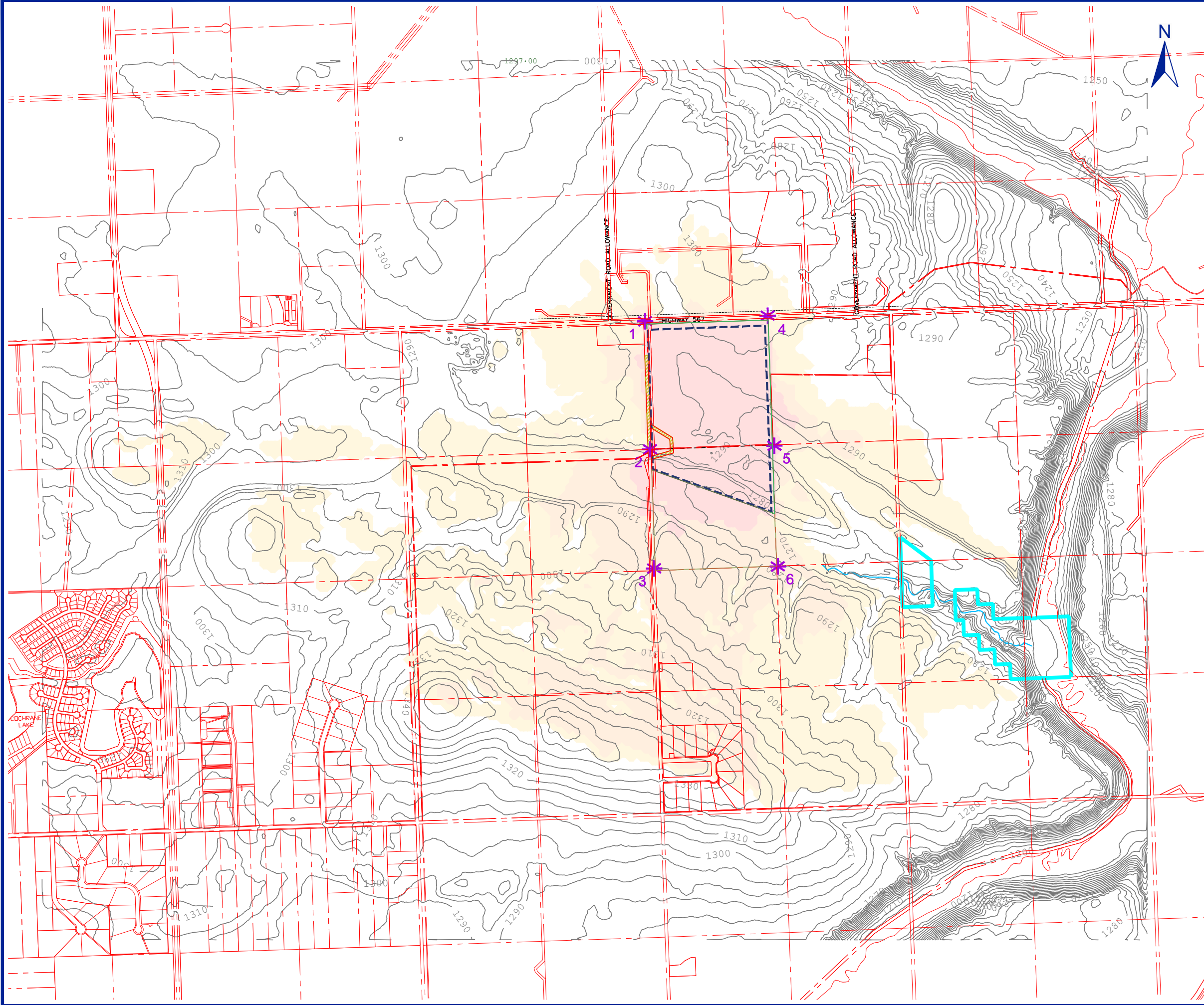
Nothing in this report is intended to constitute or provide a legal opinion. SLR makes no representation as to the requirements of compliance with environmental laws, rules, regulations or policies established by federal, provincial or local government bodies. Revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary.

The Client may submit this report to Alberta Environment and Sustainable Resource Development and/or related Alberta environmental regulatory authorities or persons for review and comment purposes.

DRAWINGS

Visual Appraisal
Mountain Ash Limited Partnership Aggregate Operation
NW and SW 31-26-03 W5M
Rocky View County, AB
SLR Project No.: 212.06650.00003/008

Cadfile name: 191216-006999-00 06-ZTV-A.dwg



NOTES:
DRAWING COMPILED FROM LIDAR DATA, PROPERTY LINE DATA AND AIR PHOTOS AS PROVIDED BY THE CLIENT, ALTALIS CADASTRAL DATA AND SITE RECONNAISSANCE INFORMATION.

LEGAL DESCRIPTION:
W 1/2 SEC 31 TWP 026 RGE 03 W5M
ROCKY VIEW COUNTY, ALBERTA

LEGEND:

- PROPERTY BOUNDARY
- BIG HILL SPRINGS PROVINCIAL PARK BOUNDARY
- CONTOURS (5 m INTERVALS)
- ZONE OF THEORETICAL VISIBILITY (ZTV)
AREA ASSESSED FOR ZTV - i.e. PROPOSED EXTRACTION AREA
- ZONE GREATER THAN 3 DEGREES VISIBILITY VERTICAL ANGLE
- ZONE BETWEEN 1 AND 3 DEGREES VISIBLE VERTICAL ANGLE
- ZONE BETWEEN 0.25 AND 1 DEGREES VISIBLE VERTICAL ANGLE
- KEY OBSERVATION POINT / PHOTOGRAPHY LOCATION

0 0.25 0.5 1.0 1.5 km
SCALE 1:25,000
WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

**MOUNTAIN ASH LIMITED PARTNERSHIP
AGGREGATE OPERATION
NW & SW 31-26-03 W5M
ROCKY VIEW COUNTY, ALBERTA**

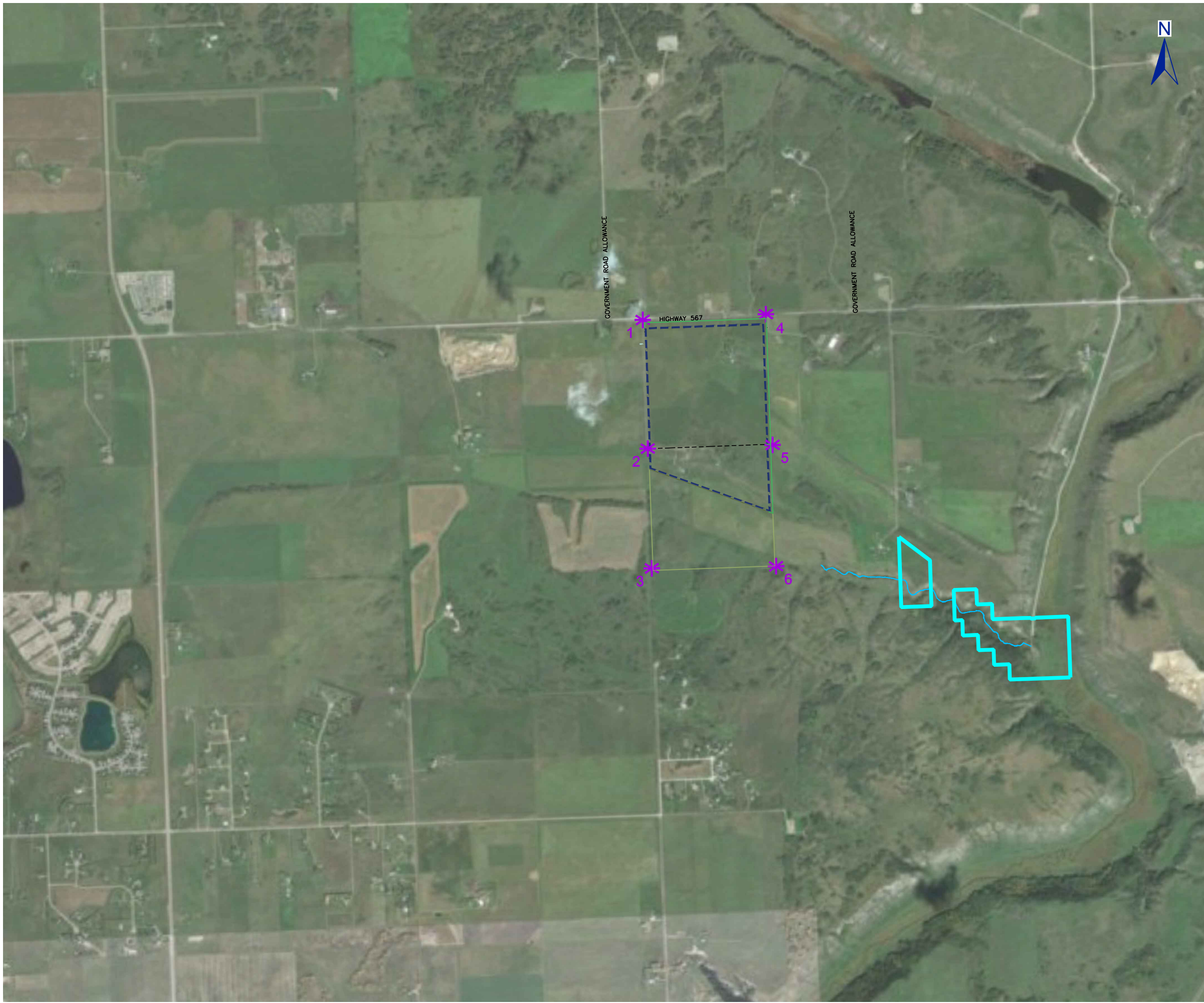
VISUAL APPRAISAL

ZONE OF THEORETICAL VISIBILITY

Date: February 10, 2020	Drawing No.
Project No. 212.06650.00003	1

SLR
global environmental solutions

Cadfile name: 191216-006999-00 06-ZTV-A.dwg



NOTES:
DRAWING COMPILED FROM LIDAR DATA, PROPERTY LINE DATA AND AIR PHOTOS AS PROVIDED BY THE CLIENT, ALTALIS CADASTRAL DATA AND SITE RECONNAISSANCE INFORMATION.

IMAGERY SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID AND THE GIS USER COMMUNITY. IMAGERY DATE: JULY 3, 2019.

LEGAL DESCRIPTION:
W 1/2 SEC 31 TWP 026 RGE 03 W5M
ROCKY VIEW COUNTY, ALBERTA

LEGEND:

BIG HILL SPRINGS PROVINCIAL PARK BOUNDARY

PROPOSED EXTRACTION AREA

1 *

KEY OBSERVATION POINT / PHOTOGRAPHY LOCATION

00.250.51.01.5

km

SCALE 1:25,000
WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

MOUNTAIN ASH LIMITED PARTNERSHIP
AGGREGATE OPERATION
NW & SW 31-26-03 W5M
ROCKY VIEW COUNTY, ALBERTA

VISUAL APPRAISAL

AERIAL PHOTO AND KEY OBSERVATION
POINTS

Date: February 10, 2020

Project No. 212.06650.00003

Drawing No.
2

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VIEWPOINT 1: NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND RANGE ROAD 40 LOOKING EAST.



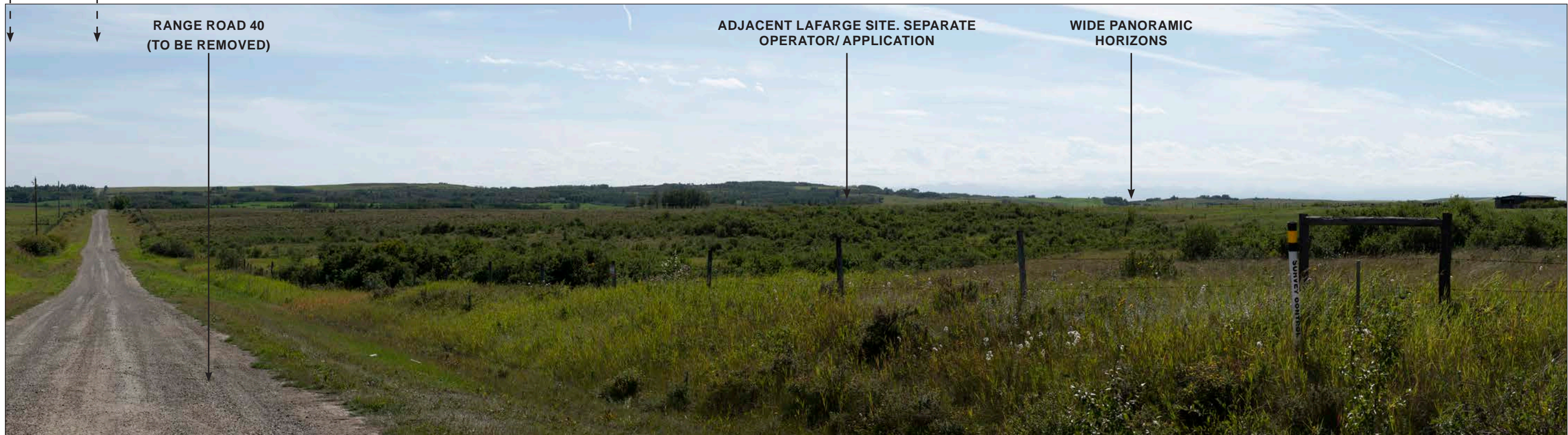
VIEWPOINT 1 (CONTINUED): NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND RANGE ROAD 40 LOOKING SOUTH-EAST.

NOTES

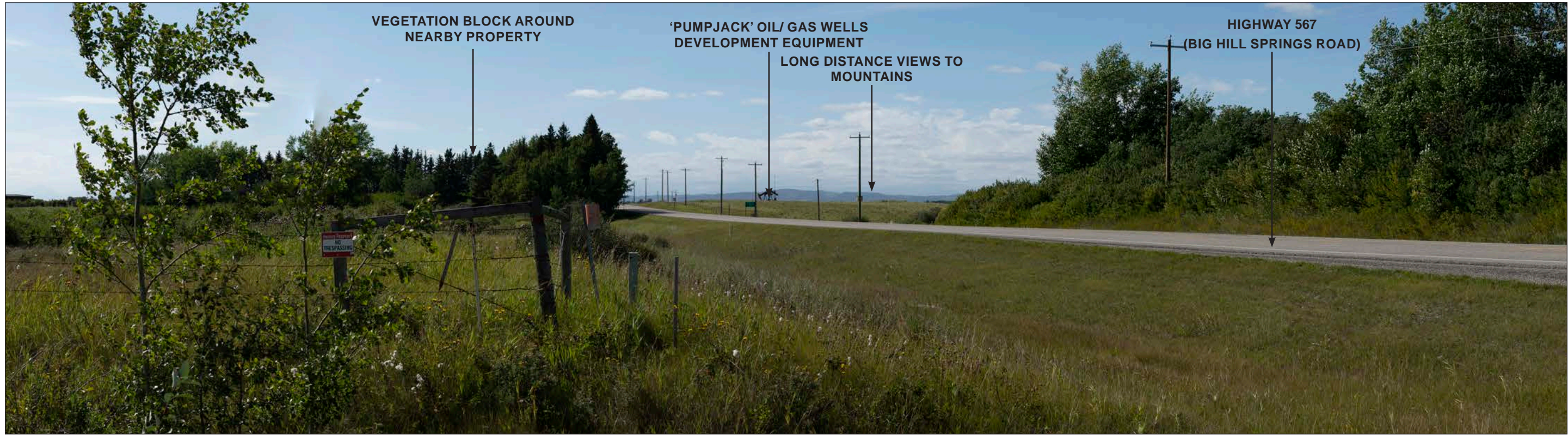
The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
	DRAWING 3	
Scale AS SHOWN	Date DECEMBER 2019	

OPEN VIEWS TOWARDS SITE (MAINLY FARMING LAND USE)





VIEWPOINT 1 (CONTINUED): NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND RANGE ROAD 40 LOOKING SOUTH-WEST.



VIEWPOINT 1 (CONTINUED): NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND RANGE ROAD 40 LOOKING WEST.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
DRAWING 4		
Scale AS SHOWN	Date DECEMBER 2019	





VIEWPOINT 2: AT WESTERN EDGE OF SITE, NEAR RANGE ROAD 40 LOOKING NORTH.



VIEWPOINT 2 (CONTINUED): AT WESTERN EDGE OF SITE, NEAR RANGE ROAD 40 LOOKING NORTH-EAST.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

	MOUNTAIN ASH	
	VISUAL APPRAISAL	
	DRAWING 5	
	Scale AS SHOWN	Date DECEMBER 2019

EDGE OF SITE OBSCURED BY LOCAL TOPOGRAPHY

EDGE OF LOWER LYING RIPARIAN
AREA/ VALLEY

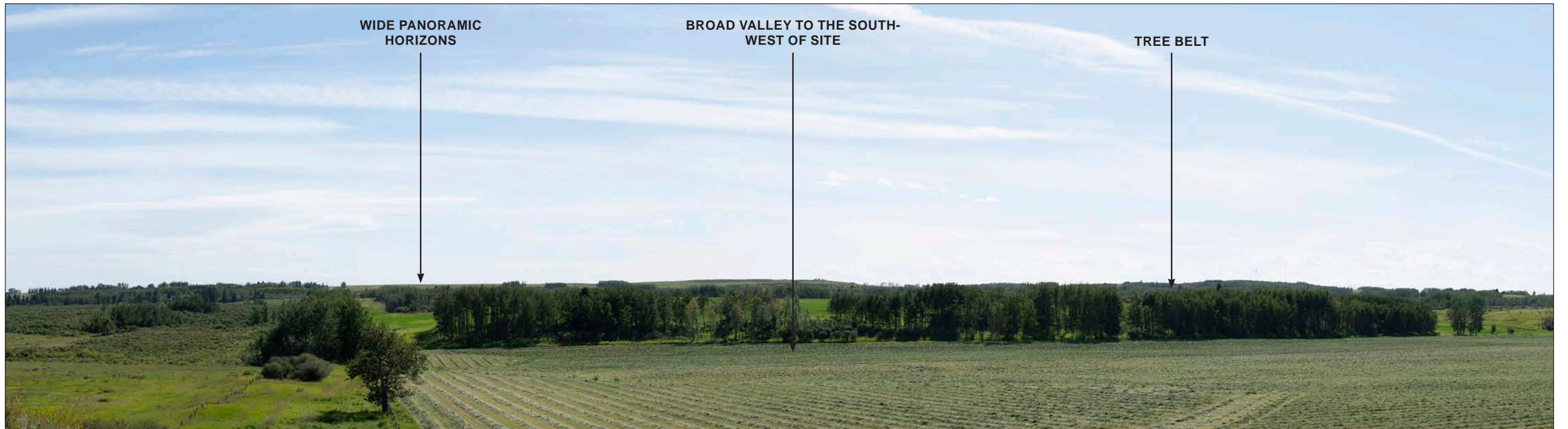


VIEWPOINT 2 (CONTINUED): AT WESTERN EDGE OF SITE, NEAR RANGE ROAD 40 LOOKING SOUTH-EAST.

WIDE PANORAMIC
HORIZONS

BROAD VALLEY TO THE SOUTH-
WEST OF SITE

TREE BELT



VIEWPOINT 2 (CONTINUED): AT WESTERN EDGE OF SITE, NEAR RANGE ROAD 40 LOOKING SOUTH.

NOTES

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MOUNTAIN ASH

VISUAL APPRAISAL

DRAWING 6

Scale
AS SHOWN

Date
DECEMBER 2019





VIEWPOINT 3: AT SOUTH-WESTERN CORNER OF SITE ON GOVERNMENT ROAD ALLOWANCE LOOKING NORTH-WEST.



VIEWPOINT 3 (CONTINUED): AT SOUTH-WESTERN CORNER OF SITE ON GOVERNMENT ROAD ALLOWANCE LOOKING NORTH.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

	MOUNTAIN ASH	
	VISUAL APPRAISAL	
	DRAWING 7	
	Scale AS SHOWN	Date DECEMBER 2019

VIEWS TOWARDS SITE ARE OBSCURED BY VEGETATION





VIEWPOINT 3 (CONTINUED): AT SOUTH-WESTERN CORNER OF SITE ON GOVERNMENT ROAD ALLOWANCE LOOKING NORTH-EAST.



VIEWPOINT 3 (CONTINUED): AT SOUTH-WESTERN CORNER OF SITE ON GOVERNMENT ROAD ALLOWANCE LOOKING EAST.

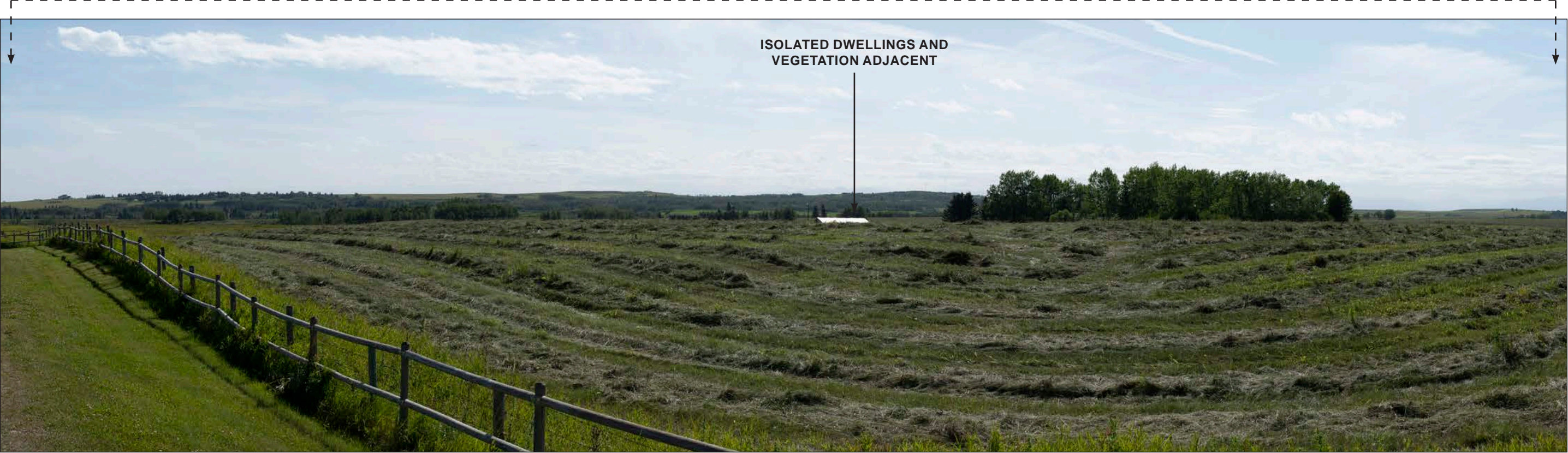
NOTES

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	MOUNTAIN ASH	
	VISUAL APPRAISAL	
	DRAWING 8	
	Scale AS SHOWN	Date DECEMBER 2019





VIEWPOINT 4: NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND GRAVEL ROAD LOOKING SOUTH.
OPEN VIEWS TOWARDS SITE (MAINLY FARMING LANDUSE)



VIEWPOINT 4 (CONTINUED): NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND GRAVEL ROAD LOOKING SOUTH-WEST.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
DRAWING 9		
Scale AS SHOWN	Date DECEMBER 2019	





VIEWPOINT 4 (CONTINUED): NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND GRAVEL ROAD LOOKING WEST.



VIEWPOINT 4 (CONTINUED): NORTH-EAST CORNER OF SITE BETWEEN HIGHWAY 567 AND GRAVEL ROAD LOOKING NORTH-WEST.

NOTES

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 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
	DRAWING 10	
Scale AS SHOWN	Date DECEMBER 2019	



VIEWPOINT 5: AT EASTERN EDGE OF SITE, LOOKING SOUTH.



OPEN VIEWS TOWARDS SITE (MAINLY FARMING LANDUSE)



VIEWPOINT 5 (CONTINUED): AT EASTERN EDGE OF SITE, LOOKING SOUTH-WEST.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
DRAWING 11		
Scale AS SHOWN	Date DECEMBER 2019	

OPEN VIEWS TOWARDS SITE (MAINLY FARMING LANDUSE)



VIEWPOINT 5 (CONTINUED): AT EASTERN EDGE OF SITE, LOOKING NORTH-WEST.



OPEN VIEWS TOWARDS SITE (MAINLY FARMING LANDUSE)



VIEWPOINT 5 (CONTINUED): AT EASTERN EDGE OF SITE, LOOKING NORTH.

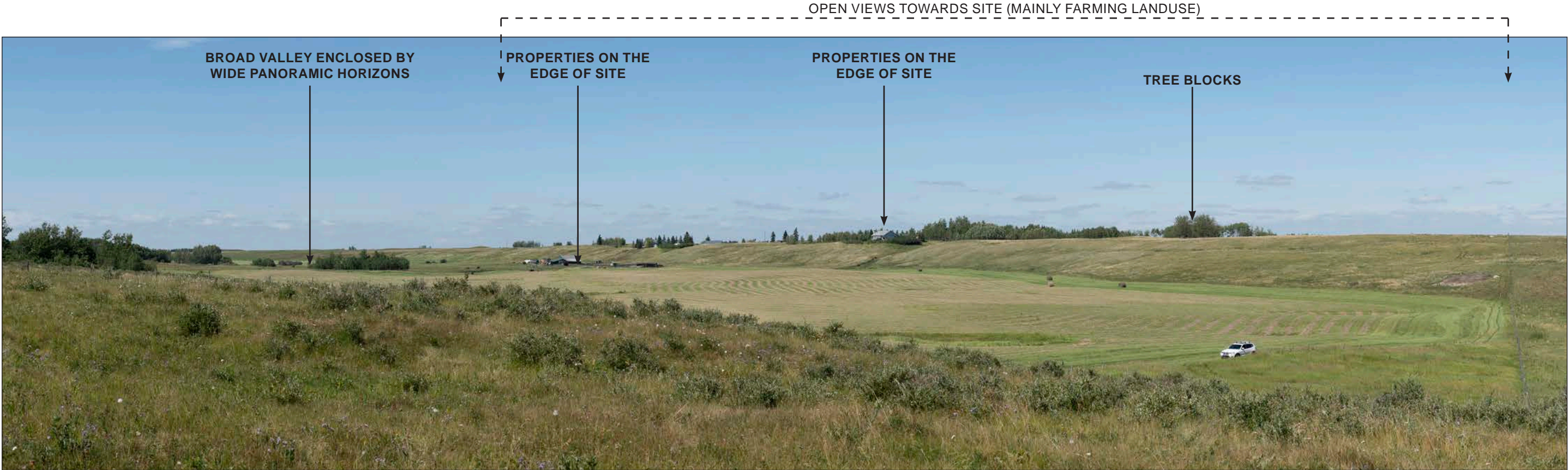
NOTES

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 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
DRAWING 12		
Scale AS SHOWN	Date DECEMBER 2019	





VIEWPOINT 6: SOUTH-EAST CORNER OF SITE, LOOKING WEST.



VIEWPOINT 6 (CONTINUED): SOUTH-EAST CORNER OF SITE, LOOKING NORTH-WEST.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

 	MOUNTAIN ASH <hr/> VISUAL APPRAISAL <hr/> DRAWING 13	
	Scale AS SHOWN	Date DECEMBER 2019





VIEWPOINT 6: SOUTH-EAST CORNER OF SITE, LOOKING NORTH-EAST.



VIEWPOINT 6 (CONTINUED): SOUTH-EAST CORNER OF SITE, LOOKING EAST.

NOTES

The photographs within this sheet have been scaled to match the equivalent view of the human eye, when printed out at A3 and viewed at a distance of 300mm.

 	MOUNTAIN ASH	
	VISUAL APPRAISAL	
	DRAWING 14	
Scale AS SHOWN	Date DECEMBER 2019	



global environmental solutions

Calgary, AB

1185-10201 Southport Rd SW
Calgary, AB T2W 4X9
Canada

Tel: (403) 266-2030

Fax: (403) 263-7906

Edmonton, AB

6940 Roper Road
Edmonton, AB T6B 3H9
Canada

Tel: (780) 490-7893

Fax: (780) 490-7819

Grande Prairie, AB

9905-97 Avenue
Grande Prairie, AB T8V 0N2
Canada

Tel: (780) 513-6819

Fax: (780) 513-6821

Guelph, ON

105-150 Research Lane
Guelph, ON N1G 4T2
Canada

Tel: (226) 706-8080

Fax: (226) 706-8081

Kamloops, BC

8 West St. Paul Street
Kamloops, BC V2C 1G1
Canada

Tel: (250) 374-8749

Fax: (250) 374-8656

Kelowna, BC

#107-1726 Dolphin Avenue
Kelowna, BC V1Y 9R9
Canada

Tel: (250) 762-7202

Fax: (250) 763-7303

Markham, ON

200 - 300 Town Centre Blvd
Markham, ON L3R 5Z6
Canada

Tel: (905) 415-7248

Fax: (905) 415-1019

Nanaimo, BC

9-6421 Applecross Road
Nanaimo, BC V9V 1N1
Canada

Tel: (250) 390-5050

Fax: (250) 390-5042

Ottawa, ON

400 - 2301 St. Laurent Blvd.
Ottawa, ON K1G 4J7
Canada

Tel: (613) 725-1777

Fax: (905) 415-1019

Prince George, BC

1586 Ogilvie Street
Prince George, BC V2N 1W9
Canada

Tel: (250) 562-4452

Fax: (250) 562-4458

Regina, SK

1048 Winnipeg Street
Regina, SK S4R 8P8
Canada

Tel: (306) 525-4690

Fax: (306) 525-4691

Saskatoon, SK

620-3530 Millar Avenue
Saskatoon, SK S7P 0B6
Canada

Tel: (306) 374-6800

Fax: (306) 374-6077

Toronto, ON

36 King Street East, 4th Floor
Toronto, ON M5C 3B2
Canada

Tel: (905) 415-7248

Fax: (905) 415-1019

Vancouver, BC (Head Office)

200-1620 West 8th Avenue
Vancouver, BC V6J 1V4
Canada

Tel: (604) 738-2500

Fax: (604) 738-2508

Victoria, BC

Unit 303 - 3960 Quadra Street
Victoria, BC V8X 4A3
Canada

Tel: (250) 475-9595

Fax: (250) 475-9596

Winnipeg, MB

1353 Kenaston Boulevard
Winnipeg, MB R3P 2P2
Canada

Tel: (204) 477-1848

Fax: (204) 475-1649

Whitehorse, YT

6131 6th Avenue
Whitehorse, YT Y1A 1N2
Canada

Tel: (867) 689-2021

Yellowknife, NT

1B Coronation Drive
Yellowknife, NT X1A 0G5
Canada

Tel: (867) 688-2847

