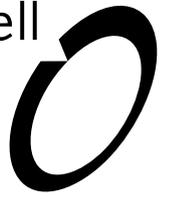


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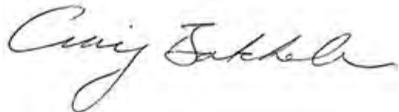
Kimihia Lakes Development Project - Rezoning under Proposed Waikato District Plan

Assessment of Environmental Effects and Section 32AA Evaluation
Prepared for Allen Fabrics Limited

16 February 2021



Document Quality Assurance

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1.0 Introduction

Waikato District Council (WDC) is currently undergoing a review of their District Plan and notified Stage 1 of the Proposed Waikato District Plan (PDP) in July 2018. Stage 2 of the PDP (Natural Hazards) was subsequently notified in July 2020.

Allen Fabrics Limited (AFL) lodged a submission (reference: 584) on the PDP seeking to introduce a specific zone called the “Kimihi Lakes Recreation & Events Zone”. The proposed zoning covers farmland owned by AFL, as well as the now decommissioned Huntly East Mine, which AFL purchased in 2017 (the site). The site was zoned Rural under the PDP and covers an area of approximately 164 hectares.

The central premise of the Kimihi Lakes Development Project (the Project) as a whole is the reinstatement and restoration of the historical Kimihi Lake and the enhancement of the wider environment, through education and experience. The vision for the landholding is that it will be developed not only as a facility for the Huntly community, but also as a regionally significant visitor attraction. The site will be leased into the care of Kimihi Lakes Community Charitable Trust (KLCCT) to develop with the support of Momentum Waikato Trust. The proposed rezoning will enable such development by specifically supporting activities that have been identified for the project site. Since the original submission was prepared in 2018, the Project has evolved and is now supported by a range of technical assessments and a Masterplan. Furthermore, the Hearing Commissioner for the Waikato District Plan Review process issued minutes and directions on 12 May 2020 which clarified any rezoning proposals would need to be supported by technical information and a Section 32AA assessment.

Given the above, this report supports the original submission made by AFL and refines the proposed provisions based on supporting technical input. It is made pursuant to Section 32AA and Section 32 of the Resource Management Act 1991 (RMA).

2.0 Project background

2.1 Project vision

The primary vision for the Project is the rehabilitation and restoration of the site, the development of complementary activities including water-based recreation (swimming, kayaking, waka ama), overnight accommodation, a coalfields museum, cultural interpretation, an outdoor education centre (offering environmental and physical education skills training), and informal use of the site for other activities such as walking, cycling and picnicking.

The rehabilitation of the site will be programmed to align with the progressive filling of the lake which is estimated to take up to 30 years to fill¹. The rehabilitation will recreate some of the former ecological values of Kimihi Lake and recognise the cultural values that remain in this area. Rehabilitation work will comprise riparian planting alongside the future lake edge, and amenity and ecological restoration of the streams, wetlands and bush clad gullies on the lake surrounds.

The proposed activities for the site have been developed through a master planning design process and have been informed by a range of technical inputs. Figure 1 below provides an

¹ Could be five to ten years if a stream, diverted around the site to the south as part of the historic mining operation, is re-diverted back into the site

indicative image of the proposed lakeside hub and the full Masterplan for the Project can be found in **Appendix 1**.

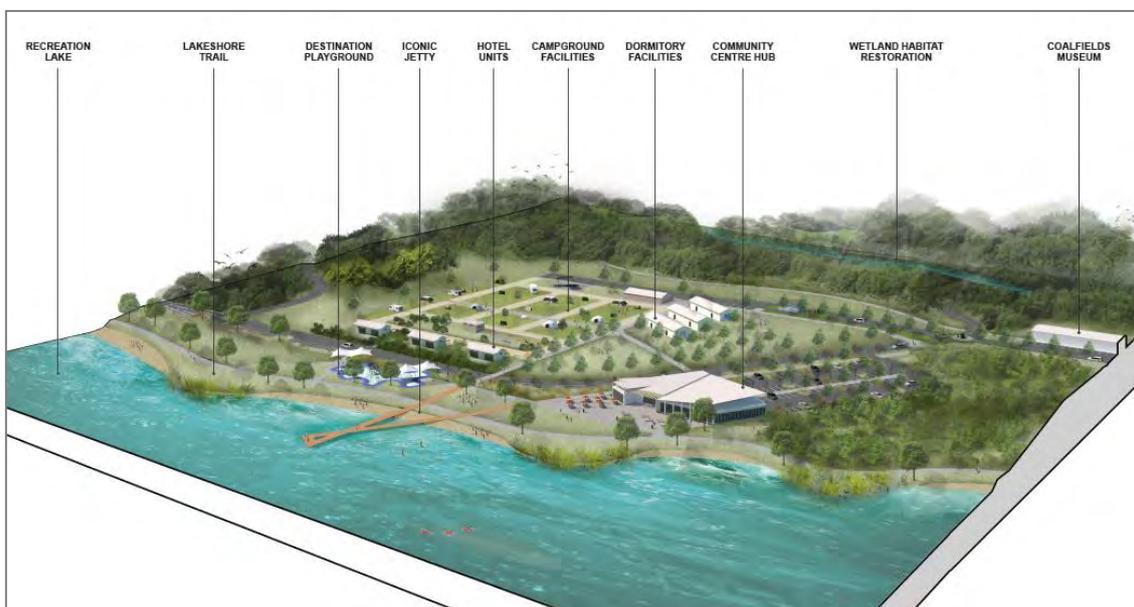


Figure 1: Proposed lakeside hub

2.2 Project objectives

The following objectives were developed for the Project through the master planning process²:

1. Restoration and enhancement of the natural environmental qualities of the lake and its source catchment;
2. Provide a publicly accessible and high amenity recreation facility for the Huntly community that contributes to the 'lake network' in the district (e.g. allowing certain events to be spread across them);
3. Offer outdoor education and recreation experiences to primary and secondary school students from Huntly and Rangatahi in the Waikato-Tainui rohe, as well as students in the wider catchment of Waikato District and urban centres of Hamilton and Auckland;
4. Provide skills training opportunities for local youth on-site (e.g. through 'on the job' training or as part of school/tertiary education courses), in environmental restoration, construction, hospitality, and the operation of commercial recreation activities;
5. Generate new employment opportunities and income for the local workforce and attract visitors from outside the Hamilton-Waikato District to contribute to growth of the local economy;
6. Put Huntly 'on the map' of a trail of tourism destinations along the Hamilton-Auckland corridor;
7. Provide a complementary destination to various cultural tourism projects centred on the Waikato River, which are currently being pursued by other parties. The park's cultural heritage role will be to show respect for its mining history (including the local miners who were predominantly of Māori or European descent); and
8. Co-ordinate and co-operate activities with neighbouring facilities/ activities including Huntly Speedway, Huntly Gun Club, Rotongaro- Huntly Pony Club, Huntly Half-Marathon, Hakanoa

² Note: These objectives are for Project context only and are not proposed to be embedded into the District Plan as provisions

Lake walkway, and the accessible by Expressway Hampton Downs Raceway , the Jet Sprint Boats and Dragstrip at Meremere, Cambridge Avantidrome and Karapiro Rowing Centre.

3.0 Site description

3.1 Overview

The subject site is located to the north east of the Huntly township and is contained by McVie Road to the north, the Waikato Expressway (SH1) to the east, and Kimihia Road to the south. The boundaries of the site are outlined in dark blue in Figures 2 and 3 below.

The site is approximately 164 hectares in area, with variable topography, comprising farmland, native and exotic vegetation, and the former Huntly East open-cast and drift mine that is no longer in operation. The former mine site occupies the northern half of the site, contained within what was once an area of Kimihia lakebed. Since the mining operation ceased in 2017, this area is re-filling naturally (refer Figures 4 and 5).

Lake Kimihia was approximately 280ha in size before mining of the site began. During the 1950s, the lake was partly drained and reduced in size to allow mining of the lakebed. The existing Lake Kimihia is located on the eastern side of the Waikato Expressway (refer Figures 2 and 3) and is what remains of the original lake. This land is owned by the Department of Conservation and does not form part of the proposed rezoning.

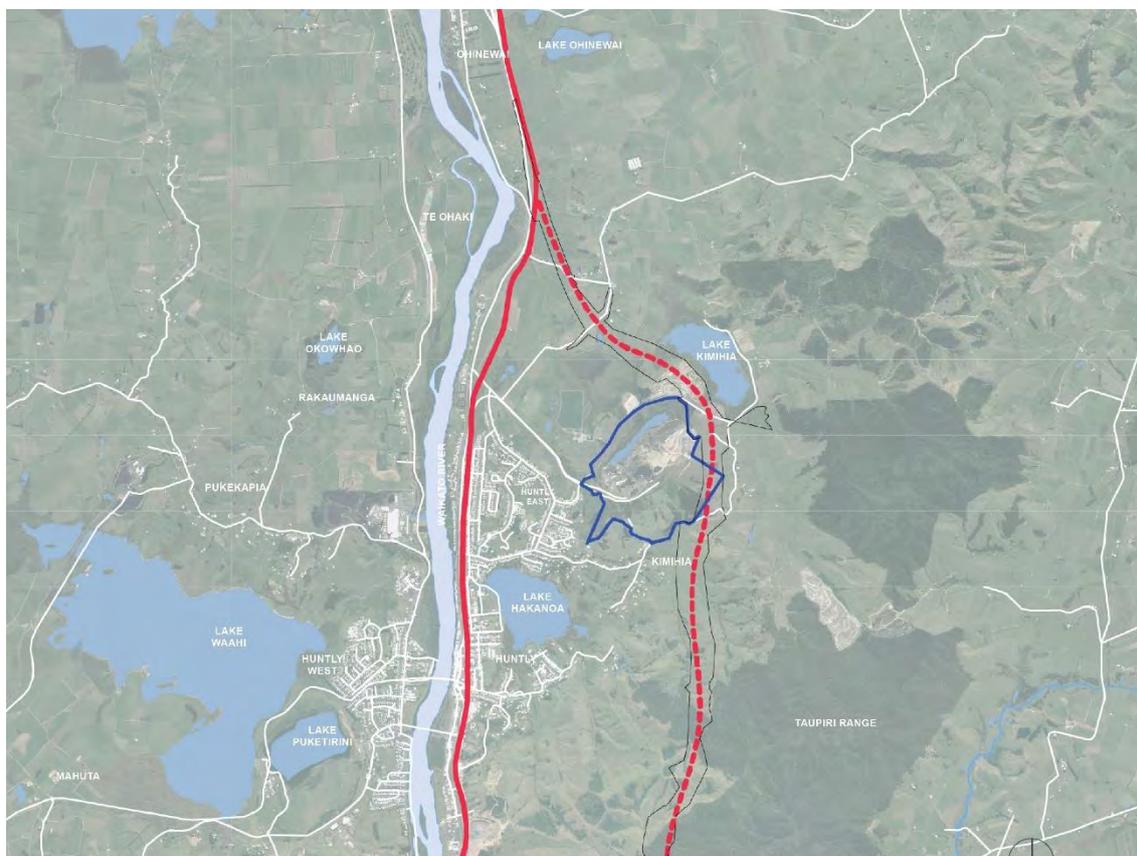


Figure 2: Site extent shown in blue outline, with the Waikato Expressway in red dotted line and the old SH1 shown in solid red line

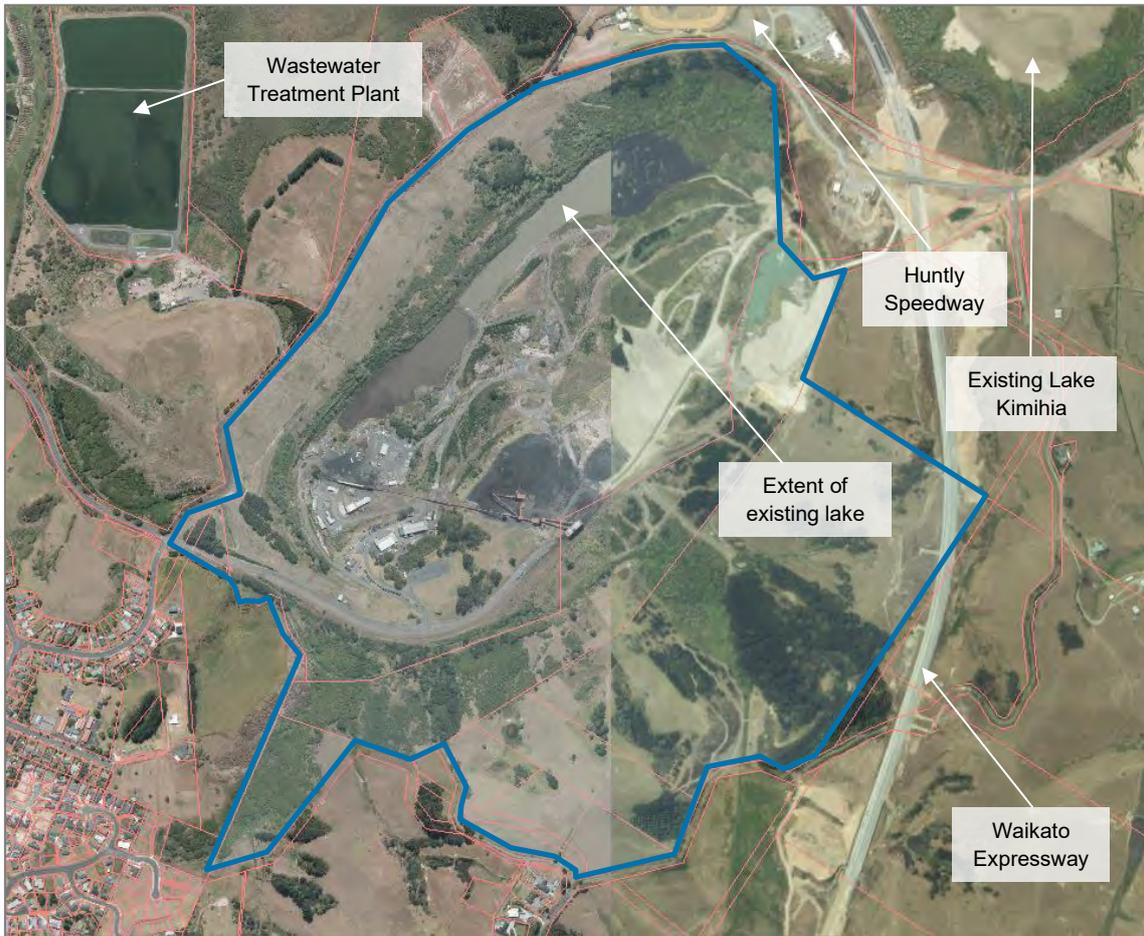


Figure 3: Site boundary outlined in blue



Figure 4: Photograph overlooking the site, showing the location of the lakeside hub as well as the newly forming lake



Figure 5: Photograph showing the lake that is currently filling on the site

3.2 Site ownership

The following table outlines the parcels of land which are applicable to this rezoning submission. It is noted that part of the land owned by AFL was zoned residential under the PDP. This land is outside of the scope of this assessment and is not included in the below table.

The original submission by AFL in 2018 also included new areas to be re-zoned as residential. This has since been re-considered and will not be pursued at this time. This is explained further below.

The Records of Title for the site are attached as **Appendix 2**. In total, the area of land proposed to be rezoned is 164ha.

Table 1: Site ownership details

Legal description	Title	Area	Owner
Section 3 Survey Office Plan 482553 and Lot 1 Deposited Plan South Auckland 20619	805391	89.66ha	Allen Fabrics Limited
Allotment 746 Parish of Taupiri	SA10D/800	21.88ha	Allen Fabrics Limited
Section 1 Survey Office Plan 60522	SA61B/799	3835m ²	Allen Fabrics Limited
Allotment 6 Parish of Taupiri	SA51/131	4,683m ²	Allen Fabrics Limited

Allotment 740 Parish of Taupiri	SA50A/762	3.83ha	Allen Fabrics Limited
Lot 23A Section 463 Parish of Taupiri	SA30A/356	4.85ha	Allen Fabrics Limited
Allotment 857 Parish of Taupiri	SA40D/985, 4313788	36.28ha	Allen Fabrics Limited, Her Majesty the Queen ³
Allotment 777 Parish of Taupiri	SA18B/1138	2.33ha	Allen Fabrics Limited
Lot 18-21 Deposited Plan 347582 and Section 3 Survey Office Plan 400374	199501	3.28ha	Allen Fabrics Limited
Allotment 515 Parish of Taupiri	SA251/176	7,456m ²	Allen Fabrics Limited
Total area		164ha	

3.3 Surrounding land

There is diversity in land use surrounding the site, with residential development and the commercial centre of Huntly to the southwest, and rural farmland to the east and south.

Located off McVie Road directly north of the site is the Huntly Speedway, as well as the Rotongaro-Huntly Pony Club and the Huntly Wastewater Treatment Plant to the west. The proposed new large-scale multi-zone Sleepyhead Development at Ohinewai, is also located directly north. The Waikato Expressway runs along the eastern boundary of the site with the designation boundary being within AFL's landholding.

The Waikato River flows to the west of the site, with the main street of Huntly positioned on the eastern edge, and the Huntly power station on the western edge. The site contributes to the broader Waikato lakes landscape, with a number of lakes, both natural and man-made (through open-cast mining) scattered throughout the flat agricultural planes.

3.4 Transportation network

East Mine Road runs from east to west and provides the existing means of access to the site from Great South Road (former State Highway 1). The public road reserve ends just east of the crossroads intersection with McVie Road and the entrance to the site is currently gated.

Great South Road is classified as a National Route under the Operative District Plan (ODP). With the completion of the Huntly bypass (Waikato Expressway), and while not specifically stated in the PDP, it is anticipated that the hierarchical ranking of Great South Road will be reduced to Regional Arterial route once it is no longer part of the State Highway network.

McVie Road runs along the western and northern boundaries of the site. It extends from the residential areas to the south to the Huntly Speedway and then provides an overbridge over the Waikato Expressway.

Currently there is no specific provision for pedestrians or cyclists in the area around the proposed site. This is typical for a rural environment. There are footpaths on the southern section of McVie

³ Part of Allotment 857 Parish of Taupiri - NZTA lease for Waikato Expressway

Road some 140m from the intersection with East Mine Road. There is also no provision for public transport within 600m of the site. Only school buses and interregional services currently service the Huntly area.

3.5 Three waters infrastructure

The site currently has limited three waters infrastructure due to its rural nature and previous use as a mining operation. Stormwater runoff from buildings and hardstand areas on the site were drained directly into the lake itself by pipe and overland flow. No stormwater treatment was provided prior to discharging to the lake. Wastewater from the mine was drained by gravity to a centralised pumping station, which pumped into the Huntly municipal system at an unknown location. Water was supplied to the mine via a 150mm pipe in Kimihia Road, south of the site.

3.6 Natural Hazards

3.6.1 Flooding hazards

The site is located outside of the Flood Plain Management Area, the Flood Ponding Area and the High-Risk Flood Area as identified on the PDP Maps (Stage 2 – Natural Hazards). The site is however located within the Defended Area (refer Figure 6 below).

The Defended Area means “an area identified on the planning maps which could normally flood in a 1% AEP flood event but is protected from flooding by a flood protection scheme managed by the Waikato Regional Council, the Waikato District Council or the Crown”.

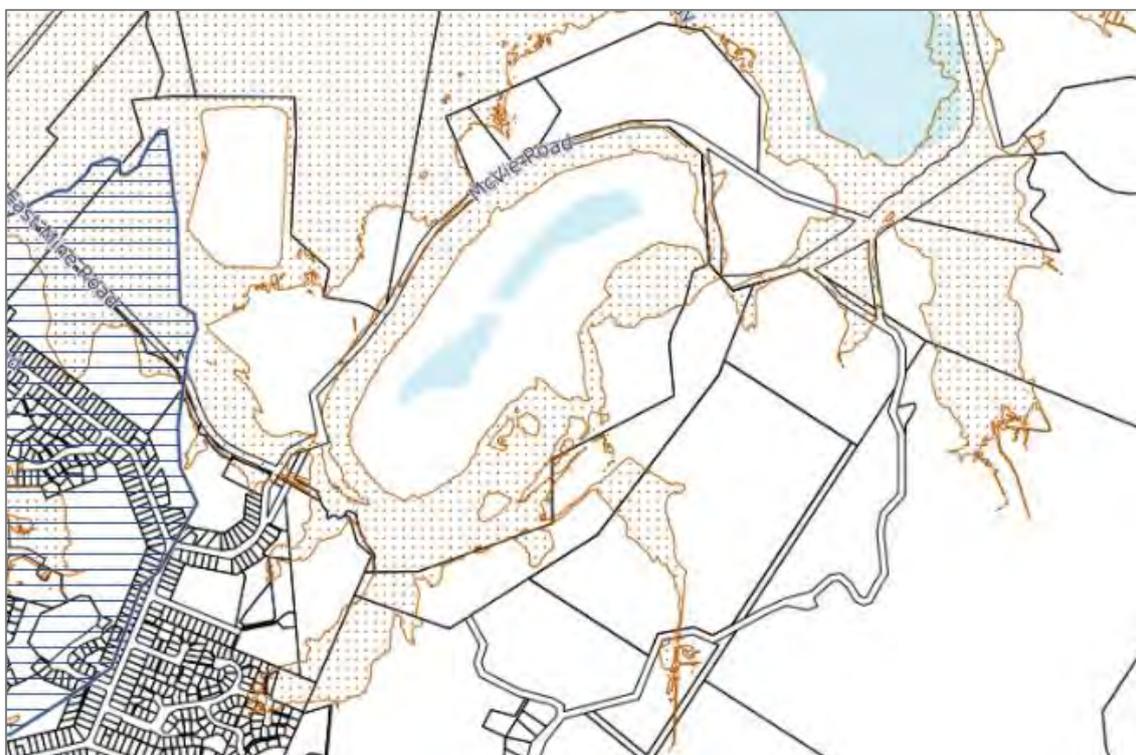
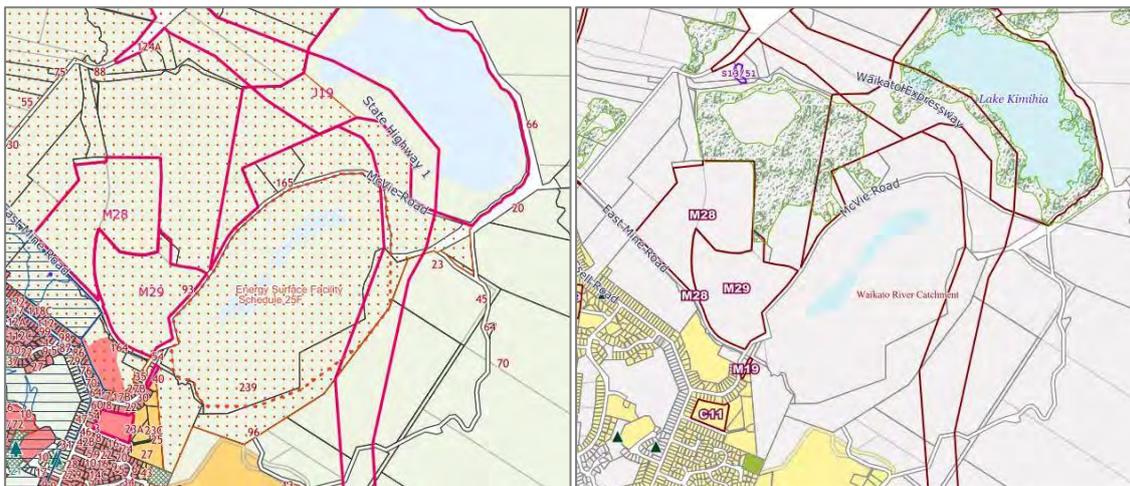


Figure 6: Proposed District Plan natural hazards overlays (as notified July 2020). Defended Area shown in spotted brown

occur in future, subject to all necessary resource consents being obtained.	
Waikato River Catchment	Waikato River Catchment
Designation (J19 – NZTA) ⁴	Designation (J19 – NZTA)
Area of Interest (Energy Surface Facility)	-
-	Defended Area: an area identified on the planning maps which could normally flood in a 1% AEP flood event but is protected from flooding by a flood protection scheme managed by the Waikato Regional Council, the Waikato District Council or the Crown.



Figures 8 and 9: Operative District Plan zoning (left); Proposed District Plan zoning, as notified July 2018 (right)

4.0 Rezoning proposal

4.1 Original submission

In October 2018, AFL lodged a submission on the PDP seeking to introduce a specific zone called the “Kimihia Lakes Recreation & Events Zone”. The extent of this zoning is outlined in orange in Figure 10 below. It was also proposed to re-zone part of the southern side of the site to residential. This is shown in the yellow hashed area on Figure 10 (Area A).

None of the existing zones within the PDP (nor the ODP) provided a suitable fit for the proposed Project activities, and therefore, a new zone was created to enable development of the site. The submission requested that a new chapter be included in the PDP with objectives, policies, rules and activity specific conditions. The original submission is attached as **Appendix 5**.

⁴ It has been noted that the outline of this designation has been shown incorrectly on the planning maps (for both the Operative and Proposed Plan). Both WDC and NZTA are aware of this issue and it is expected to be updated through the Decisions Version of the PDP in 2021. An accurate representation of the designation boundaries is indicated on the attached masterplan.

The zone included only that land and lake that is privately owned and excluded the existing lake owned and managed by the Department of Conservation (i.e. Lake Kimihia, located on the eastern side of the Waikato Expressway).

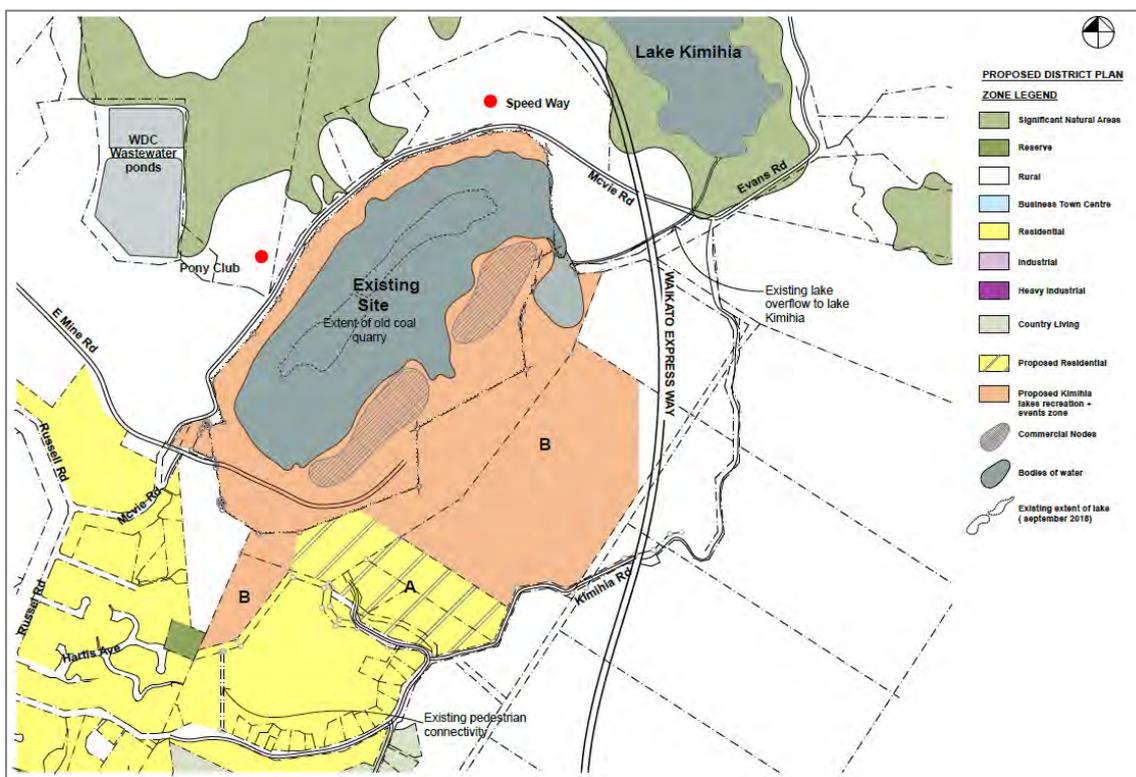


Figure 10: District Plan Zoning (as per original submission)

4.2 Proposed amendments

Since the original submission was prepared in 2018, the Project has evolved and is now supported by a range of technical assessments, as well as a Masterplan. The full Masterplan document prepared by Boffa Miskell is attached as **Appendix 1** and a snapshot is shown in Figure 11 below.

These assessments have informed a number of changes to the provisions, as the development has become further refined. A “clean” version of the proposed provisions is included in **Appendix 3** and a tracked change version of the provisions is attached as **Appendix 4** and summarised below:

- The zone is now proposed to be called the “Kimihia Lakes Zone”, as opposed to the “Kimihia Lakes Recreation & Events Zone”;
- A precinct will be applied over top of this zone called the “Development Precinct”. This will replace the “commercial node areas” as proposed in the original submission. The precinct and zoning are shown in Figure 12 below and attached as **Appendix 6**;
- “Area A” that was identified as residential is now removed and is proposed to be part of the Kimihia Lakes Zone;
- The outdoor theatre and concert space identified for the site has now been removed;

- A more refined objective and policy framework has been prepared to better reflect the proposed activities; and
- More refined rules based on supporting technical assessments.

The approach taken with the proposed provisions are similar to other place-based provisions in the District Plan.

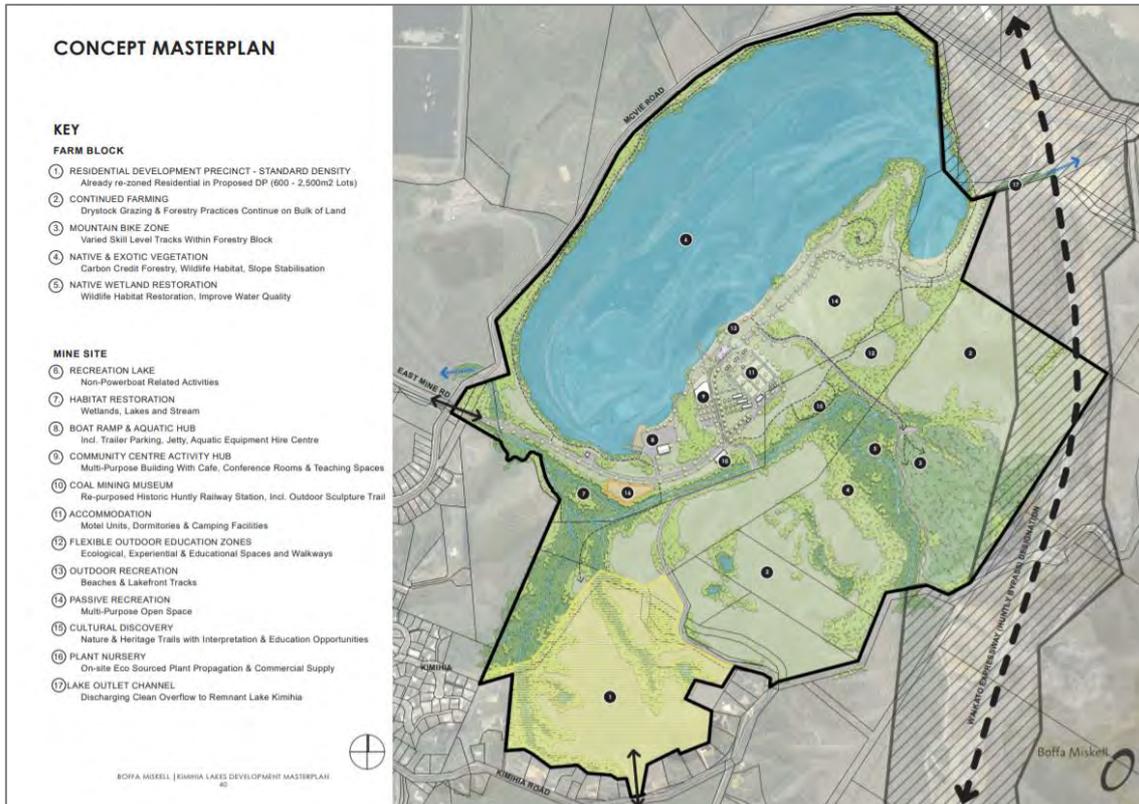


Figure 11: Concept masterplan showing proposed land uses for the site

The proposed amendments are within the scope of the original submission, given that they are narrowed in scope. The amendments do not have implications for any third party interests.

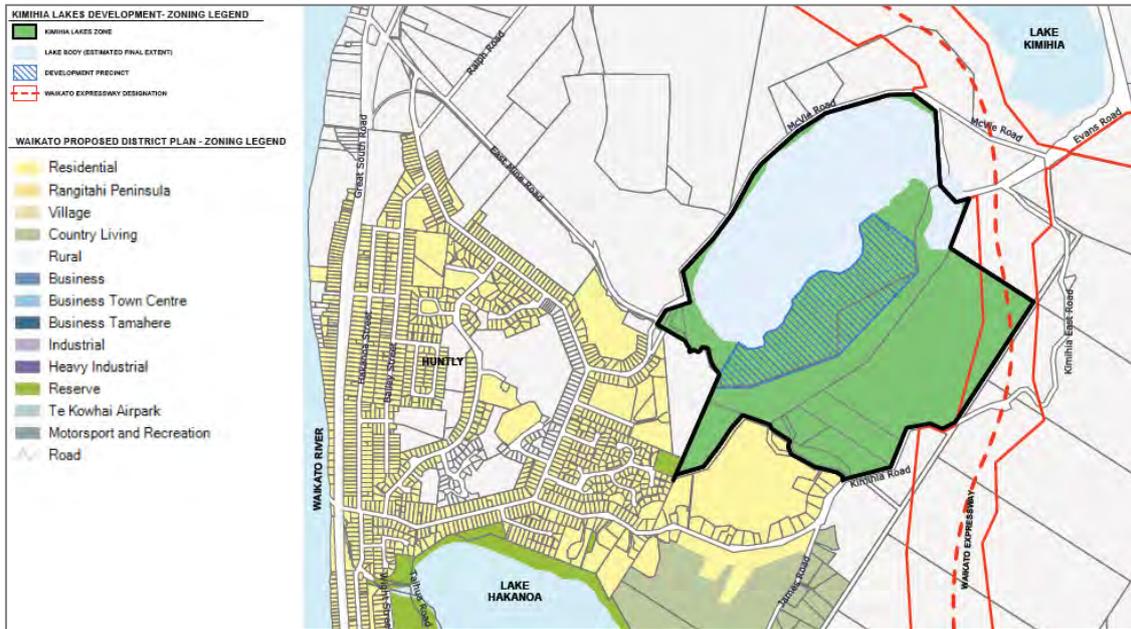


Figure 12: Proposed Kimihia Lakes Zone plan

4.3 Proposed objectives and policies

The proposed objectives and policies for the Kimihia Lakes Zone are outlined in Table 3 below.

Table 3: Proposed objectives and policies for the Kimihia Lakes Zone

KLZ-O1	The Kimihia Lakes Zone develops into a regionally significant facility, that provides for the recreational needs and well-being of people and communities.
KLZ-O2	Buildings, structures and activities do not adversely affect the amenity values or landscape character of the surrounding environment.
KLZ-P1: Operation and development	(a) Provide for buildings, facilities and infrastructure that will enable the development of the Kimihia Lakes Zone. (b) Provide for a range of activities that enable the operation of the Kimihia Lakes Zone, including recreation, sporting, educational and environmental activities.
KLZ-P2: Development Precinct	(a) The Development Precinct is characterised by a cluster of buildings, facilities, associated infrastructure and landscaping which forms an attractive, central lakeside hub for the Kimihia Lakes development. (b) The location of compatible activities within the Development Precinct supports the operational needs of the zone and its visitors.
KLZ-P3: Open Space	Areas of the Kimihia Lakes Zone outside of the Development Precinct are characterised by vegetated areas and open space that are retained for a range of rural, recreation and environmental enhancement activities.
KLZ-P4: Environmental Enhancement	Environmental initiatives are provided within the Kimihia Lakes Zone to enable the ongoing enhancement of the lake and surrounding natural environment.
KLZ-P5: Education	Educational initiatives which provide learning opportunities for students and youth are encouraged
KLZ-P6: Tourism Significance	The on-going development of the Kimihia Lakes Zone as a regionally significant facility is enabled, whilst providing for the general public to use and enjoy the facilities.

KLZ-P7: Management of Adverse Effects	Adverse effects are managed to ensure the operation of the site does not detract from the amenity of surrounding land uses, and in particular by: <ul style="list-style-type: none"> (a) Encouraging development to occur within the Development Precinct, so that it is located centrally on site and away from neighbouring land uses; (b) Managing the interface of the zone with other zones so that adverse noise and lighting effects on the surrounding zones are minimised; and (c) Managing the adverse traffic effects to ensure the safe and efficient operation and functioning of the adjacent transport network and efficient access to surrounding facilities is maintained at all times; and (d) Ensuring signs that are visible from, or located in close proximity to, a public road are sited to ensure the safe functioning of the public road.
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5.0 Assessment of Environmental Effects

5.1 Overview

Clause 22(2) of Schedule 1 of the RMA requires “*where environmental effects are anticipated, the request shall describe those effects, taking into account clauses 6 and 7 of Schedule 4, in such detail as corresponds with the scale and significance of the actual or potential environmental effects anticipated from the implementation of the change, policy statement, or plan*”.

The rezoning of the site from Rural to the new Kimihia Lakes Zone will increase the development potential for the site and authorise new permitted activities that were not provided for within the Rural Zone.

As these activities could establish without the need for a resource consent, an assessment is required to ensure the effects of such activities are acceptable for the site and compatible with surrounding land uses. Due to the scale of the proposal (that being a whole new zone and associated provisions) a complete assessment of effects in relation to the proposed changes has been undertaken as if the proposal were a plan change request made under clause 21. This assessment has been informed by a range of technical assessments which are appended as part of this application. This includes the following reports:

- Economic Impact Assessment (Appendix 7);
- Integrated Transport Assessment (Appendix 8);
- Three Waters Assessment (Appendix 9); and
- Preliminary Site Investigation (Appendix 10).

5.2 Positive effects

The establishment of the new Kimihia Lakes Zone will result in positive effects and benefits, beyond what is provided by the existing provisions of the PDP that currently apply to the site. These positive effects are summarised below.

5.2.1 Recreational benefits

The new Kimihia Lake will contribute to the existing lake and open space network across the Waikato District, albeit being unique in nature.

Most of the Waikato lakes are of poor water quality, poor ecological condition and home to a variety of pest species. They are also mostly shallow (1 – 3m depth) and not suited to a number of recreation activities.

The one local lake that differs is Lake Puketirini, a 54ha lake with a depth of 64m and the site of the old Weavers opencast mine pit. Puketirini is accepted as having good quality water suitable for water activities.

The new Kimihia Lake is expected to have similar water quality and depth at Puketirini, but will be well over 1km in length, therefore making it more suitable to specific water sports and events. Therefore, the site is able to offer additional recreational benefits above those that are currently provided by the lakes in the district.

5.2.2 Social effects

The proposed rezoning will enable the rehabilitation and development of an underutilised site into a lakeside hub and multi-purpose facility to be used by the wider community. The site is of significant size and whilst it is privately owned, it will be available for the public to use at no cost. The provision of free outdoor recreation and green open space will bring a range of positive social and health benefits to a community that is relatively deprived.

Above providing a recreation park for the enjoyment of the community, the site will provide outdoor education to primary and secondary school students from Huntly as well as the wider catchment of the Waikato District, Hamilton and Auckland. It is also expected to provide skill training opportunities for local youth on site (e.g. through “on the job” training, or as part of school and tertiary education courses) in environmental restoration, construction, hospitality, and the operation of commercial recreation activities.

5.2.3 Economic Effects

The rezoning of the site will enable the proposed development to occur through the provision of permitted activities and a directive policy framework. A number of activities are proposed for the site, which have the potential to result in economic growth and employment. This includes outdoor education for school groups, campgrounds and accommodation, venue hire and hosting of sporting events, a café/restaurant and more.

The development will be of local as well as district wide significance by providing a recreation and outdoor education asset for the Huntly community as well as attracting residents and visitors originating from a wider catchment.

An Economic Impact Assessment (EIA) has been prepared by Strateg.Ease Ltd for the project and is attached as **Appendix 7**. The findings of the EIA are summarised below.

The potential economic benefits of the project will primarily arise from:

- Increased local employment and training opportunities for the local labour force in a community that is relatively deprived with a high concentration of youth, unemployment, Māori low income, single parent and rental tenure households; and

- Economic value added (GDP) through construction and operation of the facilities and the resultant increased visitor spending on goods and services in Huntly and the wider district.

Based on the financial estimate in the Kimihia Lakes draft Business Plan 2020, the construction cost of the Project is estimated at \$10.2m. This would contribute to Waikato district's GDP by \$3.361m, equivalent to an 0.11% increase on baseline 2019 GDP (\$2.954m). Based on the average productivity of workers in the construction sector in the Waikato District, this would generate around 46 full-time and/or part-time jobs. These jobs and GDP impact would be limited to the duration of the construction period only.

The ongoing operation of the development is estimated to generate a direct GDP contribution to the Waikato District in the order of \$1.01-1.37m per annum and is anticipated to sustain total full-time and part-time jobs in the order of 28-36.

The total economic impact of the Project is the sum of direct, indirect and induced effects within the district. Tenant activities will purchase goods and services from other local businesses, causing flow-on effects from the increased income and employment for the businesses providing them. Further effects are 'induced effects' – including tenant activities workers increasing household expenditure due to their increased income. Similarly, visitors to the site may also purchase goods and services from other businesses in Huntly. With this in mind, the EIA assesses that the tenant activities would generate flow on impacts of an additional 50% (i.e. in the order of \$500,000-\$683,000). This takes the total on-going GDP impacts of the project to \$1.5-\$2.0m per annum. This is a 'low to moderately' positive effect. No significant negative effects have been identified, such as pressure on housing demand or the viability of the Huntly town centre.

The estimates of the Project's economic impact have been regarded as conservative given the potential for the scale and range of revenue earning facilities and associated jobs to increase in future. While the provision of free outdoor recreation and education activities will provide amenity benefits for the local community, significant economic value will really depend on the Project being able to attract a high volume of 'paying visitors' who have relatively convenient access to Huntly (i.e. people coming from the wider Waikato District, Auckland, or Hamilton, many of whom may currently bypass the town).

5.3 Transportation Effects

An Integrated Transport Assessment (ITA) has been prepared by CKL and is attached as **Appendix 8**. A summary of the transportation effects of the proposal is provided below.

5.3.1 Traffic

The ITA has conservatively assessed traffic generation to the site at 276 vehicles per hour (vph) and 1,200 vehicles per day (vpd) at full development of permitted activities. This relates to general use of the site (including the campground, museum, community centre, café/restaurant) and does not take into consideration any special events.

Vehicles travelling to the site are most likely to use the intersection from East Mine Road onto Great South Road. This is the most direct route to the wider road network, particularly for those coming from outside of Huntly. Modelling was undertaken on this intersection to assess the point at which notable delays may form at the intersection, and drivers may take shorter gaps when entering the main traffic stream resulting in an increased risk to road user safety (known as Level of Service (LOS E)).

Queuing at this intersection was also modelled to determine the point where vehicles would que over the rail crossing (100m) or beyond the turning bay affecting northbound through traffic (70m). From the modelling undertaken, it was found that this peak was reached when more than 870 vehicle movements were added through the intersection. 870vph is over 3 times the expected traffic generation expected for the site (as outlined above of 276vph). Therefore, the road network can readily accommodate the traffic volumes associated with the proposed use of the site.

Rule 14.12.1.4 of the PDP includes maximum trip generation thresholds for various zones within the District. None of these currently apply to the proposed rezoning. Therefore, it is proposed to add a clause within this rule that permits a maximum of 850 vehicle movements per hour, with no more than 15% of those vehicle movements as heavy vehicle movements. The 850 vehicle threshold has been adopted based on the analysis undertaken in the ITA (and outlined above) and rounded down to the nearest 50vph.

The network capacity threshold of 850vph allows for future development within the Kimihia Lakes Zone and identifies the point at which physical mitigation works are expected to be required. In regard to special events, 870vph converts to approximately 1,154 people arriving in a single hour. As such, it is proposed that traffic management is required for activities that generate more than 1,100 attendees to the site at any one time. A provision is proposed to require a Traffic Management Plan to be approved by the Road Controlling Authority for such events.

Overall, the existing roading network is suitable to accommodate general use of the site, as well as catering for events that provide for a maximum of 1,100 people on the site at any one time. The proposed provisions will ensure that the traffic effects resulting from the site activities can be suitably managed.

5.3.2 Access

Access to the site will be via the existing connection to the East Mine Road / McVie Road intersection. Given this access has previously been used for mining activities, it is suitably designed to accommodate the conversion of the site to recreational activities including potentially catering for buses.

It is proposed to amend Rule 14.12.1.1(1)(e) of the PDP, which requires that a site with legal access to two roads will only use the road with the lower classification in the road hierarchy. The site has access to both McVie Road and East Mine Road, where McVie Road has a lower classification. As discussed in Section 6.3.1 above, the site will be predominantly accessed via East Mine Road and the road can accommodate the increase in traffic movements.

Overall, the site has a suitable access and no upgrades are necessary.

5.3.3 Parking

The original submission to the PDP included a proposed clause that stated at least 1,500 parking spaces should be provided within the site irrespective of activity type, intensity of development or the number of people likely to be in attendance. This has been reconsidered and it is now proposed to rely on the existing minimum parking provisions of the PDP for each of the individual activities.

Section 6.5 of this report discusses parking requirements in the context of the National Policy Statement on Urban Development Capacity 2020, noting that this seeks to remove minimum parking requirements from district plans. Should this occur for the Waikato District, it is noted

there is sufficient area on the site for parking, including any over-flow carparking should a temporary event be held.

Overall, the site is able to accommodate parking for vehicles and no further provisions in the District Plan are necessary to manage this.

5.3.4 Walking and Cycling

The site is in close proximity to the northern residential areas in Huntly and therefore it is possible that people may walk or cycle to the site. At present, there is limited infrastructure and connectivity between the site and the existing urban area.

There is potential for the existing rail spur to be converted into a shared path and it is understood that WDC is investigating the option to upgrade the wider footpath and cycle path network. Any such changes would likely increase the amount of people visiting the site via walking or cycling who would otherwise have not made a trip. As such, the proposed rezoning would increase usage of any upgrades to the footpath network and similarly any upgrades to the footpath infrastructure would likely increase patronage to the site.

The rail spur lies outside the control of both Council and AFL and delivery of such a route would require the cooperation of a third party. As such, it is not appropriate to require this infrastructure as part of the rezoning.

5.3.5 Road Safety

The proposed rezoning is unlikely to generate high traffic volumes in excess of what was previously experienced on the surrounding road network when Great South Road was still the primary route between Auckland and Hamilton. No specific safety issues have been identified in the vicinity of the site and the traffic volumes generated by the future development are likely to be less than what was experienced prior to the completion of the Huntly bypass and when the mine was still operational. As such, the proposed rezoning is unlikely to have adverse effects on road safety.

5.4 Effects on Three Waters

The proposed rezoning will enable future development at the site that will need to be serviced by stormwater, wastewater and water infrastructure.

A Three Waters Assessment has been prepared by Lysaght for the Project and is attached as **Appendix 9**. As this is a rezoning request and the Project is not at a stage of detailed design, the focus of the assessment is therefore on ensuring workable options are available for the site. These options are discussed below.

Any future infrastructure for the site will also be subject to the district-wide provisions of the PDP for water, wastewater and stormwater; with no specific provisions relating to the Kimihia Lakes Zone being necessary.

5.4.1 Stormwater

While the Huntly East Mine was in operation, the base of the pit was a storage pond where water was continuously pumped from. Pumping ceased in 2017 and the mine pit has since been filling

from rainwater within its immediate catchment and groundwater inflows. The lake is expected to fill to the level of a culvert (maximum RL 8.5m) under the Waikato Expressway which flows into the existing Kimihia Lake.

The request to rezone the site has no direct impact on the filling of the lake, as this is currently occurring naturally. Therefore, the focus of this assessment is on ensuring that the quality of the stormwater runoff leaving the proposed development is of high quality when entering the lake. This is of paramount importance to the Project, as the lake must be swimmable and usable for recreational activities, and the discharge from the lake ultimately enters the Waikato River.

Hardstand areas within the developed site will be standard roofs and sealed road and carparks, meaning that low impact stormwater treatment infrastructure will be appropriate for the removal of regular contaminants (suspended solids, phosphorus, nitrogen, metals). The proposed site layout is relatively sparse, leaving considerable land area available for the construction of low impact stormwater treatment infrastructure within the development. Specifically, a network of vegetated swales is proposed for the conveyance of runoff to a centralised constructed wetland, prior to discharge to the newly filled lake.

Overall, the stormwater reticulation and treatment analysis as outlined above confirms that several stormwater treatment options are available and appropriate for the development, and that the site is laid out favourably to accommodate them.

5.4.2 Wastewater

The Three Waters Assessment concludes there are two options for discharging wastewater from the proposed development. This includes the discharge to land, and connection into the Huntly Wastewater Treatment Plant (WWTP).

An analysis of the capacity of the existing council wastewater network and treatment plant has been undertaken, based off the Mid-Waikato Water and Wastewater Servicing Strategy (MWSS). The analysis assessed that the existing WWTP has a design capacity of 2,100m³/day, and that in 2014 it received an average inflow of 1,816m³/day. The MWSS report recommended that the wastewater reticulation, treatment and discharge network of the mid-Waikato region be upgraded to allow for forecast growth beyond 2050. The recommended option includes the 2025 construction of a new centralised WWTP at Huntly with a capacity of 13,500m³/day to service both Huntly and Ohinewai. If that recommendation were to be followed, it is likely that the new WWTP would be in place prior to the full completion of the Kimihia Lakes development.

The developed site is expected to discharge approximately 48m³/day when all of its facilities are fully occupied. This is compared to the approximate 10m³/day that the Huntly East Mine is estimated to have discharged at its peak staffing rate. The proposed volumes are a modest increase in discharge from the site and are not expected to compromise the design capacity of the WWTP.

The Three Waters Assessment has considered discharging wastewater to land using on site effluent treatment infrastructure, but the soils are typically stiff clays and not well suited to wastewater disposal. Therefore, only a portion of the total discharge (approximately 10m³) could be sent to land without a prohibitively large land area being required. Small facilities proposed (for example, the mountain biking park) where ablution facilities may be provided that could provide on-site effluent treatment and disposal due to a smaller land application footprint required.

Overall, the Three Waters Assessment confirms that the increased wastewater discharge from the site is relatively modest and can be accommodated by both the existing and future upgraded council systems. The discharge into the Huntly council system will require a pump station to be

constructed within the site due to the vertical difference between the most logical connection point in McVie Road/East Mine Road and the development area.

It is expected that Watercare will undertake separate investigations to confirm the capacity of the network in relation to the wider area.

5.4.3 Water

The developed site is expected to require approximately 44m³/day of potable water supply when all of its facilities are fully occupied, compared to the approximate 106m³/day of demand at the Huntly East Mine. Rainwater re-use tanks are proposed for use with all significant buildings, to provide a supplementary non-potable water supply.

As for the wastewater above, an analysis of the capacity of the existing council water network and treatment plant was undertaken, as well as a review of the proposed upgrades to the system. That analysis concluded that the increased water demand can be accommodated by both the existing and future upgraded council systems, and that sufficient head is available at the site to meet the level of service requirements in the Regional Infrastructure Technical Specification for both potable and fire-fighting water supply.

5.4.4 Conclusion on Three Waters

Overall, the Three Waters Assessment demonstrates that there is a workable design for stormwater, wastewater and water and there is capacity in the Council networks to accommodate the proposed development.

5.5 Landscape and Visual Amenity Effects

The site is located in a rural setting, with rolling topography and farmland to the north, east and south. The proposed rezoning will enable an increase in development potential for the site, which will ultimately change the landscape character of the surrounding area.

For the majority of the site, the proposal will meet the bulk and location provisions of the Rural Zone. This includes a maximum height limit of 10m, setbacks from boundaries and maximum building coverage. Therefore, the potential visual effects resulting from the proposed rezoning are generally the same.

The exception to this is the Development Precinct, which does not include a setback requirement or maximum building coverage and has a larger maximum height limit of 15m. The Development Precinct will include the majority of buildings, facilities and infrastructure that will enable the operation of the Kimihia Lakes development.

The Development Precinct is located centrally on site and will be separated from surrounding land uses by vegetation and open space. As the topography at the site ranges significantly, there will be limited visibility of the buildings and structures within the Precinct from surrounding areas. This is also relevant for road users travelling along the Waikato Expressway. Nonetheless, the development will be of low density and will incorporate landscaping and vegetation to create an attractive lakeside hub that is compatible with its surroundings.

Buildings that exceed the performance standards (and therefore may result in adverse landscape and visual effects) will be required to obtain a resource consent and such effects will be assessed during that process.

Overall, the change in landscape and visual amenity resulting from the development will be consistent with what is anticipated within the existing rural zoning. The exception to this is the Development Precinct, however the proposed provisions in combination with the setbacks from surrounding land uses will ensure the development is appropriate for its setting.

5.6 Contaminated Land Effects

The rezoning of the site to a more sensitive land use has the potential to affect human health, as well as cause adverse effects on the environment. A Preliminary Site Investigation (PSI) has been prepared for the site and is attached as **Appendix 10**.

The PSI determines that a number of activities listed on the Hazardous Activities and Industries List (HAIL) have been undertaken across the site area. This includes; a coal yard, mining industries, motor vehicle workshop, service station, asbestos disposal and migration of lead from an adjacent gun club. Based on the known historic activities, the hazard sources on site have been identified as polycyclic aromatic hydrocarbons (PAH's), boron, arsenic, metals and lead.

The risk assessment within the PSI concludes that there will be a low risk to development workers and maintenance workers as the concentration of PAH's and metals will more than likely be below the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES-CS) soil guideline values. The risk assessment also identified a low risk to aquatic organisms; noting lead was not elevated during water quality monitoring undertaken by WRC in 2018.

The PSI concludes that it is highly unlikely that there will be a risk to human health if the site is developed into a lake with associated commercial and recreational facilities, or into residential land use. No further contaminated land investigations or remediation have been recommended as part of the PSI.

5.7 Noise Effects

The development of the site into a multi-purpose facility will provide opportunity for temporary events to occur such as waka ama, sailing regattas, functions, weddings. Some of these events have the potential for noise nuisance to be experienced at neighbouring properties if not managed appropriately.

The proposed zoning map attached as **Appendix 6** identifies the adjacent zones as notified in the PDP. The majority of the site adjoins the Rural Zone, with the exception of the southern boundary which adjoins the Residential Zone.

The proposal seeks to generally adopt the noise provisions from the Reserve Zone, which provides specific limits for the Residential and Rural Zone (when measured within the notional boundary). The general use of the site for recreation and outdoor education purposes is not expected to result in noise effects above what would generally be experienced in this environment.

Construction activities are expected to meet the limits in the New Zealand Standard NZS 6803:1999 Acoustics – Construction noise and a provision has been proposed to suit this. The majority of construction will occur centrally on site, which is setback from sensitive land uses.

It is proposed that a Noise Management Plan is prepared and implemented for the site. The Noise Management Plan will outline noise monitoring requirements to ensure the noise levels within the Kimihia Lakes Zone are adhered to. Activities that have the potential to have adverse noise effects

(such as special events) will be required to obtain a resource consent and such effects will be assessed during that process.

Overall, the combination of the proposed provisions, as well as the implementation of a Noise Management Plan will ensure noise effects are acceptable and appropriately managed at the interface of sensitive neighbouring zones.

5.8 Reverse Sensitivity Effects

Reverse sensitivity effects can occur when a new activity establishes in close proximity to other activities that have a character, intensity and scale that have the potential to create conflict. In the context of the site, reverse sensitivity effects on the operation of the Huntly Speedway, the Huntly Wastewater Treatment Plant (WWTP) and the Waikato Expressway have been considered.

It is proposed to allow only two dwellings across the site that are for the use of managers, caretakers or employees of the Kimihia Lakes development. This is required for the successful operation of the site. Any further dwellings would require a resource consent, at which point reverse sensitivity effects are required to be considered.

The traveller's accommodation will be temporary in nature and therefore is less susceptible to reverse sensitivity effects. Nonetheless, it is located centrally on the site and is therefore well setback from the WWTP, the Speedway and the Expressway so that odour and noise effects are unlikely to be experienced.

For events being held on the site, there is potential for conflict when large events occur at the same time as events at the Speedway. It is therefore proposed that temporary events on the site that attract more than 1,100 people in any given hour are required to prepare a Traffic Management Plan (TMP). The TMP must consider events that occur concurrently at the Speedway and will identify active traffic management where required.

Overall, with the above measures in place, reverse sensitivity effects are unlikely to be more than minor.

5.9 Natural Hazards

Stage 2 of the PDP deals with the management of natural hazards. As outlined in Section 3.6, the only natural hazard overlay that is identified over part of the site is the Defended Area overlay. This means an area that could normally flood in a 1% AEP flood event but is protected from flooding by a flood protection scheme.

The PDP contains provisions that manage activities within this overlay, including subdivision and earthworks and new buildings within 50m of the toe of a stop bank. All other activities are permitted within this overlay. The proposed development is not within a high-risk natural hazard area, and the development would be permitted under the natural hazards section of the PDP. Therefore, the proposal does not require further management of risks from natural hazards.

5.10 Cultural Effects

There are no known waahi tapu, taonga sites or Māori areas of significance as identified under the PDP. There are also no archaeological sites that have been identified under the New Zealand Archaeological Association's Archaeological Site Recording Scheme (ArchSite).

The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga have been incorporated into the proposal where possible. In particular, Te Aranga Māori Design principles will be incorporated into the Kimihia Lakes development, as well as cultural discovery (such as heritage trails) to be developed in close partnership with local tāngata whenua.

Engagement with local iwi representatives Waahi Whaanui and Waikato-Tainui has been undertaken throughout the development of Project to date. A summary of this is provided in Section 8 of this report. This is in line with the principle of including all potential community groups, genuine stakeholders and traditional guardians of the land from the onset of the development on the pretext that better outcomes will be achieved. Engagement with representatives is ongoing to ensure the project does not adversely affect cultural values.

5.11 Conclusion of Assessment of Environmental Effects

The preceding assessment of effects has been informed by a significant body of technical work and is the culmination of a master planning design process to ensure that the adverse effects of the Project are appropriately managed in accordance with best practice.

Based on the above assessment, the adverse effects on the environment resulting from the Project can be appropriately managed. Any activities that have the potential to result in adverse effects will require a resource consent, whereby effects will be considered through that process.

Further, the proposal will result in a range of positive recreational, social and economic effects and will provide for the wellbeing of Huntly, as well as the wider Waikato District.

6.0 Statutory Framework

This section of the report addresses the following statutory documents which are relevant to the assessment of this rezoning proposal:

- Part 2 of the RMA;
- Waikato Regional Policy Statement;
- Vision and Strategy for the Waikato River;
- Iwi Management Plans;
- National Policy Statement on Urban Development 2020;
- National Planning Standards
- National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011; and
- Other matters

6.1 Part 2 of the RMA

Part 2 of the RMA sets out the purpose and principles of the Act. The purpose of the RMA is to promote the sustainable management of natural and physical resources, with sustainable management being defined in Section 5(2).

The proposal is consistent with the overall purpose of the Act and the reasons for this assessment are summarised below:

6.1.1 Section 5 – Purpose

The project seeks to rehabilitate and restore the historical Kimihia Lake as well as enhancing the wider environment. The areas of open space will provide opportunities for recreation and will provide for the health and social wellbeing of the community.

The facilities on site will bring increased local employment and training opportunities for the local labour force in a community that is relatively deprived with a high concentration of youth, unemployment, Māori, low income, single parent and rental tenure households. Economic value will also be added through construction and operation of the facilities and the resultant increased visitor spending on goods and services in Huntly and the wider district.

The assessment of effects in this report concludes that adverse effects on the environment can be mitigated through the proposed rules and performance standards, in accordance with Section 5(2)(c).

6.1.2 Section 6 – Matters of National Importance

Section 6 of the RMA sets out matters of national importance which shall be recognised and provided for when exercising functions and powers under the RMA.

Of particular relevance to this proposal are:

- The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;
- The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga; and
- The management of significant risks from natural hazards.

Notwithstanding that the site is privately owned (and the lake is not yet fully filled), it will be leased to the Kimihia Lakes Community Charitable Trust to be developed into a multi-purpose destination that will include publicly accessible recreational facilities such as walking and cycling trails and a lakeside playground. AFL is engaging with The New Zealand Walking Access Commission to dedicate the walking and cycling tracks on site for public use. On this basis, the Project will contribute to the enhancement of public access to and along lakes, as directed by section 6(d).

There are no known waahi tapu, taonga sites or Māori areas of significance as identified under the PDP. There are also no archaeological sites that have been identified under the New Zealand Archaeological Association's Archaeological Site Recording Scheme (ArchSite). The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga have been incorporated into the proposal where possible. In particular, Te Aranga Māori Design principles will be incorporated into the Kimihia Lakes development, as well as

cultural discovery (such as heritage trails) to be developed in close partnership with local tāngata whenua.

Stage 2 of the PDP deals with the management of natural hazards. The proposed development is not identified within a high-risk natural hazard area, and the development is permitted under the natural hazards section of the PDP. Therefore, the proposal does not require further management of risks from natural hazards.

6.1.3 Section 7 – Other Matters

Section 7 of the RMA sets out other matters to which particular regard must be had when exercising functions and powers under the RMA. Of particular relevance to this proposal are:

- Kaitiakitanga;
- The ethic of stewardship;
- The maintenance and enhancement of amenity values; and
- Maintenance and enhancement of the quality of the environment

Engagement with local iwi representatives Waahi Whaanui and Waikato-Tainui has been undertaken throughout the development of Project to date. This is in line with the belief of including all potential community groups, genuine stakeholders and traditional guardians of the land from the onset of the development on the pretext that better outcomes will be achieved. Specifically, for this rezoning request, engagement with tāngata whenua has revolved around wastewater and stormwater solutions for the site. This engagement is ongoing and is discussed further in Section 8 of this report.

The assessment of effects as outlined in Section 5 of this report concludes that the proposed provisions will maintain amenity values and the quality of the environment. Specifically, the proposal seeks aims to rehabilitate the lake and enhance the surrounding environment.

6.1.4 Treaty of Waitangi – Te Tiri o Waitangi

Section 8 requires those exercising powers or functions under the RMA to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). The principles of the Treaty of Waitangi include the duty of the Crown and Māori to act reasonably and in good faith and the duty of the Crown to actively protect Māori interests and make informed decisions.

As outlined in the preceding sections, the proposal takes into account these principles. In particular, engagement with tāngata whenua has been undertaken throughout the development of the Project and this partnership is ongoing.

6.2 Waikato Regional Policy Statement - Te Tauākī Kaupapa here ā-Rohe

The Waikato Regional Policy Statement (Te Tauākī Kaupapa here ā-Rohe) (RPS), provides an overview of the resource management issues in the Waikato region, and the ways in which integrated management of the region's natural and physical resources will be achieved. It provides policies and a range of methods to achieve integrated outcomes for the region across

resources, jurisdictional boundaries and agency functions, and guides development of subordinate plans (regional as well as district) and consideration of resource consents.

Section 75(3)(c) of the RMA requires that district plans must give effect to regional policy statements. The PDP contains a range of objectives and policies that address the broad resource management issues as identified in the RPS. For example, the natural hazards chapter addresses Objective 3.24 of the RPS and the tāngata whenua chapter addresses Objective 3.9 of the RPS. Because these are dealt with in other sections of the PDP, no further policies for the Kimihia Lakes Zone are necessary. This assessment under the RPS therefore focuses around objectives and policies of the RPS that will be specific to the rezoning of Kimihia Lakes.

Objective 3.12 of the RPS requires development of the built environment (including transport and other infrastructure) and associated land use to occur in an integrated, sustainable and planned manner which enables positive environmental, social, cultural and economic outcomes. The following table provides an assessment against Objective 3.12.

Table 4: Assessment against Objective 3.12 of the RPS

Objective 3.12	Comment
<i>Promoting positive indigenous biodiversity outcomes;</i>	The proposal seeks to enhance the wider environment, through rehabilitation of wetlands, and lake and stream habitat for native fauna, flora and aquatic life. Areas of open space on site with native vegetation will be retained.
<i>Preserving and protecting natural character, and protecting outstanding natural features and landscapes from inappropriate subdivision, use, and development;</i>	No outstanding natural features have been identified for the site. Retention of natural character is a key priority and will be enhanced through the rehabilitation of the lake.
<i>Integrating land use and infrastructure planning, including by ensuring that development of the built environment does not compromise the safe, efficient and effective operation of infrastructure corridors;</i>	The proposal will not compromise the safe and efficient operation of the surrounding road network (as outlined in Section 5.3). There are no other infrastructure corridors (such as transmission lines) that will be affected.
<i>Integrating land use and water planning, including to ensure that sufficient water is available to support future planned growth;</i>	The Three Waters Assessment has assessed the capacity of the network in regard to water supply.
<i>Recognising and protecting the value and long-term benefits of regionally significant infrastructure;</i>	The proposal will not have adverse effects on any regionally significant infrastructure.
<i>Protecting access to identified significant mineral resources;</i>	Not applicable.
<i>Minimising land use conflicts, including minimising potential for reverse sensitivity;</i>	Reverse sensitivity effects have been taken into consideration (as assessed in Section 5.8). Land use conflicts will be managed through the implementation of the proposed rules and performance standards.
<i>Anticipating and responding to changing land use pressures outside the Waikato region which may impact on the built environment within the region;</i>	The rezoning of Rural to a new special purpose zone (predominantly for recreation) will not have an impact on changing land use pressures from outside of the region.
<i>Providing for the development, operation, maintenance and upgrading of new and existing electricity transmission and renewable electricity</i>	Not applicable.

Objective 3.12	Comment
<i>generation activities including small and community scale generation;</i>	
<i>Promoting a viable and vibrant central business district in Hamilton city, with a supporting network of sub-regional and town centres; and</i>	Not applicable.
<i>Providing for a range of commercial development to support the social and economic wellbeing of the region.</i>	The Project offers small scale development that will support the functioning of the lake and its associated activities to make it an attractive destination for visitors. These facilities will support the social and economic wellbeing of the region.

Policy 6.1 of the RPS states: “local authorities shall have regard to the principles in section 6A when preparing, reviewing or changing regional plans, district plans and development planning mechanisms such as structure plans, town plans and growth strategies”. These principles are discussed below.

Table 5: Assessment against the principles in Section 6A of the RPS

Principle	Comment
<i>Support existing urban areas in preference to creating new ones;</i>	Not applicable.
<i>Occur in a manner that provides clear delineation between urban areas and rural areas;</i>	The site will remain generally as a rural site, through the retention of open space and vegetation and continued farming operation on the eastern and southern side of the site. Development will be clustered within the Development Precinct, creating clear delineation within the site boundaries.
<i>Make use of opportunities for urban intensification and redevelopment to minimise the need for urban development in greenfield areas;</i>	Not applicable.
<i>Not compromise the safe, efficient and effective operation and use of existing and planned infrastructure, including transport infrastructure, and should allow for future infrastructure needs, including maintenance and upgrading, where these can be anticipated;</i>	As outlined in Section 5, the proposal will not compromise the safe, efficient and effective operation of the transport network. No upgrades are necessary as a result of the proposed development. The site is able to be serviced by water and wastewater and the Three Waters Assessment confirms there is capacity in the network to service the development. We note that WDC will be undertaking separate investigations to confirm this.
<i>Connect well with existing and planned development and infrastructure;</i>	The site will form part of a lake and open space network across the District that supports the urban areas. Consideration has been had to transport, water and stormwater infrastructure as outlined above.
<i>Identify water requirements necessary to support development and ensure the availability of the volumes required;</i>	The Three Waters Assessment has assessed the likely water requirements resulting from the proposed development. Water sensitive

Principle	Comment
<i>Be planned and designed to achieve the efficient use of water;</i>	techniques will be incorporated into the design, including rainwater tanks to re-use water where possible.
<i>Be directed away from identified significant mineral resources and their access routes, natural hazard areas, energy and transmission corridors, locations identified as likely renewable energy generation sites and their associated energy resources, regionally significant industry, high class soils, and primary production activities on those high class soils;</i>	No high-risk natural hazard areas, transmission corridors or renewable electricity generation are located on the site. Areas where there may be high class soils will be retained in vegetation / open space and will be used to graze stock as is currently occurring on the site.
<i>Promote compact urban form, design and location to:</i> i. <i>minimise energy and carbon use;</i> ii. <i>minimise the need for private motor vehicle use;</i> iii. <i>maximise opportunities to support and take advantage of public transport in particular by encouraging employment activities in locations that are or can in the future be served efficiently by public transport;</i> iv. <i>encourage walking, cycling and multi-modal transport connections; and</i> v. <i>maximise opportunities for people to live, work and play within their local area</i>	As the site had been a mining operation for several decades, there has been limited investment in public transport infrastructure and walking/cycling infrastructure to the site. AFL has identified there is opportunity here for improvement, however this will need to be developed in collaboration with third parties.
<i>Maintain or enhance landscape values and provide for the protection of historic and cultural heritage;</i>	The rehabilitation of the historic Kimihia Lake will enhance landscape values within the site. The proposed objectives and policies for the zone will ensure these values are protected.
<i>Promote positive indigenous biodiversity outcomes and protect significant indigenous vegetation and significant habitats of indigenous fauna. Development which can enhance ecological integrity, such as by improving the maintenance, enhancement or development of ecological corridors, should be encouraged;</i>	The PDP does not identify any significant natural areas on the site. Notwithstanding this, environmental enhancement is a priority for the project and will be achieved through rehabilitation of wetlands, and lake and stream habitat for native fauna, flora and aquatic life.
<i>Maintain and enhance public access to and along the coastal marine area, lakes, and rivers;</i>	Whilst the site is in private ownership, the re-zoning will enable the site to be developed into a facility that is fit for public use. This includes the rehabilitation of the lake so that it is swimmable.
<i>Avoid as far as practicable adverse effects on natural hydrological characteristics and processes (including aquifer recharge and flooding patterns), soil stability, water quality and aquatic ecosystems including through methods such as low impact urban design and development (LIUDD);</i>	Low impact design principles will be incorporated into the development, including the use of vegetated swales and wetlands.

Principle	Comment
<i>Adopt sustainable design technologies, such as the incorporation of energy-efficient (including passive solar) design, low-energy street lighting, rain gardens, renewable energy technologies, rainwater harvesting and grey water recycling techniques where appropriate;</i>	It is proposed to introduce rainwater tanks on the site to reduce stormwater runoff and re-use water for non-potable supply. Other sustainable design technologies will be considered during detailed design of the project.
<i>Not result in incompatible adjacent land uses (including those that may result in reverse sensitivity effects), such as industry, rural activities and existing or planned infrastructure;</i>	An assessment of reverse sensitivity effects and adjacent land uses is provided in Section 5.8. It has been concluded that the proposed land use (with the implementation of the proposed performance standards) will not result in incompatible land uses.
<i>Be appropriate with respect to projected effects of climate change and be designed to allow adaptation to these changes;</i>	The location of the site and the proposed activities are appropriate with respect to effects of climate change.
<i>Consider effects on the unique tāngata whenua relationships, values, aspirations, roles and responsibilities with respect to an area. Where appropriate, opportunities to visually recognise tāngata whenua connections within an area should be considered;</i>	The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga have been incorporated into the proposal where possible. In particular, Te Aranga Māori Design principles will be incorporated into the Kimihia Lakes development, as well as cultural discovery (such as heritage trails) to be developed in close partnership with local tāngata whenua.
<i>Support the Vision and Strategy for the Waikato River in the Waikato River catchment;</i>	An assessment of the proposal against the Vision and Strategy for the Waikato River is provision in 6.3 below. The proposal is consistent with this strategy.
<i>Encourage waste minimisation and efficient use of resources (such as through resource-efficient design and construction methods); and</i>	Sustainable design principles, including waste minimisation and efficient use of resources will be considered through the detailed design of the project.
<i>Recognise and maintain or enhance ecosystem services.</i>	The enhancement of ecosystem services is a priority for the project and will be achieved through rehabilitation of wetlands, and lake and stream habitat for native fauna, flora and aquatic life.

Policy 6.1.4 of the RPS requires that land within the Future Proof Area (i.e. within the boundaries of Waikato District, Waipa District and Hamilton City) is developed in accordance with the principles as set out in 6.14(a)-(h). These focus on new *urban development*, including residential, industrial and commercial development. As the primary activity for the site is open space and recreation (with supporting facilities), an assessment against this policy, as well as the 2017 Future Proof Strategy is not necessary.

Overall, the rezoning proposal is consistent with the objectives and policies in the RPS.

6.3 Vision and Strategy for the Waikato River - Te Ture Whaimana o Te Awa o Waikato

The Vision and Strategy for the Waikato River (Te Ture Whaimana o Te Awa o Waikato) forms part of the Waikato Regional Policy Statement. It is the primary direction-setting document for the Waikato River and provides objectives to achieve the restoration and protection of the health and wellbeing of the Waikato River.

Sustainable environmental practice is at the heart of the proposed development. As outlined in Section 5.3, stormwater discharge quality is of paramount importance to the proposal, as the lake must be swimmable and usable for recreational activities. Whilst the development site does not directly discharge to the Waikato River, the site forms part of the Waikato River catchment and therefore discharges will ultimately enter the River. The Project is not at a stage of detailed design, however the Three Waters Assessment has identified that several feasible stormwater treatment options are available. Low impact stormwater treatment (in particular, a treatment train of vegetated swales and a central constructed wetland) has been recommended for the site.

For wastewater, the Three Waters Assessment has explored options of disposing to land using secondary on-site effluent treatment or discharging into the Huntly council system. Small facilities proposed (for example, the mountain biking park) where ablution facilities may be provided could provide on-site effluent treatment and disposal due to a smaller land application footprint. However, the majority of the site will connect to the existing Huntly Wastewater Treatment Plant.

Engagement with mana whenua is ongoing regarding wastewater and stormwater solutions for the site. Overall, the design is consistent with the vision, objectives and strategies of the Te Ture Whaimana o Te Awa o Waikato.

6.4 Iwi Management Plans

6.4.1 Waikato-Tainui Environmental Plan

The Waikato-Tainui Environmental Plan is a long-term development approach to building the capacity of Waikato-Tainui. It is designed to enhance Waikato-Tainui participation in resource and environmental management and provide clear high-level guidance on their objectives and policies in relation to the environment. The Plan identifies strategic objectives including tribal identity and integrity. Under Section 74 of the RMA it must be taken into account when preparing or changing a District Plan, to the extent that its content has a bearing on the resource management issues of the District.

The objectives and policies of the Waikato-Tainui Environmental Plan most relevant to this rezoning request are set out in Sections 25 (Land use planning) and 29 (Recreation and tourism). Specifically, Objective 25.3.1 requires consideration for development principles for land use and development (urban and rural) and Objective 25.3.3 seeks positive environmental and cultural effects. These matters have been addressed throughout this report, particularly in the assessment against the RPS and the assessment of effects in Section 5.

Section 29 of the Plan states: *“The development of tourism and recreation facilities potentially has positive economic benefits but there may also be negative impacts. Increasing numbers may lead to damage to fragile natural environments, culturally and/or spiritually significant and heritage sites. Tourism infrastructure development in locations that are culturally, spiritually, or*

environmentally unsuitable put strain on those locations, aggravated by the increased need for infrastructure such as roads, water supply and wastewater in these areas”.

No waahi tapu, taonga sites or Māori areas of significance have been identified under the PDP. Nonetheless, the site is within the Waikato-Tainui rohe and may have cultural significance. The Project team will continue to work with Waikato-Tainui to ensure the development does not adversely affect cultural values.

6.5 National Policy Statement on Urban Development 2020

The National Policy Statement on Urban Development 2020 (NPS-UD) was gazetted on 20 July 2020 and came into force on 20 August 2020. It replaces the National Policy Statement on Urban Development Capacity 2016.

The three key directives which the NPS-UD introduces are regarding intensification, responsive planning and the removal of minimum parking requirements. The NPS-UD primarily relates to housing and urban growth which is not directly applicable to this proposal. Of note however, is the direction to remove minimum parking requirements.

The Section 42A Hearing Report for the Infrastructure Chapter of the PDP provides some commentary around the application of the NPS-UD in relation to the Waikato District. It is unclear at this stage whether the WDC seeks to remove the minimum parking requirements from the PDP.

As assessed in the ITA, there is sufficient space on site for the provision of parking, including over-flow when events are held. Therefore, no specific parking requirements have been sought for the Kimihia Lakes Zone. Instead, it is proposed to rely on the existing provisions in the infrastructure chapter for specific activities. It is at the discretion of WDC as to whether the NPS-UD applies and whether these provisions are retained.

Overall, the proposal is consistent with the directives in the NPS-UD where relevant.

6.6 National Planning Standards

The Minister for the Environment introduced National Planning Standards to make council plans and policy statements easier to prepare, understand and comply with. The first set of planning standards came into force on 3 May 2019, with the most updated set in November 2019. While we understand the PDP was notified prior to the National Planning Standards coming into effect, advice from WDC to date has recommended this proposal is consistent with those standards. The directions in the standards that are relevant to this proposal include:

- **Structure and format:** The proposed Kimihia Lakes Zone chapter will need to follow the relevant structure and format as outlined in the national planning standards. This includes; appropriate abbreviations, structuring of rules, numbering of issues, objectives, policies, rules, methods.
- **Definitions:** The District Plan will adopt the standard set of definitions, and therefore any definitions proposed as part of this submission will need to align with these.
- **Zones and precincts:** The District Plan must only contain zones that are listed within the National Planning Standards. In the case of a special purpose zone, a zone must only be created when the proposed land use activities or anticipated outcomes of the additional zone meet the following criteria:
 - a) Are significant to the district, region or country;

- b) Are impractical to be managed through another zone; and
- c) Are impractical to be managed through a combination of spatial layers.

The provisions have been prepared in the appropriate structure and format to align with the National Planning Standards and are consistent with the definitions.

The proposed zoning meets the criteria (a) – (c). Specifically, as outlined throughout this report, the Project will be of regional significance. The nature of the proposed Project activities is unique to the site and are unlikely to be replicated elsewhere in the district. Because of this, none of the existing zones (or zones within the National Planning Standards) are suited to the development, and would be impractical to manage through a combination of spatial layers.

6.7 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

In accordance with the requirements under the NES-CS, a number of HAIL activities have occurred across the site area and therefore parts of the site are a “piece of land” under Regulation 5(7). The re-zoning of the land will enable a change of use and therefore the activity is covered by Regulation 5(6). In accordance with Regulation 8(4), A PSI has been prepared which states that it is highly unlikely that there will be a risk to human health or the environment if the site is developed into the intended uses. Therefore, the change of use is permitted under the NES-CS.

Other activities undertaken on site (such as soil disturbance) may be subject to the requirements of the NES-CS and will be assessed under the regulations at such stage. No further provisions are necessary within the Kimihia Lakes Zone.

6.8 Other Matters

6.8.1 Waikato 2070 – Growth and Economic Development Strategy

Waikato 2070 is Waikato District Council’s growth and economic development strategy, detailing the future settlement pattern, and indicative timing of new growth areas across the District. It was adopted by Council in May 2020 following the special consultative procedure under the LGA 2002. The Strategy states that Waikato District Council should use this document to inform how, where and when growth occurs in the District over the next 50 years. The vision of the Strategy is to create “liveable, thriving and connected communities”.

Section 4 of the Strategy sets out the growth areas and provides a development plan for Huntly and Ohinewai. Specifically, this includes the “Kimihia Lakes Recreation Precinct” with an estimated timeframe of development being 3 – 10 years. The Strategy also identifies a potential Huntly interchange from the Waikato Expressway that would link into East Mine Road and provide further connections to the site. The Strategy sets out implementation methods to achieve the vision. This specifically mentions changes to the District Plan or private plan changes as a method to enable the development of the identified growth areas.

Overall, the Project is not only consistent with the visions as set out in the Waikato 2070, but is specifically provided for as a key growth area to be achieved over the next 3 – 10 years for Huntly. This confirms that the Project is recognised by the community as being able to offer a range of benefits.

6.8.2 Waikato District Blueprint

The Waikato District Blueprint is a document which sets out a high-level 'spatial picture' of how the district could progress over the next 30 years, addressing the community's social economic and environmental needs and responding to its regional context.

Similar to the Waikato 2070 Strategy, the Blueprint identifies top priority initiatives for Huntly, as developed by the community. These include:

- Promote a Puketirini and Kimihia (east mine) Employment, Skills and Technology Cluster that builds on existing uses;
- Promote a Puketirini and Kimihia (east mine) Building Fabrication Construction Cluster;
- Prepare a strategy for the clean-up of the lakes and addressing any other environmental issues resulting from mining activity;
- Continue to support the youth strategy to tie in with the development of the abovementioned proposed clusters; and
- Promote waka ama on the Waikato River and lakes.

These priority initiatives align strongly with the vision for the Project and site, and the proposed rezoning is a key regulatory instrument to facilitate the priorities for Huntly.

7.0 Section 32AA Evaluation

7.1 Overview of Requirements under the RMA

Section 32AA of the RMA sets out the requirements for undertaking and publishing further evaluations. It states that a further evaluation is required when changes have been made to a proposal since the original evaluation report was completed. Section 32AA states that a further evaluation must include all matters in Section 32 of the RMA, but only in relation to the *changes* that have been made.

In this case, the subject site (as notified) is zoned rural under the PDP and is subject to those provisions of the Rural Zone. This proposal seeks to introduce a new zone (including new objectives, policies, and rules) all of which were not included in the notified version of the PDP, nor within the evaluation report. Therefore, this entire proposal (that being the Kimihia Lakes Zone chapter) is subject to the Section 32 assessment.

Section 32 of the RMA includes the following requirements:

- 32(1)(a) requires an evaluation of the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the Act;
- 32(1)(b) requires an evaluation of whether the provisions are the most appropriate way to achieve the objectives by identifying other options, assessing the efficiency and effectiveness of the provisions in achieving the objectives, and summarising the reasons for deciding on the provisions. The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are

anticipated from the implementation of the provisions, including opportunities for economic growth and employment.

- 32(1)(c) requires a level of detail that corresponds to the scale and significance of the changes.
- 32(2)(c) requires an assessment of the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

7.1.1 Assessment under Section 32

Waikato District Council released a Section 42A framework for both Council and submitters to use in relation to re-zoning requests. This included a Section 32AA evaluation template. The following sections provide a Section 32AA analysis in accordance with the required template.

Table 6: Re-zoning proposal

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Proposed Waikato District Plan (PDP)	
The re-zoning proposal	The rezoning proposal is described in Section 4 of this report. The proposed provisions and zoning map are attached as Appendices 3 and 6 respectively.	
Relevant objectives of the PDP	Growth occurs in defined growth areas (1.5.2(a))	<p>The Kimihia Lakes Zone covers existing farmland, as well as the now decommissioned Huntly East Mine. Pumping from the mine pit was ceased in 2017 and the mine pit has since been filling from rainwater and groundwater flows within its immediate catchment. The location of the lake itself is therefore fixed and will occur regardless of the proposed rezoning (or any physical intervention).</p> <p>The rezoning of the site will enable a range of activities and facilities that complement the lake and surrounding open space. It is not proposed to introduce residential or commercial development (above those that are ancillary to the primary use of the site). This proposal does not constitute “urban growth”. Nonetheless, it is noted that the site is within the “urban limits” of Huntly as identified within the Future Proof Strategy. Whilst there is opportunity to improve transport connections to the site (such as walking and cycling), the site is in an appropriate location to service the Huntly township.</p> <p>The proposal is therefore consistent with the strategic direction as set out in Section 1.5.2(a) of the PDP.</p>
	Protect and enhance green open space, outstanding landscapes and areas of cultural, ecological, historic, and environmental significance (1.12.8(b)(vi))	<p>The PDP does not identify any significant natural areas, outstanding landscapes or areas of significance over the site. Notwithstanding this, the central premise of the Kimihia Lakes development is the reinstatement and restoration of the historical Kimihia Lake and the enhancement of the wider environment.</p> <p>As part of the rezoning request, AFL is seeking to introduce a “Development Precinct” to cluster buildings and infrastructure that will allow for the operation of the Kimihia Lakes development in one part of the site.</p> <p>Areas outside of the Development Precinct will be characterised by vegetated areas and open space that will be retained for a range of rural, recreation and environmental enhancement activities. The objective and policy framework proposed for the zone reflects this.</p> <p>The proposal is therefore consistent with the strategic direction as set out in Section 1.12.8(b)(vi) of the PDP.</p>
	Infrastructure can be efficiently and economically provided (4.1.3(a))	Whilst majority of the site will remain as open space, the Development Precinct in particular will require servicing for water, wastewater and stormwater. Appropriate transport infrastructure

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Proposed Waikato District Plan (PDP)	
		<p>such as parking and suitable access is also required for the site.</p> <p>The Three Waters Assessment attached as Appendix 9 concludes that there are available options for servicing the site, using sustainable environmental practices. The report has also undertaken an analysis of the capacity of the network and concludes that there is capacity for both water supply and wastewater servicing. As per the S42A framework, we understand that Watercare will be undertaking investigations to confirm this.</p> <p>In regard to transport, the ITA attached as Appendix 8 concludes that the existing road network and access to the site is suitable for the proposed development. There is also sufficient room on the site for parking to accommodate future activities and any special events. The proposal is therefore consistent with the strategic direction as set out in Section 1.12.8(b)(i) of the PDP.</p>
	<p>Subdivision, use and development within the rural environment where:</p> <ul style="list-style-type: none"> i. High class soils are protected for productive rural purposes; ii. Productive rural activities are supported, while maintaining or enhancing the rural environment; iii. Urban subdivision use, productive rural activities are supported and development in the rural environment is avoided <p>(5.1.1(A)(i)(ii)(iii); 5.3.8)</p>	<p>While the site is currently zoned Rural, part of it has operated as a coal mine for several decades. This land is not high class soils. The remainder of the site is existing farmland, however this proposal has not gone so far as to assess whether these soils are classified as high class soils under the District Plan.</p> <p>Nonetheless, the existing farmland on site will continue to be used for some rural activities, albeit introducing recreation activities. The proposed provisions ensure that these areas are retained and development is limited.</p> <p>The proposal is therefore consistent with the strategic direction as set out in Sections 5.1.1(A)(i)(ii)(iii) and 5.3.8 of the PDP.</p>
	<p>Meets district wide rules and any relevant overlays</p>	<p>As outlined in this report, the proposal is anticipated to comply with district wide rules, particularly those infrastructure and energy provisions (Chapter 14). Some amendments are proposed to the transportation section where relevant.</p> <p>One overlay has been identified over part of the site, which is known as the “Defended Area”. This overlay represents an area identified on the planning maps which could normally flood in a 1% AEP flood event but is protected from flooding by a flood protection scheme managed by the Waikato Regional Council, the Waikato District</p>

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Proposed Waikato District Plan (PDP)	
		<p>Council or the Crown. The extent of this overlay is shown in Section 3.6.</p> <p>Activities within the Defended Area that are controlled by the District Plan include subdivision, new buildings within 50m of the toe of a stop-bank and earthworks within 50m of the toe of a stop-bank.</p> <p>Any subdivision (if proposed) would be subject to those provisions at the time of resource consent and assessed accordingly. No known stop-banks are located within the site boundaries and therefore the two latter provisions would not apply to the site.</p> <p>The proposal is therefore consistent with the district-wide rules and any overlays over the site would not restrict the re-zoning request.</p>
<p>Scale and significance of the rezoning proposal</p>	<p>The re-zoning proposal relates to approximately 159ha of land that forms part of the now decommissioned Huntly East Mine. The proposal seeks to create a new special purpose zone (of which does not currently exist in the PDP) including new objectives, policies and rules.</p> <p>Therefore, a full assessment of effects has been provided relative to the scale and significance of the proposal (refer Section 5 of this report). Section 6 of this report also assesses the proposal against the relevant statutory documents, relative to the scale and significance of the proposal.</p>	
<p>Other reasonably practicable options to achieve the objectives (alternative options)</p>	<p><u>Alternative 1:</u> Do nothing (retain the status quo, being the existing Rural Zone and existing objectives, policies and rules in the PDP).</p>	<p>The policy framework of the Rural Zone seeks to retain high class soils, support productive rural activities, avoid urban subdivision, use and development, whilst retaining rural character and amenity. The rules reflect this, by enabling rural activities and providing for ancillary buildings and structures to support the function of those activities.</p> <p>Whilst part of the site is seeking to retain some rural use, majority of the proposed activities are unique in nature and generally would not be envisaged within a rural environment. Therefore, the proposed activities would require resource consents for each stage of development, that would likely be non-complying (due to the activities not being provided for). As the objective and policy framework of the Rural Zone is not consistent with the proposed activities, there is risk for potential notification of those resource consents, or potential decline.</p>
	<p><u>Alternative 2:</u> Retain Rural zoning over the majority of the site and introduce the Development Precinct only.</p>	<p>Similar to the above. The objectives and policies of the Rural Zone do not reflect the mix of activities that will occur on the majority of the site (outside of the Development Precinct).</p>
	<p><u>Alternative 3:</u> Make amendments to the Rural Zone provisions (and any other relevant provisions) to provide for the proposed</p>	<p>The proposed activities are site specific and are not likely to occur in other areas that are zoned Rural across the district. Therefore, amendments to the Rural Zone chapter may complicate provisions.</p>

The specific provisions sought to be amended	Assessment of the efficiency and effectiveness of the provisions in achieving the objectives of the Proposed Waikato District Plan (PDP)	
	activities within the Rural Zone.	
	<u>Alternative 4</u> : Re-zone the land to an existing zone provided in the PDP or under the National Planning Standards.	There is no zone currently within the PDP or within the National Planning Standards that is suitable for the proposed activities.

Table 7: Benefits and costs analysis of the rezoning proposal

Rezoning Proposal: To re-zone 159 ha of land from rural to a new special purpose zone known as the “Kimihi Lakes Zone”		
	Benefits	Costs
General	<ul style="list-style-type: none"> The site area covers approximately 159ha, which is a considerable piece of land. Since the mining operation ceased in 2016, the site has been underutilised and therefore there is significant opportunity for more efficient use of land and resources. The new Kimihi Lake will contribute to the existing lake and open space network across the Waikato District. It is expected to have similar water quality and depth at Puketirini, but will be well over 1km in length, therefore making it more suitable to specific water sports and events. 	<ul style="list-style-type: none"> Financial costs to enable the proposed rezoning and development of the site.
Environmental	<ul style="list-style-type: none"> Whilst not directly associated with the rezoning, the Project centres around the enhancement of the wider environment and rehabilitation of the site, including lake. The environmental benefits that will be achieved through the rezoning relate to the retention of open space and natural character. The rules and policy framework seek to provide for environmental initiatives across the site. For example, conservation activities and environmental initiatives, are all permitted activities in the zone that will provide environmental benefits. 	<ul style="list-style-type: none"> The rezoning will provide for a higher level of development than anticipated in the Rural Zone. This will put a demand on Council services (including water and wastewater). The Three Waters Assessment has analysed the capacity of the networks, however ultimately this will need to be confirmed by Council / Watercare. An increased number of people using the site (particularly during events), could put pressure on the surrounding road network if not appropriately managed. An increase in development potential at the site will change the landscape, of what is currently an undeveloped rural area. Environmental effects are discussed in further detail in Section 5 of this report.

<p>Social</p>	<ul style="list-style-type: none"> • The proposed rezoning will enable the rehabilitation and development of the site into a lakeside hub and recreation facility to be used by the wider community. The site is of significant size and whilst it is privately owned, it will be leased to the Kimihia Lakes Community Charitable Trust and will be available for the public to use at no cost. The provision of free outdoor recreation and green open space will bring a range of positive health benefits to a community that is relatively deprived. • Above providing a recreation park for the enjoyment of the community, the site will provide outdoor education to primary and secondary school students from Huntly as well as the wider catchment of the Waikato District, Hamilton and Auckland. It is also expected to provide skill training opportunities for local youth on site (e.g. through “on the job” training, or as part of school and tertiary education courses) in environmental restoration, construction, hospitality, and the operation of commercial recreation activities. 	<p>No negative social effects have been identified.</p>
<p>Economic General / Growth</p>	<ul style="list-style-type: none"> • Economic value added through construction and operation of the Project’s facilities and the resultant increased visitor spending on goods and services in Huntly and the wider district. Based on the financial estimates in the Kimihia Lakes draft Business Plan 2020, the Project’s economic impact in quantitative terms is assessed as: <ol style="list-style-type: none"> 1. Construction contribution to Waikato District’s GDP: \$3.361m (or an increase of 0.11% of the district’s 2019 baseline GDP of \$2,954m). The GDP impact would be limited to the duration of the construction period; 2. Tenant activities contribution to Waikato District’s GDP: \$1.01-1.37m per annum (or 0.3-0.5% of the district’s 2019 baseline GDP); 3. Multiplier (indirect and induced) economic impacts based on a Type II multiplier of 1.5 would generate an 	<ul style="list-style-type: none"> • There is potential for tenant commercial activities to divert retail and accommodation expenditure from the Huntly town centre and reduce its viability. Based on the initial mix of activities and total revenue in the order of \$2.7-3.7m, the diversion of local retail expenditure should be minimal. Most revenue is expected to come from visitors from a dispersed catchment beyond Huntly. Future growth in activities and revenue will rely on increased volume of ‘non-local’ visitors. • Rezoning of the site will displace rural production land. This therefore could reduce the amount of productive rural land in the district. However, any loss would be very minor given the portion of the site currently used for farming will likely remain in the use for the foreseeable future, while the balance of the site was a former mine which was not a productive rural area as such.

	<p>additional 50% value-added GDP contribution in the order of \$500,000-\$683,000. Taking total GDP impacts to \$1.5-\$2.0m per annum.</p> <ul style="list-style-type: none"> In terms of the RMA requirements, the economic effects of the Project on the core Huntly community and the secondary 'rest of Waikato district', are assessed to be 'low to moderately' positive. 	
Employment	<ul style="list-style-type: none"> Increased local employment and training opportunities for the local labour-force in a community that is relatively deprived with a high concentration of youth, unemployment, Māori, low income, single parent and rental tenure households. In accordance with above, the Project's employment growth is assessed as: <ol style="list-style-type: none"> 46 full-time and part-time jobs generates during the construction period. This is limited to the duration of the construction period only; and Tenant activities generating 28 – 36 full time and part time jobs on a sustainable basis. 	No negative employment effects have been identified.
Cultural	<ul style="list-style-type: none"> Restoration of the natural environment will bring cultural benefits. A partnership with Te Whangai Trust is proposed to establish an on-site commercial native plant nursery, which can assist with habitat restoration and local employment. Opportunity to partner with tāngata whenua and introduce Te Aranga Design principles into the development, as well as cultural recognition (i.e. through trails and identification of cultural landmarks). The Kimihia Lakes Community Charitable Trust has a trustee seat dedicated to local iwi/hapu representation. 	<ul style="list-style-type: none"> An increase in people using the site and an increase in development has potential for adverse cultural effects if not appropriately managed.

Table 8: Evaluation of the proposal

Reasons for the selection of the preferred option	<p>Taking into account the above assessment, the changes proposed to the PDP are the most appropriate way of achieving the sustainable management purpose of the RMA, as well as the strategic objectives of the PDP as notified.</p> <p>Whilst there are both costs and benefits associated with the development, the benefits to the community far outweigh those costs and any adverse effects on the environment are able to be managed through the proposed performance standards.</p>
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	<p>The Project is consistent with higher order documents and is also identified as a key initiative for Huntly such in documents such as the Waikato 2070 Strategy and the Waikato District Blueprints. This confirms that the proposal is recognised by the community as being able to offer a range of benefits.</p> <p>The changes proposed meet the strategic objectives of the PDP and the rezoning will enable development to occur at the site in an integrated manner, without the need for lengthy resource consent processes.</p>	
<p>Extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the RMA</p>	<p>An assessment of the proposal against Part 2 of the RMA is provided in Section 6.1. The following provides an assessment of the specific objectives of the proposal against Part 2.</p>	
	<p><i>KLZ-O1: The Kimihia Lakes Zone develops into a regionally significant recreation and outdoor education facility, that provides for the well-being of people and communities.</i></p>	<p>As notified, the PDP does not currently provide a special purpose zone for the Project and therefore there is currently no objective and policy framework. The addition of KLZ-O1, will enable the development and operation of Kimihia Lakes so that it can provide for the social, cultural, economic and cultural wellbeing of people and communities, as outlined in Part 2 of the RMA.</p>
	<p><i>KLZ-O2: Buildings, structures and activities do not adversely affect the amenity values or landscape character of the surrounding environment.</i></p>	<p>KLZ-O2 will ensure that new development does not detract from surrounding land uses or adversely affect amenity values. This gives effect to the purpose of the RMA, and in particular Section 5(2)(c) which seeks to avoid, remedy and mitigate adverse effects on the environment.</p>
<p>Assessment of the risk of acting or not acting if there is uncertain information about the subject matter of the provisions</p>	<p>The risk of not acting would mean a slow uptake of development and lengthy resource consent processes which could be notified or declined. The lake is filling up naturally and will occur regardless of the proposed rezoning. Therefore, it is more appropriate that development happens in an integrated, comprehensively planned manner, in line with the filling of the lake.</p>	

8.0 Consultation

8.1 Waikato District Council

Representatives from Boffa Miskell and AFL met with WDC on 2 July 2020 and 8 October 2020 to discuss the original submission and issues that were required to be addressed prior to the hearing. A site visit was also undertaken with a representative from WDC and the project team on the 3 February 2021. In particular, WDC have noted the following:

- Wastewater solutions for the site need to be carefully considered. The key issue is capacity, as well as water quality in terms of the Vision and Strategy for the River;
- A contamination assessment may be useful to demonstrate that site contamination will not be a concern;
- An economic assessment will likely be required;
- Water supply to the site will need to be addressed, although it was noted this should not be an issue;
- Consideration of reverse sensitivity effects at the Speedway, with regard to any residential or temporary accommodation;
- Consideration of the National Planning Standards and using these to guide the proposed provisions; and
- Assessment of the Waikato Regional Policy Statement and the Vision and Strategy.

These matters have been taken into consideration and discussed throughout this report.

8.2 Further Submissions

Four submissions were lodged against the AFL submission in July 2019. A summary of these further submissions is provided below, as well as commentary as to how the submission points have been addressed.

8.2.1 Mercury NZ Ltd

Mercury NZ Ltd did not support the submission made by AFL on the basis that the natural hazard flood provisions and flood maps were not available (at the time of lodging the further submission). Therefore, it was not clear from a land use management perspective, how effects from a significant flood event would be managed, or whether the zoning was appropriate from a risk exposure perspective. The submission points that were not supported include:

- The creation of a new zone called “Kimihi Lakes Recreation and Events Zone” and new rules as outlined in the submission;
- New definitions for “Ancillary Buildings”, “Commercial Node Areas”, “Community Activities and Facilities”, “Operational Facilities”, “Outdoor Education”, “Outdoor Pursuits” and “Recreation Activity and Facilities”; and

- Rezoning of rural land to residential and retention of the existing residential zone.

The Natural Hazards chapter of the PDP has now been notified and the flooding maps have been produced as outlined in Section 3.6. Consultation has been undertaken with Mercury NZ Ltd since the further submission was lodged and it is understood the primary concerns relate to the mitigation of 1 in 100 flood levels, and whether a minimum free board level is required for habitable uses.

The Natural Hazards chapter of the PDP provides provisions for minimum floor levels for activities located in a flood plain management area and flood ponding area. It also restricts buildings located in a high-risk flood area. As outlined throughout this report, the site is not located within these areas, however is located within a Defended Area overlay. The provisions of the Defended Area overlay do not require any minimum floor level.

Overall, as the provisions in the PDP deal with flooding at a district-wide level, no further provisions are necessary for the Kimihia Lakes Zone.

8.2.2 Waka Kotahi - New Zealand Transport Agency

Waka Kotahi does not support the proposed permitted activity rule (14.12.1.4(j)) that states there shall be no maximum traffic generation within the Kimihia Lakes Recreation and Events Zone (subject to conditions). Waka Kotahi considers that these provisions relate to “special” or temporary events and are inappropriate for permitted activity criteria.

Since the original submission was lodged, an ITA has been prepared for the project and the scale of the development has been refined. It is no longer proposed to include an exclusion for the zone that states there shall be no maximum traffic generation. Instead, it is proposed to add a section to Rule 14.12.1.4 to the PDP that states no more than 850 vehicle movements can be generated per hour from the site. The ITA has assessed that the surrounding road network can accommodate this many vehicle movements. It is unlikely that the site would generate traffic volumes to this extent, however, this ensures that the road network is able to accommodate the traffic volumes associated with the site.

Since the further submission was lodged by NZTA further consultation has been undertaken, where NZTA raised the following additional concerns:

- Potential for proposed features or activities on the site that may distract users of the Waikato Expressway;
- Potential for the lake as a discharger to result in adverse effects upon NZTA infrastructure;
- Potential for earthworks near the Waikato Expressway and the impact on this regarding ground stability, liquefaction and stormwater.

These matters have been addressed in the proposed provision and/or explained to the NZTA as follows :

- The majority of proposed development will be located centrally on the site within the Development Precinct which due to the distance (>700m) and topography means there is very limited visibility of this area from the Waikato Expressway. Furthermore, the proposed performance standards applicable to buildings, structures and signs include setback requirements relating to the Waikato Expressway;

- The lake is expected to fill to the level of an existing culvert under the Waikato Expressway which flows into Lake Kimihia to the east. The invert level of the culvert, and therefore future lake level, will be a maximum RL 8.5 m; and
- The eastern edge of the site (adjoining the Waikato Expressway) will be retained for farming and recreation purposes; with significant earthworks not anticipated in this area. Any earthworks proposed within the designation boundary would also require section 176 approval from the Agency.

Discussions between AFL and the Agency's project managers are also ongoing regarding the finalised/surveyed boundary of the site and the Waikato Expressway.

8.2.3 Waikato-Tainui

Waikato-Tainui's submission states that they are recognised as kaitiaki of our environment and view the holistic integrated management of all elements of the environment such as flora and fauna, land, air and water as of utmost importance.

Waikato-Tainui opposed the proposed rezoning and sought to ensure that all plans and policies aligns with the outcomes of the following tribal documents;

- Tai Tumu, Tai Pari, Tai Ao – Waikato-Tainui Environmental Plan, and
- Whakatapuranga Waikato-Tainui 2050 – Strategic Plan.

The proposed rezoning has taken into account these documents.

To date the Project has also sought to form partnerships with mana whenua through the following actions and opportunities:

- The KLCCT has a trustee seat dedicated to local iwi/hapu representation, currently held by Tukaroto (Tu) Mahuta;
- A partnership with Te Whangai Trust, a Waikato charity which provides educational opportunities to long term unemployed, youth and people at risk, particularly Maori, has been established to operate on-site commercial native plant nursery at the site; which will assist with not only local employment but also habitat restoration; and
- The opportunity identified in the Masterplan to partner with mana whenua and introduce Te Aranga Design principles into the development as well as cultural recognition (i.e. through trails and identification of cultural landmarks).

The Project team has also sought to engage with Waikato-Tainui representatives, including a hui with Taroi Rawiri in January 2021. Mr Rawiri indicated that water quality and therefore three waters management were a priority to Waikato-Tainui; with the water quality of the future lake being of critical importance to the success of the Project as a whole.

The documentation supporting the proposed rezoning, including the Three Waters Assessment, is currently being assessed by Waikato-Tainui representatives.

8.2.4 Waikato Regional Council

Waikato Regional Council (WRC) does not support the following submission points:

- The creation of a new zone called "Kimihia Lakes Recreation and Events Zone", as well as the proposed rules and objectives/policy framework; and

- Rezoning of rural land to residential.

WRC states that it is unanticipated that the H2A project including the Hamilton – Waikato Metro Spatial Plan, the Huntly Spatial Plan, and the Pokeno Spatial Plan will inform decisions around the location, and timing of future development. Decisions on the rezoning of land within the H2A corridor should be deferred until the relevant component of the corridor plan is complete to avoid undermining the important strategic planning process.

Further consultation has been undertaken with WRC since the further submission was received. It is understood the main concerns from WRC related to the residential component of the development, which is no longer proposed. WRC has also since raised issues regarding potential flooding impacts from the refilling Kimihia Lake.

As discussed with WRC, the request to rezone the site has no direct impact on the filling of the lake. Since pumping of the mining operations ceased in 2017 the lake has been filling naturally and will continue to do so. The lake level is set by the culvert outlet under the Waikato Expressway, which is NZTA land and property. Therefore, the focus (at this stage) is ensuring the quality of the stormwater runoff leaving the proposed development is of high quality when entering the lake and therefore the downstream catchment.

9.0 Conclusion

This report has outlined the proposed rezoning of rural land owned by AFL to a new special purpose zone called the “Kimihia Lakes Zone” under the PDP. The vision for the landholding is that it will be developed not only as multi-purpose facility for the Huntly community, but also as a regionally significant tourist attraction. The proposed rezoning will enable such development by specifically supporting Project activities that have been identified for the site.

This report has assessed the rezoning in accordance with Section 32AA of the RMA and is provided in a template as set by WDC. The assessment concludes:

- The proposed rezoning is consistent with the purpose of the RMA. The proposed objectives are the most appropriate and effective means of achieving the purpose of the RMA.
- The proposed provisions are consistent with the strategic directions of the PDP (as notified), as well as higher-level policy documents, including the Waikato Regional Policy Statement, the Vision and Strategy for the Waikato River, the Waikato Tainui Environmental Plan, the National Policy Statement on Urban Development Capacity and the Waikato 2070 – Growth and Economic Development Strategy.
- The likely and potential effects of the development of the proposed rezoning have been considered in detail and are supported by a range of technical assessments including an Economic Impact Assessment, Integrated Transport Assessment, Three Waters Assessment and a Preliminary Site Investigation. The overall effects of the proposed rezoning are acceptable for the site and surrounding area and can be managed through the use of appropriate rules and performance standards.
- The proposal provides opportunity for environmental enhancement, including rehabilitation of wetlands, and lake and stream habitat for native fauna, flora and aquatic life.

- The development of the site will enable an efficient use of land and resources and will provide positive social and economic effects for the local community. In particular, the construction contribution to Waikato District's GDP is estimated at \$3.361m. The tenant activities are anticipated to generate a total GDP impact of \$1.5-\$2.0m per annum.
- The development is anticipated to provide 46 full-time and part-time jobs during the construction period, and 28 – 36 full-time and part-time jobs on an ongoing basis.
- A partnership with mana whenua is being cultivated and this relationship will continue to evolve through the lifespan of the Project, ensuring that cultural values are understood and taken account of during the decision-making process. In particular, the Kimihia Lakes Community Charitable Trust has a trustee seat dedicated to local iwi/hapu representation.

The above reporting, including the consideration of effects and assessment of the Project against the higher-level policy documents clearly demonstrate that the proposed rezoning and associated amendments to the PDP are appropriate and meet all of the relevant RMA tests.

Appendix 1: Masterplan

MASTERPLAN

KIMIHIA LAKES DEVELOPMENT

FEBRUARY 2021



DOCUMENT QUALITY ASSURANCE

BIBLIOGRAPHIC REFERENCE FOR CITATION:

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Cover photograph: Kimihia Lakes Development Site, © Bryan Sanson, 2019

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KIMIHIA OPEN PIT COAL MINE (1955)



PROJECT OVERVIEW

The site, located between McVie Road and the new Waikato Expressway, is approximately 200 hectares comprising an area that was originally the bed of Lake Kimihia, which was partly drained and then mined for coal from the 1950s until 2015. Most of the mine infrastructure has now been removed and the open cast pit is now refilling with stormwater and groundwater from the wider catchment.

'Fill it...and they will come'

The above is a quote from the development project team is premised on the belief that if those with the vision and strength to develop the retired mine site, will provide the catalyst to draw the community back and restore the mana for all to enjoy. Metaphorically this refers to the aspect of as the lake slowly rises (fills up) so returns the mana and the people.

The closed Huntly East Mine site was purchased by the Kimihia Lakes Development Team (Client) with a vision of developing the majority of this land as a destination multi-purpose recreation, education and natural park and provide an environmental and economic legacy for the benefit of the Huntly community and Waikato region.

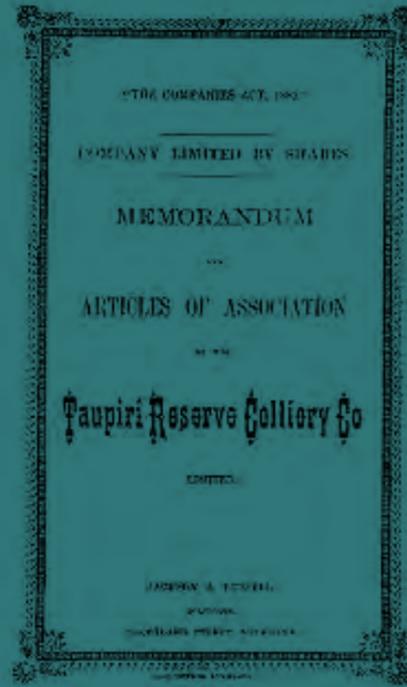
The central premise to the park is the re-instatement and restoration of the historical Kimihia Lake and to enhance the wider environment, through education, experience and involvement. The scale of this vision is vast, as is the landholding area involved, which enables the development of a facility that is not only for the Huntly community, but as a regionally significant tourist attraction.

The site will be publicly accessible, but not publicly owned; as such it will not be subject to the usual constraints of a council or central government owned reserve. It will be capable of activation to provide a significant range of recreation, education, and commercial tourism activities on one site, at a larger scale than is typical of other similar sized lakes in the North Island.

The planned residential development on the north facing hillside looking over the mine site is a secondary objective, aimed at providing a source of capital for the development of the recreation and events park activities. It is likely that a development partner will be involved in the residential development. This will contribute to government objectives of increasing housing supply, which is in demand regionally.

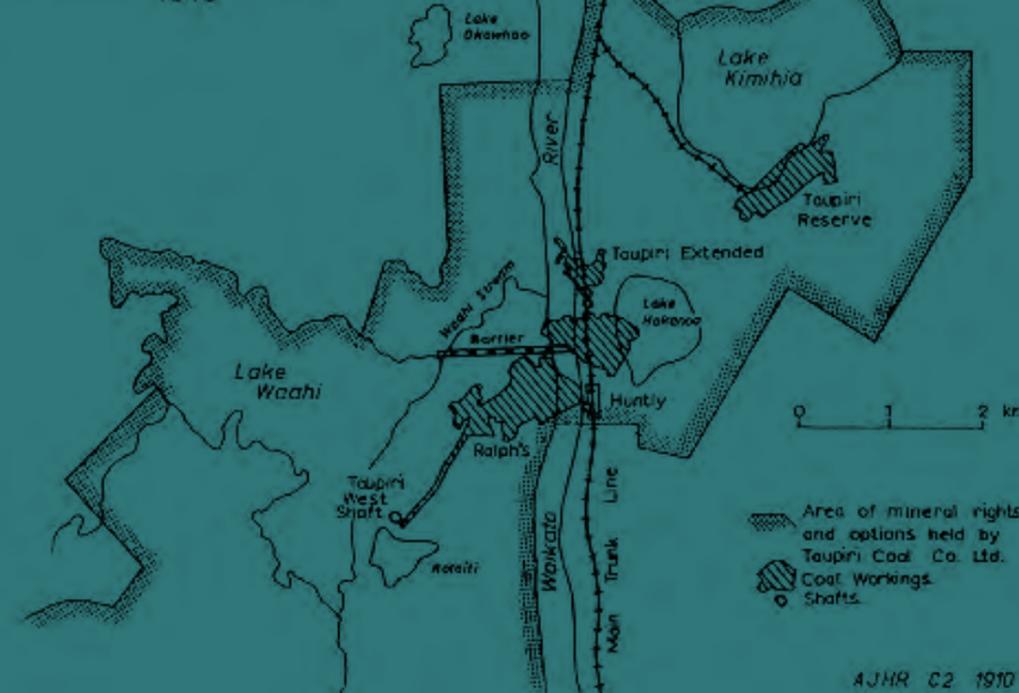
The Project is also strategically aligned with the outcomes sought within the central government led Hamilton to Auckland Corridor Plan (H2ACSP)3, the Vision and Strategy for the Waikato River, the Waikato-Tainui Environmental Plan and Te Waka's Waikato Regional Economic Development Programme 2018-2020. During the past year the Kimihia Lakes Development Team has engaged with several potential user groups, community stakeholder organisations (e.g. Huntly Community Board, Sport Waikato, Hamilton-Waikato Tourism, Momentum Waikato, Karioi Trust), and commercial operators to develop initial plans for the type, scale and location of activities and facilities on the site.



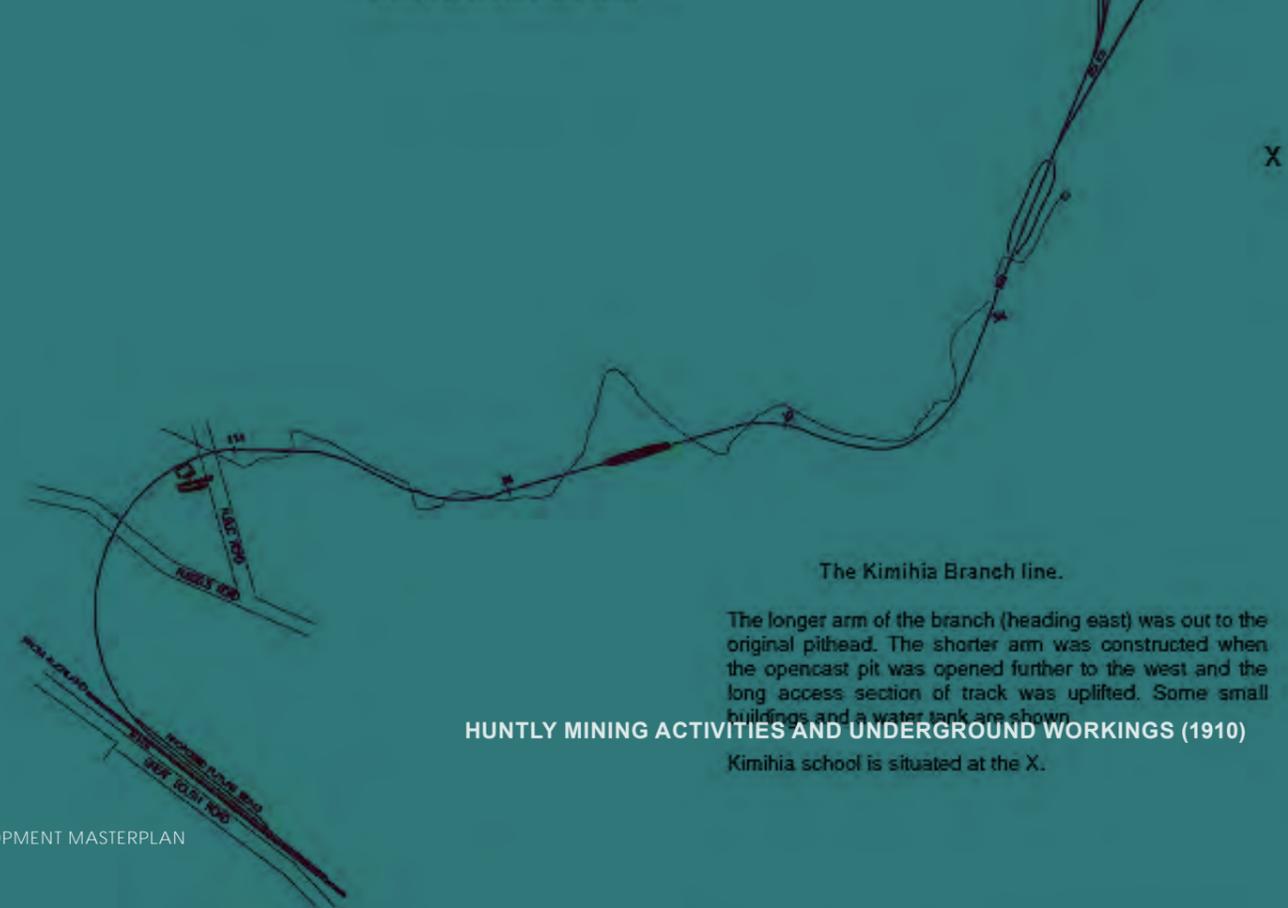


PROJECT BACKGROUND

HUNTLY COALFIELD 1910



Huntly coal situation, 1910.



HUNTLY MINING ACTIVITIES AND UNDERGROUND WORKINGS (1910)

Kimihia school is situated at the X.

PROJECT VISION

“He pikinga roto, he hikinga waka - A rising lake lifts all boats”.

The principled approach of the Kimihia Lakes Development Masterplan (‘The Project’) is premised on the mantra that was first quoted by Norm Hill of Waahi Whanui (ex. Boffa Miskell Limited). This quote affirms the belief that if all involved work towards supporting a common vision, it will ensure everyone rises together and successfully realise the dream.

The scope of the Project has two components:

- Development of the Kimihia Lakes Recreation and Events Park; and
- Residential development on land overlooking the park.

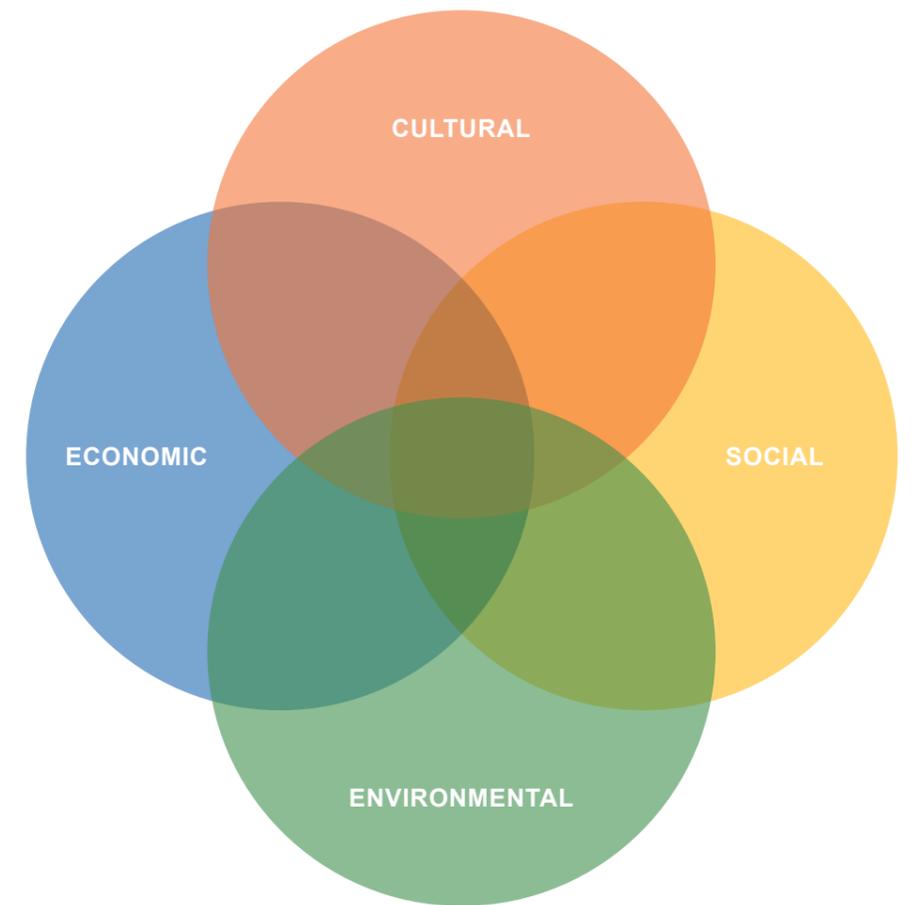
The primary vision is the development of the recreation and events park including the rehabilitation and restoration of the site, the development of complementary activities including water-based recreation (swimming, kayaking, waka ama), music and other speciality events, overnight accommodation, a coalfields museum, cultural interpretation, an outdoor education centre (offering environmental and physical education skills training), and informal use of the site for other activities such as walking, cycling and picnicking.

The rehabilitation of the site will be programmed to align with the progressive filling of the lake which is estimated to take between five to 10 years. The rehabilitation will recreate some of the former ecological values of Kimihia Lake and recognise the cultural values that remain in this area. Rehabilitation work will comprise riparian plantings alongside the future lake edge, and amenity and ecological restoration of the streams, wetlands and bush clad gullies on the lake surrounds. The residential development area is within the overall catchment rehabilitation programme and will be designed as a fully integrated ‘village eco system’.

PROJECT OBJECTIVES

The Project has the following objectives, to achieve the Project Vision:

1. Restoration and enhancement of the natural environmental qualities of the lake and its source catchment;
2. Provide a publicly accessible and high amenity recreation facility for the Huntly community that contributes to the ‘lake network’ in the district (e.g. allowing certain events to be spread across them);
3. Offer outdoor education and recreation experiences to primary and secondary school students from Huntly and rangatahi in the Waikato-Tainui rohe, as well as students in the wider catchment of Waikato District and urban centres of Hamilton and Auckland
4. Provide skills training opportunities for local youth on-site (e.g. through ‘on the job’ training or as part of school/tertiary education courses), in environmental restoration, construction, hospitality, and the operation of commercial recreation activities;
5. Generate new employment opportunities and income for the local workforce and attract visitors from outside the Hamilton-Waikato District to contribute to growth of the local economy;
6. Put Huntly ‘on the map’ of a trail of tourism destinations along the Hamilton -Auckland corridor;
7. Provide a complementary destination to various cultural tourism projects centred on the Waikato River, which are currently being pursued by other parties. The park’s cultural heritage role will be to show respect for its mining history (including the local miners who were predominantly of Māori or European descent). The centrepiece facility will be an existing coalfields museum planned to be relocated to the site (occupying the former Huntly railway station).
8. Co-ordinate and co-operate activities with neighbouring facilities/ activities including Huntly Speedway, Huntly Gun Club, Rotongaro-Huntly Pony Club, Huntly Half-Marathon, Hakanoa Lake walkway, and the accessible by Expressway Hampton Downs Raceway, the Jet Sprint Boats and Dragstrip at Meremere, Cambridge Avantidrome and Karapiro Rowing Centre.



***“ HE PIKINGA ROTO,
HE HIKINGA WAKA -
A RISING LAKE LIFTS ALL
BOATS.”***



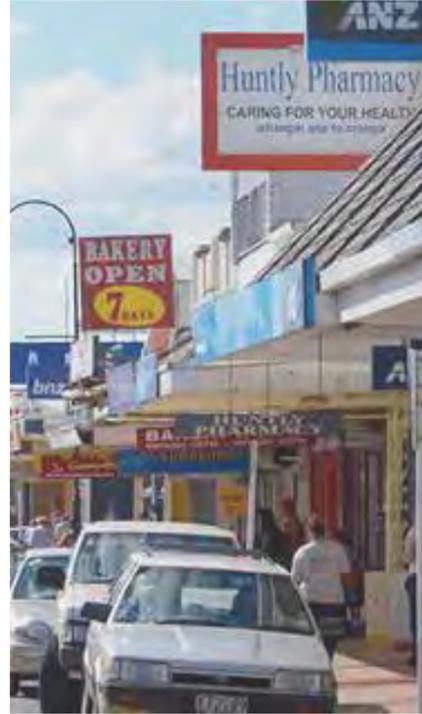
IWI | HĀPU

Iwi & hāpu groups as Mana Whenua of the rohe in which Huntly / Raahui Pookeka and Kimihia Lake are contained.



HUNTLY COMMUNITY

The people of Huntly; of all ages, gender, ethnicity and occupation, who live, work, learn and play in Huntly.



BUSINESS OPERATORS

Huntly business and education owners and operators, and other businesses and business people with interests in Huntly.



WAKA KOTAHI / NZTA

The national transport authority, which has delivered the Waikatō Expressway and possible links to Huntly.



LOCAL GOVERNMENT

Waikatō District Council, comprised of staff, Group Managers, Councillors, the CEO and Mayor.



CENTRAL GOVERNMENT

Government Departments and Ministers, including Treasury, Transport, Regional Development and Conservation.

ROLES & RESPONSIBILITIES

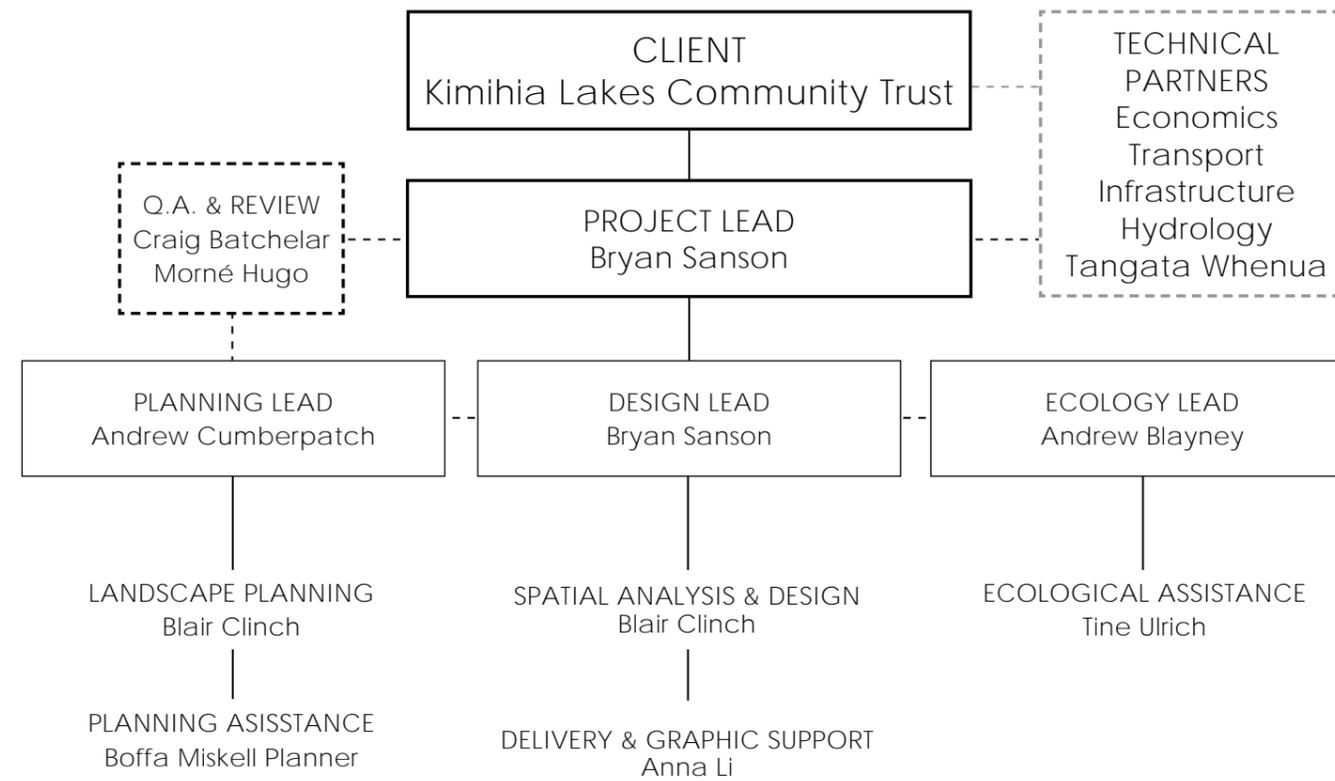
Bryan Sanson is the Project Lead in delivering the Kimihia Lakes Development Masterplan. Bryan is the key point-of-contact for the client; Kimihia Lakes Community Trust, and is responsible for arranging collaboration and engagement with key stakeholders.

Bryan is supported in the delivery of this visionary and ambitious masterplan by an experienced Project Team, with Andrew Cumberpatch providing planning leadership, and Andrew Blayney leading the ecological restoration component. Bryan is the design workstream lead.

The leaders are supported by an experienced team; efficiently delivering high-quality documentation that conveys the strategic and spatial intent of The Project.

Craig Batchelar and Morné Hugo provide Quality Assurance and Review; bringing their vast experience in Spatial Planning and Design to challenge any assumptions, to ensure that the developing and final masterplan is founded on a strong rationale, and representative of the Project Vision, Objectives, and international best-practice.

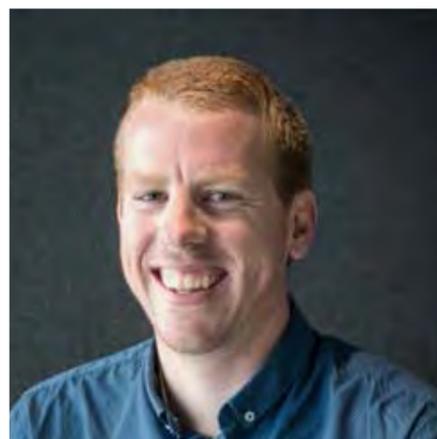
Technical Partners have provided expertise relating to the economic viability of The Project, and the hydrology and likely final lake level, through a Catchment Assessment. These Partners, along with any other required technical fields, will be drawn upon throughout the development of the masterplan and beyond, providing rigor and integrity to the proposal, through a collaborative and coordinated approach.



BRYAN SANSON
Principal | Landscape Architect
Project & Design Lead



ANDREW CUMBERPATCH
Principal | Planner
Planning Lead



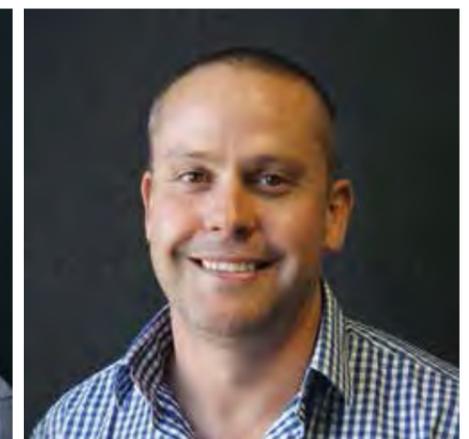
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CRAIG BATCHELAR
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MORNÉ HUGO
Associate Partner | Landscape Architect
Quality Assurance & Design Review

TRANCHE ONE - MASTERPLAN

Tranche One consists of the three initial workstreams in order to gain a better understanding of the site and its surroundings. These workstreams are the Catchment Assessment (undertaken by Tonkin & Taylor), the Development Business Case (by Strateg.Ease), and finally the Concept Masterplan of the Project site (by Boffa Miskell Ltd) which is what this document is. The intent of the Masterplan document is to:

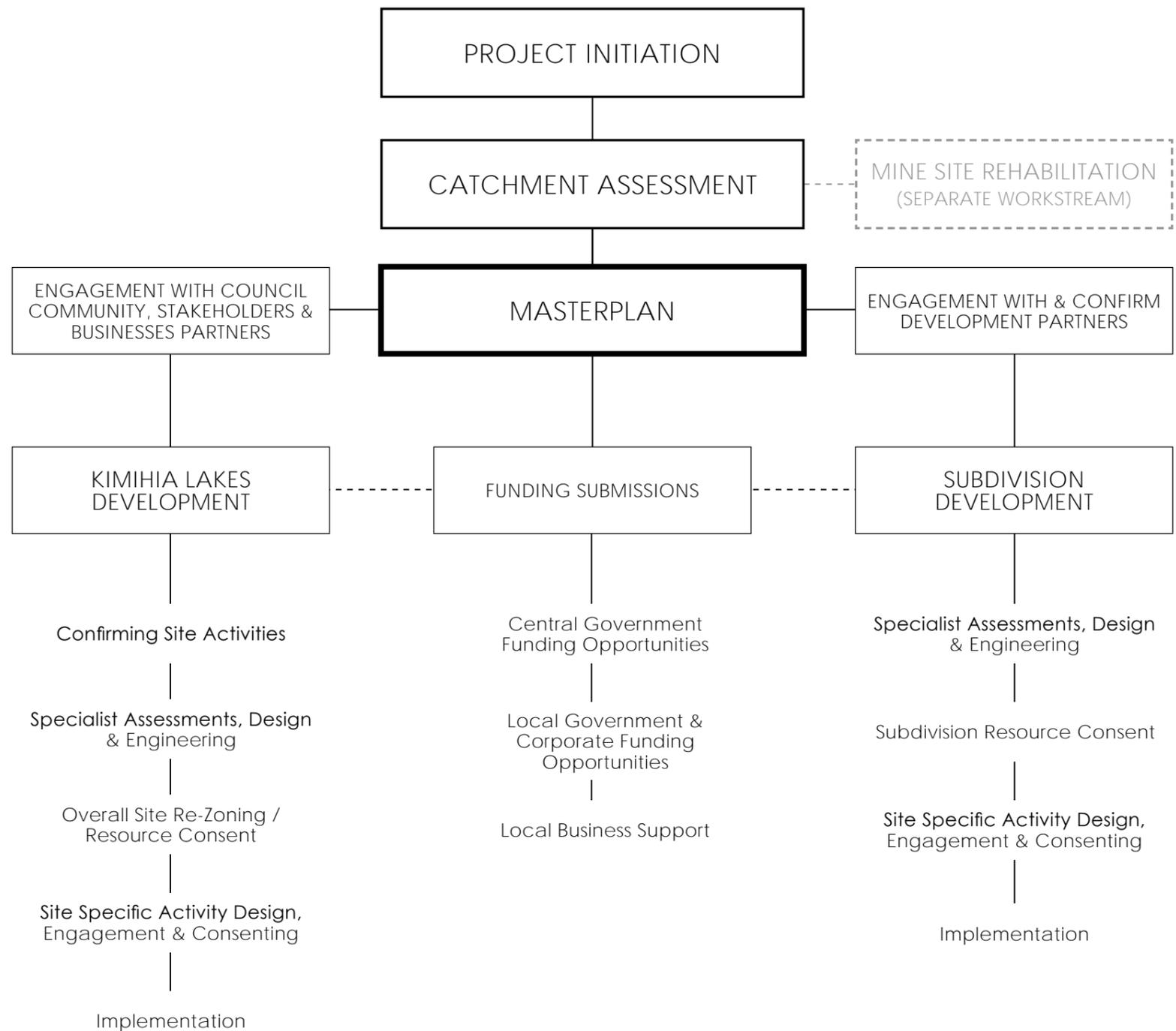
- Capture the vision for park development, the range and scale of associated activities and their arrangement on the site;
- Provide a visual aid for funding applications (both regional and national) and further developing Project partnerships;
- Provide a platform for on-going stakeholder engagement on the Project;
- Support the current submission on the Proposed Waikato District Plan and inform subsequent stages of the Waikato District Plan Review process; and
- Provide a framework for the coordination and delivery of the site rehabilitation programme.
- Providing guidance around current and future workstreams

TRANCHE TWO (FUTURE)

Tranche Two expands on the foundation work from the Catchment Assessment and Masterplan in Tranche One and identifies key areas of focus for the next phase of works.

A preliminary diagram of what these workstreams could be and how they may be structured are illustrated in the adjacent flow diagram. These workstreams are indicative only and subject to refinement and change as we move through the process.

These future workstreams become more focused, technical and help focus resources and decision making with the intention of final built form and development implementation.



TRANCHE ONE

TRANCHE TWO (FUTURE)

NATIONAL POLICY STATEMENTS

National Policy Statements (NPS) enable government to prescribe objectives and policies for matters of national significance which are relevant to achieving the sustainable management purpose of the RMA.

The NPS for Urban Development Capacity (NPS UDC) recognises the significance of well-functioning urban environments, with particular focus on ensuring that local authorities through their planning, both:

- Enable urban environments to grow and change in response to the changing needs of the community and future generations, and
- Provide enough space for their populations to happily live and work, including releasing land in greenfield areas.

It is noted that a new NPS on Urban Development (the NPS-UD), which was under consultation between August-October 2019 and is understood to be in effect by mid-2020, will replace the existing NPS UDC.

The NPS for Freshwater Management (NPS-FM) requires regional councils to set objectives for the state of the fresh water bodies in their regions and to set limits on resource use to meet these objectives. The NPS-FM sets national bottom lines for freshwater management units which are not standards to aim for, but rather the minimum state that must be maintained and improved over time.

NATIONAL ENVIRONMENTAL STANDARDS

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) ensures that land affected by contaminants in soils is appropriately identified and assessed before it is developed, and if necessary, is remediated or the contaminants contained to make the land safe for human use. The NESCS makes reference to activities in the Hazardous Activities and Industries List (HAIL), and will be relevant to the site as a historic coal mine; an activity specified on the HAIL list.

The National Environmental Standard for Sources of Human Drinking Water sets requirements for protecting sources of human drinking water like a lake, river or groundwater, from being contaminated. The standard applies to source water before it is treated and only sources that supply drinking water for people, and as such will be a relevant consideration if the lake is intended to be used in the future as a water source.

WAIKATO REGIONAL POLICY STATEMENT

The Regional Policy Statement (RPS) provides an overview of the resource management issues in the Waikato Region and the ways in which integrated management of the region's natural and physical resources will be achieved. The RPS sets the overall regional direction for the Waikato by providing a sustainable framework to help achieve community aspirations over a 10-year period.

The RPS identifies future growth areas throughout the region and sets policies and methods to ensure this growth is met in an integrated manner. The residential growth allocation for Huntly between 2006 and 2061 is expected increase from 6,915 to 12,2275 with an average density target of 12-15 households per hectare. Despite a small portion of the Kimihia Lakes site being allocated towards residential land use, it will contribute to meeting the demand for housing in Huntly.

VISION AND STRATEGY FOR WAIKATO RIVER

The Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 gives effect to the Deed of Settlement signed by the Crown and Waikato-Tainui on 17 December 2009 and has an overarching purpose to restore and protect the health and wellbeing of the Waikato River for future generations.

Section 9(2) of the Settlement Act confirms that the Vision and Strategy for Waikato River (Te Ture Whaimana o Te Awa o Waikato) applies to the Waikato River and activities within its catchment affecting the Waikato River.

As well as being deemed part of the Waikato Regional Policy Statement in its entirety pursuant to Section 11(1) of the Settlement Act, the Vision and Strategy prevails over any inconsistent provision in a national policy statement, and Sections 11 to 15 of the Settlement Act prevail over Sections 59 to 77 of the RMA.

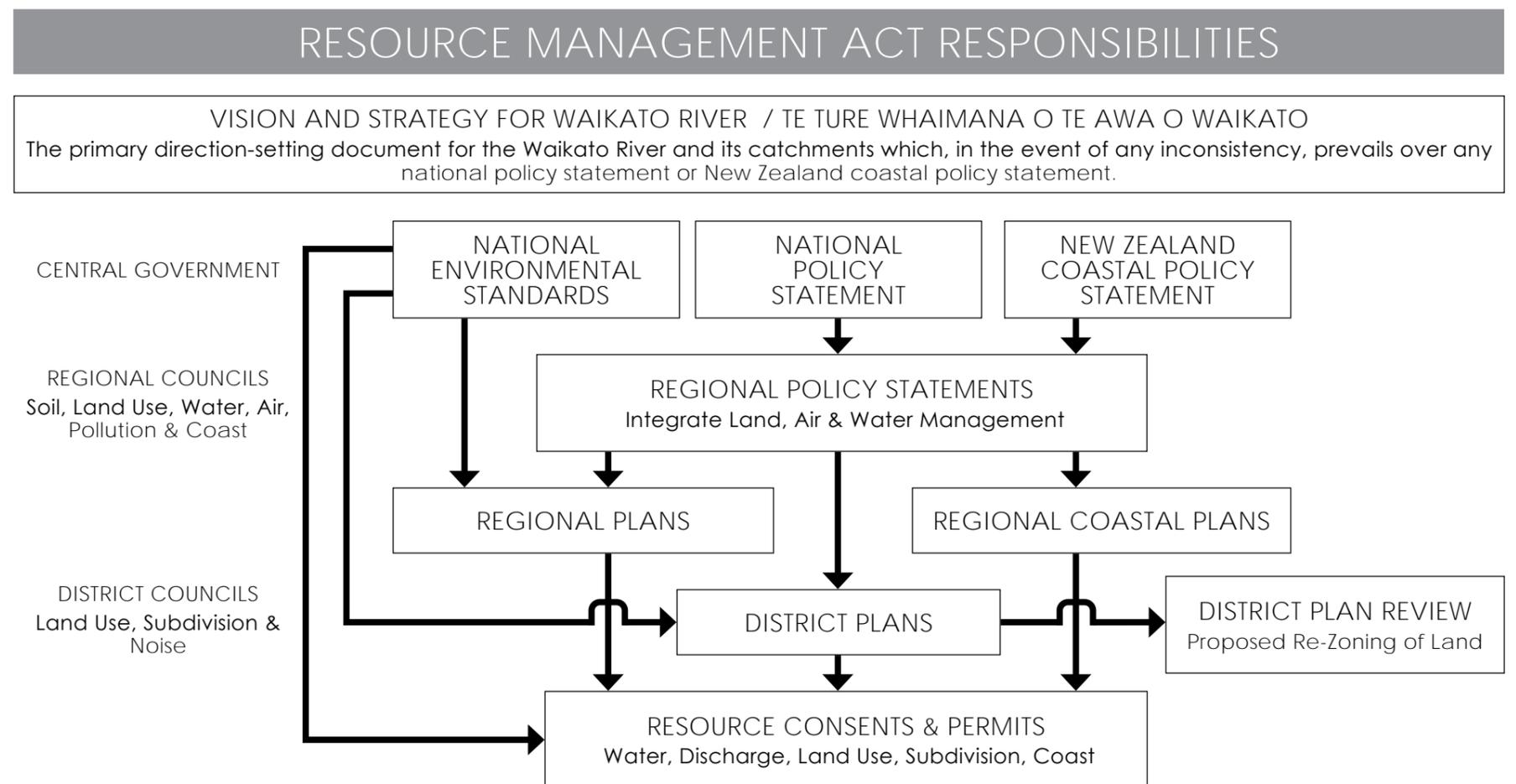
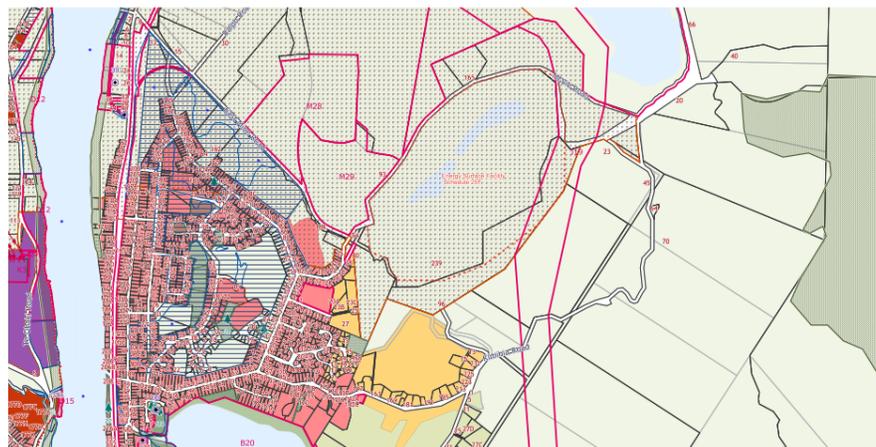


Diagram Above: Planning Instruments under the Resource Management Act 1991

DISTRICT PLAN ZONING

OPERATIVE

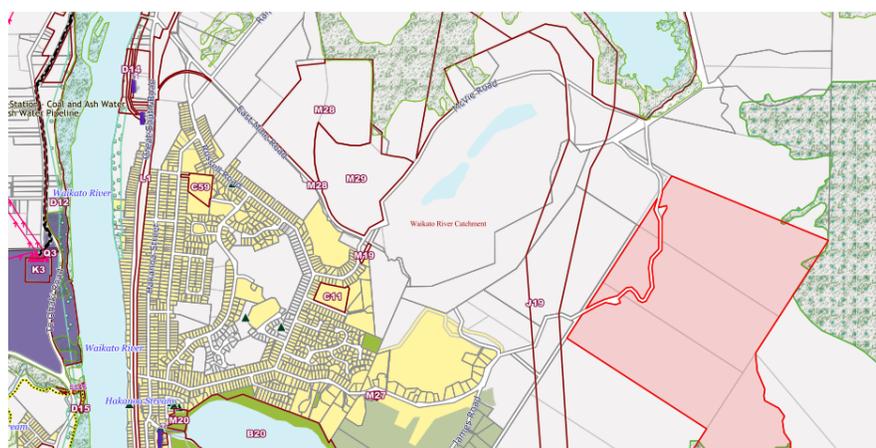
Under the Operative Waikato District Plan the site is predominantly zoned Rural, with New Residential Zoning in the south of the site, the Coal Mine Policy Area overlaying the extent of the former mine, the Energy Surface Facility overlaying the majority of the site and Designation J19 (Waikato Expressway) through the eastern portion of the site. The neighbouring north-western site is designated by Waikato District Council for landfill/refuse purposes.



Operative District Planning Map

PROPOSED

The Waikato District Plan is currently being reviewed with the Proposed Waikato District Plan (PDP) notified in July 2018. The zoning under the Proposed District Plan is similar to the operative zoning, however the Energy Surface Facility and Coal Mine Policy Area overlays have been removed, so that the site is zoned predominantly Rural and the previous New Residential Zone renamed to Residential.



Proposed District Planning Map

SUBMISSION TO PDP

In October 2018, Kimihia Lakes Development Team made a submission to the PDP seeking to introducing a specific zone called the Kimihia Lakes Recreation & Events Zone. The zone proposes to include only that land and lake that is privately owned and excludes the existing lake owned and managed by the Department of Conservation. The central premise to the park is the re-instatement and restoration of the historical Kimihia Lake and to enhance the wider environment, through education experience and involvement. The vision for the landholding is that it will be developed not only as a facility for the Huntly Community, but also as a regionally significant tourist attraction.

The submission includes proposed district plan provisions to enable the development including objectives, policies, rules and activity specific conditions. The District Plan Review is currently at the hearings stage of the plan review process.

RESOURCE CONSENTS

REGIONAL PLAN

Resource consent may also be required from Waikato Regional Council. Activities such as land disturbance and vegetation clearance, water takes and stormwater diversion and discharges normally require resource consent depending on the scale of works. It is likely that permits will be required to take and store water for potable water supply and discharges of stormwater and wastewater. The site will likely need to be re-contoured and shaped to be better suited to the future uses of the area. Activities like culverts, bridges and erosion control will require a land use consent from the Waikato Regional Council.

DISTRICT PLAN

Depending on timing, any resource consents required arising from the master plan will be assessed under the operative provisions of the Waikato District Plan, the rules in the Proposed District Plan with immediate legal effect and potentially rules within any future Kimihia Lakes Recreation & Events Zone.

STRATEGIC CONTEXT

HAMILTON TO AUCKLAND CORRIDOR

The Hamilton to Auckland Corridor plan is a joint agency initiative to provide better planning and funding for infrastructure in the corridor between Auckland and Hamilton. The project will develop a spatial plan and establish an ongoing growth management partnership for the corridor which accelerates identified transformational opportunities; outlines key housing, employment, social, environmental and network infrastructure priorities over the next 30 years; and identifies planning, development, infrastructure, mitigation and restoration works required and funding and legislative projects.

WAIKATO EXPRESSWAY

Construction of the Huntly section of the Waikato Expressway commenced in 2015 and is now operational, opening in March 2020. At this stage the Expressway designation does not include any on or off-ramp connections to Huntly, however the community's desire for an interchange off the Expressway connecting to Huntly has been expressed and highlighted in Waikato 2017 and the Waikato Blueprint.

WAIKATO 2070

Waikato 2070 is the long term (50 year) growth and economic development strategy (draft) for the Waikato District. It will inform how, when and where growth occurs in the district over the next 50 years and aims to achieve Council's vision of creating and nurturing liveable, thriving and connected communities. The strategy combines economic and community development aims with future land use infrastructure planning and growth patterns.

The Huntly and Ohinewai Development Plan identifies the Kimihia Lakes area as:

- Having a development timeframe of 3-10 years.
- Being a 'Special Activity Precinct' for 'Recreational Purposes' only.

BLUEPRINT

The Waikato District Blueprint provides a high-level 'spatial picture' of how the district could progress over the next 30 years, and addresses the community's social, economic and environmental needs, and responds to its regional context. The Blueprint works to achieve the overall vision of the Council for the district – "liveable, thriving and connected communities". Themes were identified in the Blueprint and 15 Local Area Blueprints developed based on community workshops.

The Blueprint identifies the top priority initiatives for Huntly as being:

- Building a strong identity for the town.
- Promoting a Puketirini and Kimihia Employment, Skills and Technology cluster.
- Promoting a Puketirini and Kimihia Building Fabrication Construction cluster.
- Supporting the central interchange off the Waikato Expressway.

The preparation of a strategy for the clean-up for the lakes and addressing any other environmental issues resulting from mining activity is identified as a high priority for the community.

SITE BACKGROUND



KIMIHIA COAL MINE (1901)

REGIONAL CONTEXT



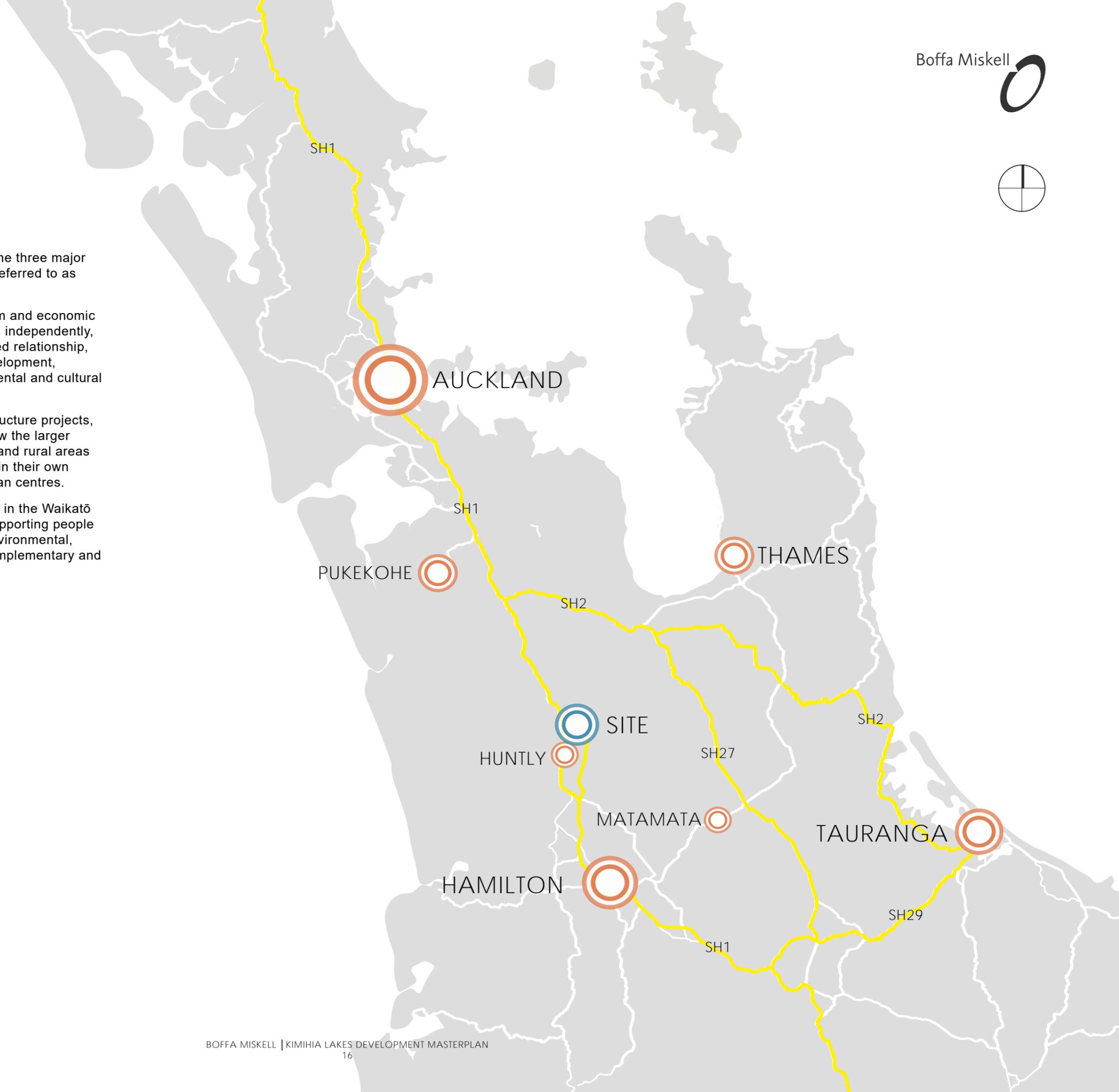
INTRODUCTORY BACKGROUND

The Site, located in Huntly, is within the convergence of the three major centres of Auckland, Hamilton and Tauranga; commonly referred to as "The Golden Triangle".

The Golden Triangle represents the strong spatial, tourism and economic connectivity between these centres. The centres function independently, while benefiting from a mutually-beneficial, inter-connected relationship, that has driven significant growth, through increased development, employment, tourism, infrastructure and social, environmental and cultural investment.

Improved spatial connectivity, through large-scale infrastructure projects, like the Waikatō Expressway, has changed the face of how the larger centres operate, and how the surrounding smaller towns and rural areas fit into the wider-picture - serving as distinct destinations in their own right, providing unique offerings, outside of the large, urban centres.

Real and projected population, visitor and GDP increases in the Waikatō Region means a continued and concerted approach to supporting people and place is required, to ensure positive and enduring environmental, social, economic and cultural outcomes are achieved, complementary and enduring.



The Site is located in Huntly, contained by McVie Road to the north, the Waikato Expressway (SH1) to the east, and Kimihia Road to the south. The northern extent of Huntly, and residential suburb of Kimihia straddle the western edge of The Site.

There is diversity in land use surrounding The Site, with residential development and public open space areas to the west, the commercial centre of Huntly to the southwest, wastewater treatment facility to the northwest, speedway and Lake Kimihia to the northeast, and rural farmland to the west and south. There is also the proposed new large scale multi-zone Sleepyhead Development at Ohinewai, directly north.

The Waikato River flows to the west of The Site, with the main street of Huntly positioned on the eastern edge, and the Huntly power station on the western edge. The Site contributes to the broader Waikato lakes landscape, with a number of lakes, both natural and man-made (through open-cast mining) scattered throughout the flat agricultural planes.

Access to The Site is via McVie Road, East Mine Road and Tawa Road, connecting to Huntly and the wider Waikato District.

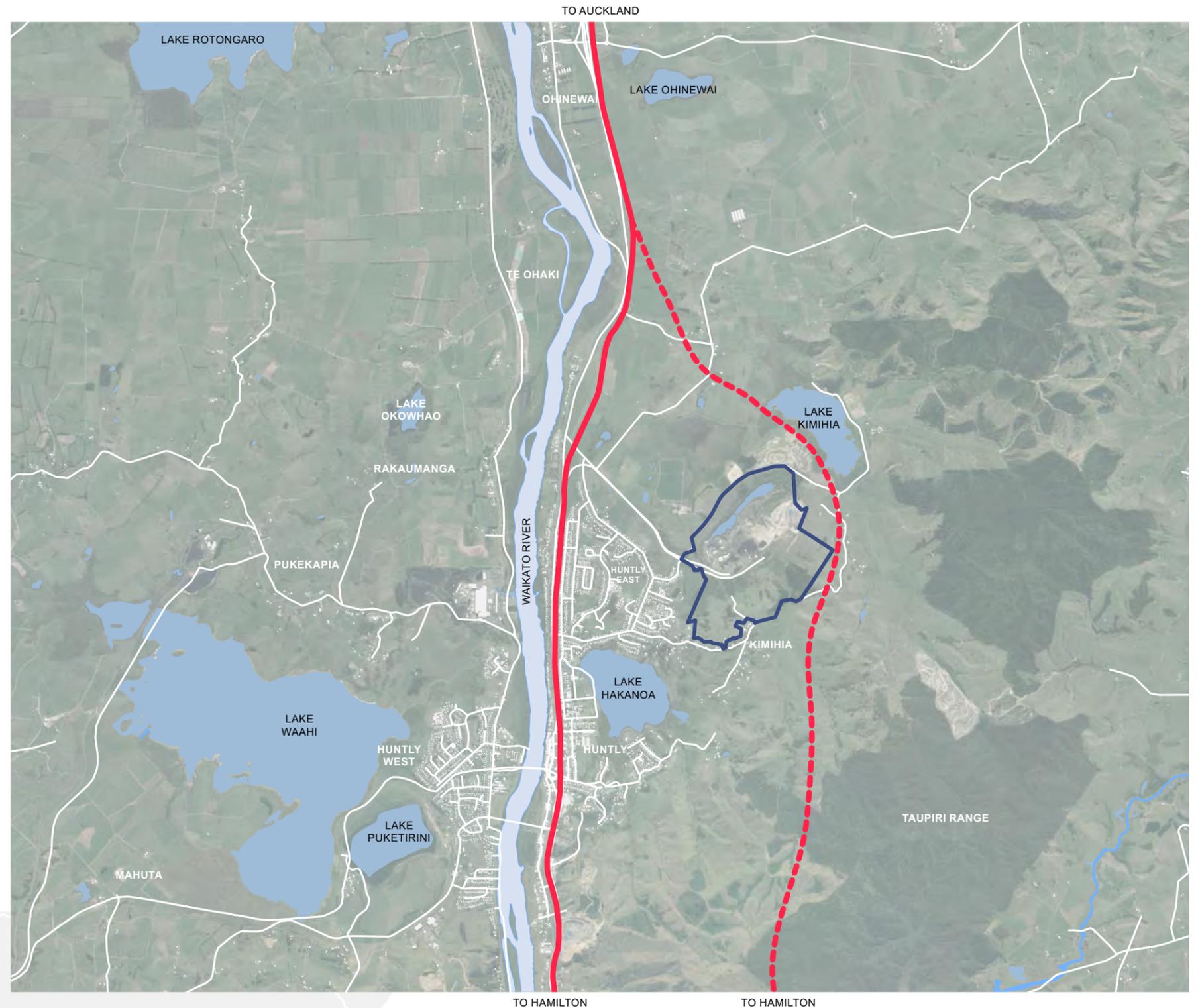
The Site is approximately 200 hectares in size, with variable topography, comprising farmland, native and exotic vegetation, and the former Huntly East open-cast and drift mine, that is no longer in operation. The former mine site occupies the northern half of The Site, contained within what was once an area of Kimihia Lake bed.

Most of the Waikato lakes are of poor water quality, poor ecological condition and home to a variety of native and non-native fish, including a large populations of koi carp, an exotic pest species. They are also mostly shallow (1-3m depth) and not suited to a number of recreation activities. The one local lake that differs is Lake Puketirini, a 54ha lake with a depth of 64m and the site of the old Weavers opencast mine pit. Puketirini is accepted as having good quality water suitable for water activities.

The New Kimihia Lake is expected to have similar water quality and depth Puketirini, but will be well over 1km in length, therefore making it more suitable to specific water sports and events.

LEGEND

-  SITE
-  STATE HIGHWAY 1 (CURRENT ALIGNMENT THROUGH HUNTLY)
-  NEW WAIKATO EXPRESSWAY (HUNTLY BYPASS)
-  WATER BODY (LAKE / RIVER)



SITE CONTEXT PLAN | KIMIHIA LAKES DEVELOPMENT



RĀHUI PŌKEKA

Rāhui Pōkeka is the original name for the Huntly area. European migrants arrived in the area some time in the 1850s. The name Huntly was adopted in the 1870s when the postmaster named it after Huntly, Aberdeenshire in Scotland.

The railway from Auckland reached Huntly in 1877, when the Huntly railway station was opened.

Huntly and its surrounding area is steeped in Māori history and falls within the rohe (tribal area) of Waikato-Tainui of the Tainui waka confederation. Ngāti Mahuta and Ngāti Whāwhākia are the subtribes in the Huntly area.

There are a number of marae in and around Huntly, affiliated with the Ngāti Kūiaarangi, Ngāti Mahuta, Ngāti Tai and Ngāti Whāwhākia hapū: Kaitumutumu Marae and Ruatēatea meeting house, Te Kauri Marae and Karaka meeting house, Te Ōhākī Marae and Te Ōhākī a Te Puea meeting house, and Waahi Pa and Tāne i te Pupuke meeting house.

Waahi Pa was the home of the late Māori Queen Dame Te Atairangikaahu and is still the home of her son, the Māori King Tuheitia Pahi.

Horahora Marae and Maurea Marae are located north of Huntly at Rangiriri.

Huntly is home to Rakaumanga Kura which became one of the first bilingual schools (Māori/English) in New Zealand in 1984. Rakaumanga became a kura kaupapa (total immersion, Māori as its first language) in 1994 and is now known by the name Te Whare Kura o Rakaumangamanga. The school was first established as a native school in 1896.

ENGAGEMENT & PARTNERSHIPS

Earlier engagement with local iwi representatives, Waahi Whānui and Waikato-Tainui has been undertaken in an informal and formal manner by the Project development team. This is in line with the belief of including all potential community groups, genuine stakeholders and traditional guardians of the land from the onset of the development on the pretext of better outcomes will be achieved with strong collaboration with iwi.

There is a strong desire by the Project development team to ensure there is a continued and meaningful engagement process with local iwi and that the cultural narrative informs and is illustrated throughout the development.

WAIKATO-TAINUI ENVIRONMENTAL PLAN (2013)

INTRODUCTORY BACKGROUND

Prior to the land wars and resulting confiscation of Waikato-Tainui lands in 1863, Waikato-Tainui marae, hapū, and iwi exercised mana whakahaere without challenge. Mana whakahaere refers to the authority that Waikato-Tainui has established in respect of the Waikato-Tainui rohe over many generations. Mana whakahaere entails the exercise of rights and responsibilities to ensure that the balance and mauri (life force) of the rohe is maintained. It is based in recognition that if we care for the environment, the environment will continue to sustain the people.

In customary terms mana whakahaere is the exercise of control, access to, and management of resources within the Waikato-Tainui rohe in accordance with tikanga. For Waikato-Tainui, mana whakahaere has long been exercised under the mana of the Kiingitanga. Waikato-Tainui managed its resources, including the fisheries and lands, in a sustainable manner, guided by maatauranga, tikanga and kawa. Traditional management was successful in that it ensured the following:

- 1. Manaakitanga:** Waikato-Tainui was able to provide sustenance for all manuwhiri that arrived in the rohe.
- 2. Kiingitanga:** The appointment of Pootatau Te Wherowhero as the first Māori King was not only based on his whakapapa, exceptional skills as a warrior, and intricate knowledge of te Ao Māori (the Māori World), but also in recognition of the rich resources he commanded from the surrounding environment.
- 3. Tikanga:** Management of resources ensured that Waikato-Tainui could continually provide for Waikato-Tainui and all manuwhiri. The tools required to sustain resources was encapsulated in tikanga. Tikanga ensured that, during customary gatherings, acknowledgement was provided to the domain of the various Atua to respect the mutual relationship and guarantee a successful bounty for the following years. Tikanga embodies all aspects of mana whakahaere.
- 4. Kaitiakitanga:** Waikato-Tainui has a responsibility to protect and nurture the mauri of all living things. The exercise of kaitiakitanga recognises the intricate balance and integral relationship between all natural resources.



Photo: Huntly from the Hakarimata Walkway lookout



Map of Waikato-Tainui Marae (Waikato-Tainui College of Research & Development)



Photo: Waahi Marae (Source: www.maorimaps.com)

There were several historic mines located on the site (including the original tunnel mines by the Holland family, circa 1890). prior to being the Kimihia Opencast Mine, the area was part of the natural Kimihia Lake. In 1944 the New Zealand State Coal Mines decided to develop an open pit. A stop bank was constructed across the lake, with water pumped out of the southern portion, then overburden removed from the coal seams underneath. The lake was reduced from 318 hectares to 58 hectares. After the coal was recovered from the pit, Coal Corp (later Solid Energy ownership) changed the mine to an underground operation with the name Eastmine which operated from 1978 until 2015.

History of Mining at Kimihia Lake

The sub-bituminous coal deposits below Lake Kimihia were first mined with Bord and Pillar hand methods. Ralphs Taupiri Coal Company commenced production at the Kimihia Reserve Mine in 1887. The mine site was located near the present East mine railway siding. Spontaneous combustion of coal within the old workings had forced the mine to close in 1910 with a total output of 372258 tons.

The Holland family worked the mine between 1923 and 1926 with an output of 2072 tons.

The mine remained closed until the outbreak of World War 2 when New Zealand needed energy to boost wartime production. Initially a stopbank containing 72000 cubic yards of spoil was constructed along Lake HAKAHUA edge during 1945, enclosing an area estimated to be 22 acres and containing 400000 tons of extractible coal. This area of the lake was subsequently dewatered. The coal was hauled 5 kilometres to Huntly by motor truck to a specially constructed railway siding.

State Coalmines acquired the rights to the mine in 1950 from the Taupiri Co. Mines. To obtain more access to the coal seam it was necessary to excavate 30.5 metres below the lakebed. A giant stopbank was constructed across the lake. It was 2 kilometres in length and approximately 9.4 metres across its top requiring two years for construction. The wide top allowed access for vehicles engaged in stripping operations.

Lake sediments and water from the southern end were drained into the remaining lake beyond the stopbanks after completion of the dam in March 1955. Thus contractors Downer and Company were able to strip the southern portion of the lake sediments. The free water surface of the lake was reduced from 316 to 58 hectares. To speed up filling of the lake a suction dredge with cutter heads was successful in removal of soft clays overlying the fireclay above the coal seam. At this stage because of the rapid rise of the lake it became necessary to construct drains with protective stopbanks around the edge of the lake. The drains allowed the water from that portion of the lake not filled and from the watersheds of the lake a free flow to the Waikato River. Soft clays were prevented by the stopbanks from flowing into the drains.

Coal was transported from the face to the pithead by flying fox and later on by conveyor after construction of suitable access. Coal mining proceeded in a generally northeasterly direction with stripping being placed beyond the stopbank and later in the mined areas. The opencast ceased operations in 1976 with a total production of 2322644 tons. Northwest dipping coal beds had become too deep and overburden stripping costs exceeded coal revenue.

In 1972 approval was given to develop Huntly East Mine by establishing headworks inside the old Kimihia Opencast and driving towards the coal seam from the bottom of the opencast. The Kupakupa seam was reached in November, 1978 with 3 inclined drifts. Construction of mine buildings, coal handling and storage facilities, road and rail access, and other headworks had commenced in 1977.



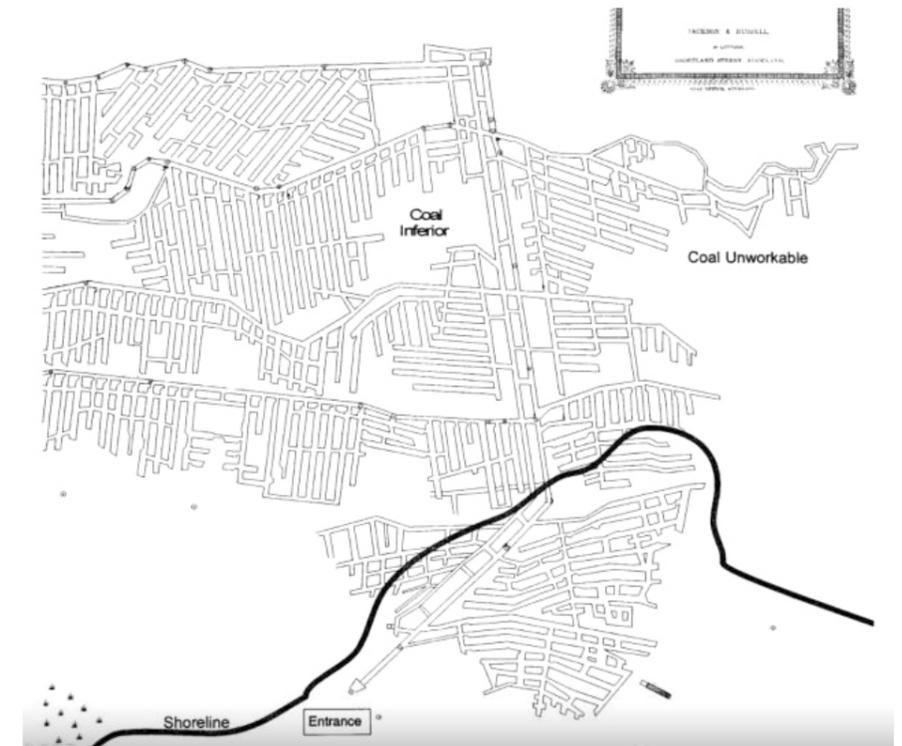
Photo: Kimihia Mine in the early days



Photo: Kimihia Mine Pit (1955)



Photo: Kimihia Mine Drift at the bottom of the original pit (in recent years)



Map: Kimihia Underground Mine early workings (1910)



Aerial Photo: Kimihia Opencast Mine (1963)

LAKE HISTORY

(Source: Text and aerials referenced from 2019 Catchment Assessment by Tonkin + Taylor for Allen Fabrics Ltd.)

The Site is the former Huntly East Mine, also referred to as Kimihia Opencast mine, situated approximately three kilometres northeast of Huntly Township. Located between McVie Road and the new Waikato Expressway, is approximately 100 ha comprising part of the area that was historically the bed of Lake Kimihia.

Lake Kimihia was approximately 280 ha in size before mining as shown in the historic aerial photography adjacent.

Records show works starting at the lake edge (c. 1948) with a causeway being pushed out to isolate the water body of the new lake site. This causeway appears to be the modern day McVie Road. During the 1950s, the lake was partly drained and reduced in size to allow mining of the lakebed. Tailings were dumped in the lake area to the north and north-west of the current new lake site, filling the lakebed and creating a shallow wetland area to the north of the site (East Mine wetland).

Historic imagery shows that by 1963, Lake Kimihia was reduced to the size it is currently, and open cast mining was well established in the lakebed of the new lake site. Underground mining was also carried out at Huntly East Mine and mining shafts extend to the west, under the Waikato River with roadways 150 to 350 m below the river.

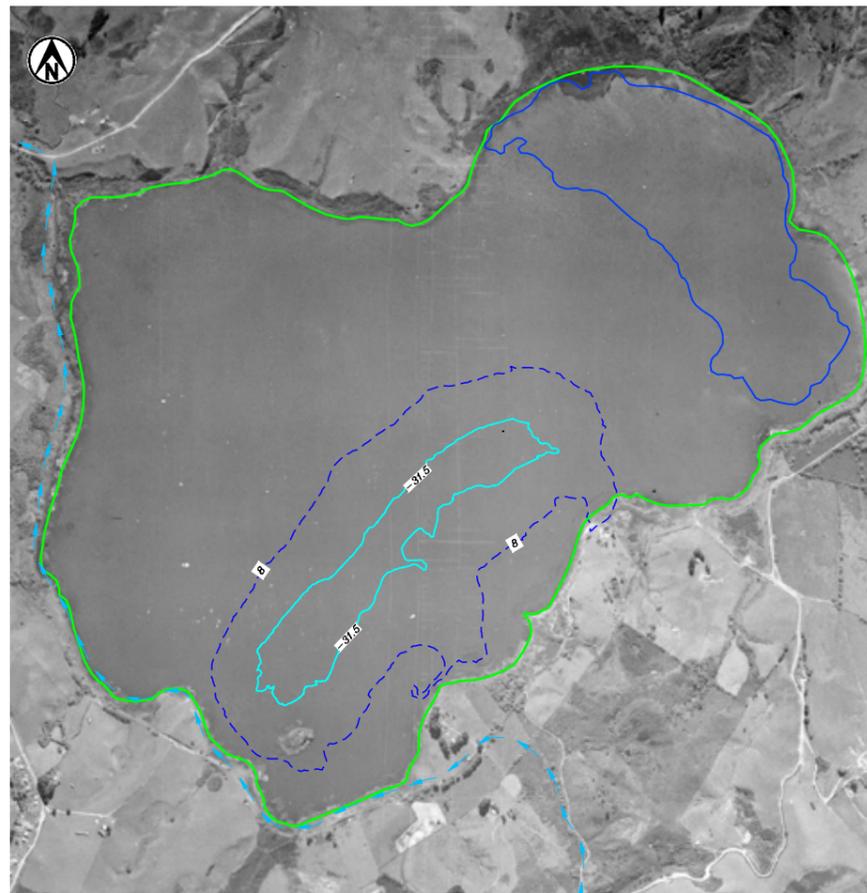
Huntly East Mine produced coal from the underground workings from 1979 until 2015. Water was stored and pumped from the base of the open cast mine (now re-filling new lake site). Pumping from the mine pit was ceased in August 2017 and the mine pit has since been filling from rainwater within its immediate catchment and groundwater inflows.

The Huntly Section of the Waikato Expressway has recently opened east and north east of the Site and includes culvert works that will effect the new lake site. The new lake is expected to fill to the level of a culvert under the Waikato Expressway, which flows into the remnant existing Lake Kimihia. Design drawings show that the invert level of the culvert, and therefore future lake level, will be RL 8.2m.

The existing Lake Kimihia is what remains of the original lake. It is shallow, of poor quality, and is home to koi carp, an invasive pest fish. Lake Kimihia discharges west to East Mine Wetland, which discharges north to the Waikato River.

During the mine establishment, a tributary stream to the southeast of the Site, originally flowing in to Lake Kimihia, was diverted to the south of the Site where it currently flows.

Following on from the Catchment Assessment, a comprehensive Ecological Assessment and Rehabilitation Management Plan is being commissioned to ensure meaningful wetland, stream and lakeside habitat restoration can occur. This is in order to meet the site rehabilitation requirements under the original mining license and to align with the environmental protection and improvement values of the Project.



Historic Aerial: Kimihia Lake in the 1940's (pre mining operations) with the following overlays: current remnant Lake Kimihia, current mine pit water level, calculated final lake extent within the mine site and original tributary stream in its current diverted alignment



Existing Site Aerial: Mine site (post mining operations) with the following overlays: Historic Lake Kimihia extent, current remnant Lake Kimihia, current mine pit water level, calculated final lake extent within the mine site and original tributary stream in its current diverted alignment



Photo: Kimihia Lake in the 1940's (pre mining operations)



Photo: Kimihia Lake in the 1959 (During the initial draining of the lake to allow for mining of the lake bed)

GEOLOGICAL HAZARDS

(Source: text and figures referenced from Report on hazards following mine closure, Huntly East by IRBA in 2018 for Waikato District Council Project 1003.)

Ian R Brown Associates Ltd (IRBA) were engaged by Waikato District Council to provide advice regarding potential hazards in an area of Huntly that is located over underground mine workings. The extent of the area we have investigated is shown on all the figures adjacent.

MINING CLOSURE

In late 2015, Solid Energy New Zealand Ltd as operator of the Huntly East mine, announced that the mine would close with the asset being offered for sale as part of the liquidation of the company. Although some Solid Energy assets were purchased by mining companies, the Huntly East mine was not. As they could not sell the mine as a going concern, Solid Energy proceeded to abandon the mine. The last coal was produced in October 2015. Now that pumping has stopped, groundwater is able to progressively fill the voids left by mining. Solid Energy estimated it would take 5 years to complete filling of mine workings.

SUBSIDENCE

The entrance to Huntly East underground coal mine was established in the highwall of the Kimihia open cast mine by State Coal Mines in 1977. The three main access drives for men and materials, ventilation and conveyor were driven in a westerly direction. Initial extraction of coal was to the south, then to the north of these tunnels. Later, mine development continued to the west and north of the Waikato River (Figure 1).

The area with greatest measured subsidence is to the south and east of the South Headings This is where coal was closer to the ground surface, and small pillars were left supporting the workings. Maximum subsidence is about 1m (Figure 2).

GAS TRAPPING AND MIGRATION

As coal is mined and dewatered, gas is expelled from the coal seam. At Huntly East, methane was released during mining, along with other gases such as carbon dioxide.

A map is produced to illustrate the overall areas of the mine workings where gas can be trapped (Figure 3). This is based on the methodology used to predict where natural gas (and oil) can be found due to the configuration of confining strata. In the area of the Southern Headings, once water has built up past the intersection with the main mine entries, the gas in those workings is effectively trapped. This is like a stratigraphic trap in conventional oil and gas. Once gas is trapped, pressure build up will occur until the seal is breached and gas is able to migrate.

CONCLUSION

By taking both subsidence and gas hazard into account, IRBA report identified a proposed hazard area (Figure 4). This covers the areas of mine working that have not filled with water, and the areas where we have shown the presence of a gas trap.

Through the report they conclude it would be appropriate to not allow development in this area until all the mine workings have flooded, or mitigation measures have been put in place. However, without appropriate monitoring, it will not be possible to know when that has been achieved.



FIGURE 1: TOPOGRAPHY AND MINE WORKINGS

□ KIMIHIA LAKE DEVELOPMENT SITE EXTENT



FIGURE 2: MAXIMUM SUBSIDENCE 1981 - 2014

□ KIMIHIA LAKE DEVELOPMENT SITE EXTENT

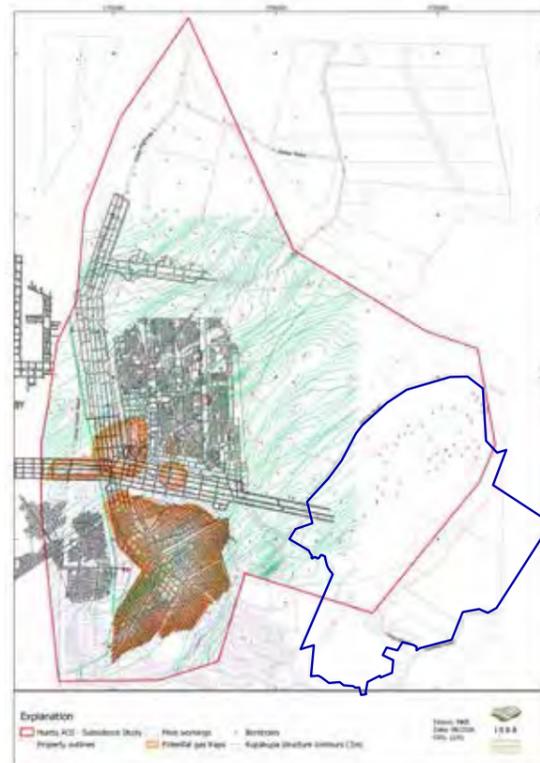


FIGURE 3: AREAS OF POTENTIAL GAS TRAP

□ KIMIHIA LAKE DEVELOPMENT SITE EXTENT



FIGURE 4: PROPOSED HAZARD AREA

□ KIMIHIA LAKE DEVELOPMENT SITE EXTENT

This map illustrates that the entire development site sits outside the identified hazard area

FLOOD HAZARDS

(Source: data from Waikato District Council & Waikato Regional Council Data Services)

WAIKATO DISTRICT COUNCIL DATA

The adjacent map illustrates that the entire development site is located outside the identified flood risk area outlined in the Waikato District Plan. This information was last updated by Council on 05 July 2017.

WAIKATO REGIONAL COUNCIL DATA

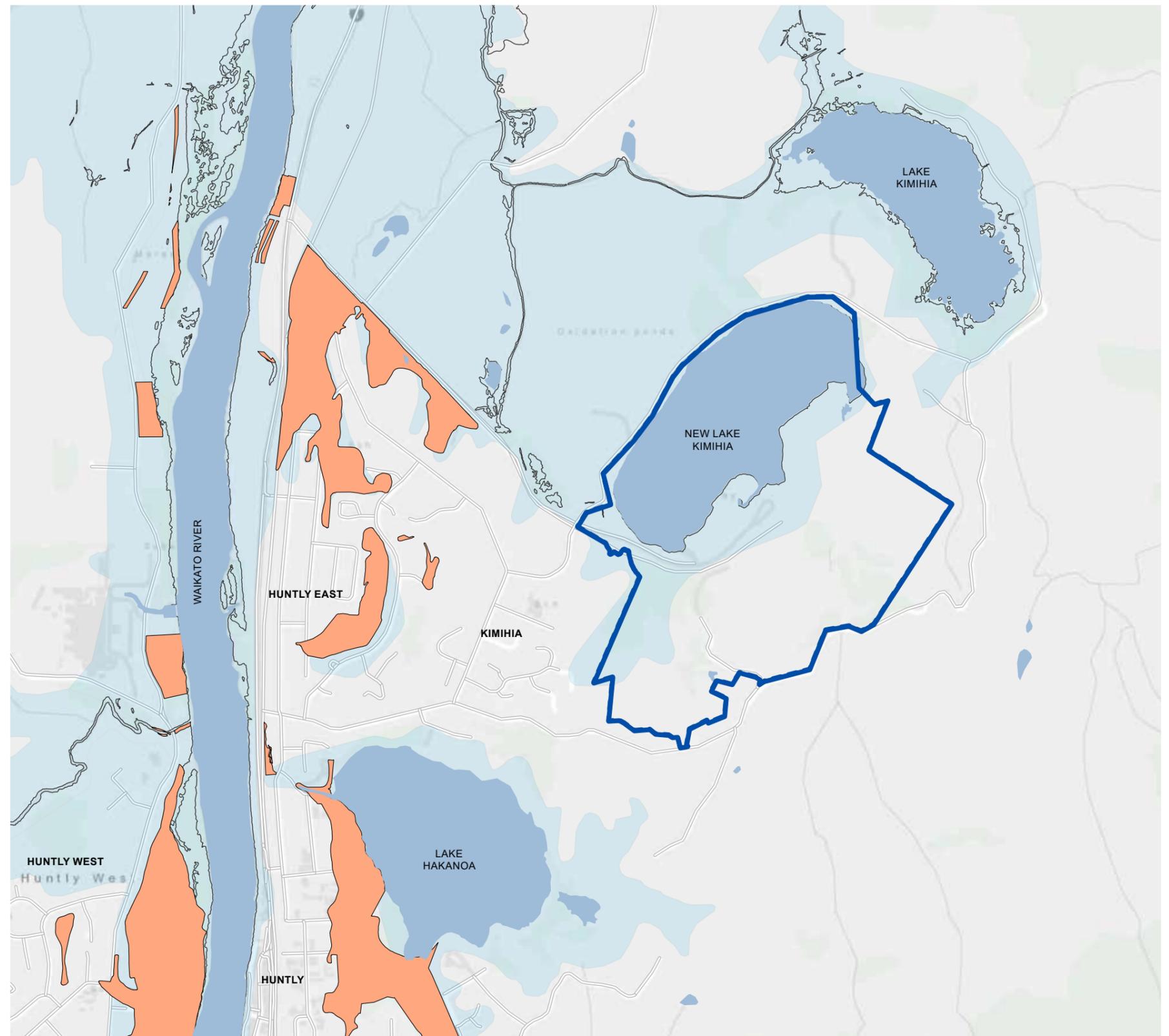
The site is impacted by the Regional Scale Flood Hazard areas as identified by Waikato Regional Council. This hazard overlay does not account for changes to landform from recent earthworks on site (2018/2019). The overlay is also based on the surface level of the original Lake Kimihia which had a R.L 10.3 (Moturiki Datum), not the revised lake surface level for the New Kimihia Lake from the Tonkin & Taylor Catchment Assessment which is RL.8.2 (Moturiki Datum).

Regional Council's dataset on how they identified the zones for the Regional Scale Flood Hazard overlay was captured from a compilation of flood hazard information, which is sourced from a combination of previous event information (photos, anecdotes, surveys), flood modelling, flood protection and drainage scheme information, and elevation data. More specifically from:

- Ponding: Original Lake Kimihia ponds at RL 10.3m (Moturiki Datum).
- Lake level setting report, Waikato Catchment Board 1988
- July 1998 Flood Photographs, Lower Waikato-Waipā control scheme land classification and direct benefit analysis for differential rating purposes / Campbell, D.R. ; Adams, M.G. / Environment Waikato,

LEGEND

-  SITE BOUNDARY
-  WATER BODY (LAKES, WAIKATO RIVER)
-  DISTRICT COUNCIL: FLOOD RISK ZONE
-  REGIONAL COUNCIL: REGIONAL SCALE FLOOD HAZARD ZONE
-  8M CONTOUR (IDENTIFIED FLOOD LEVEL)



SITE ANALYSIS



KIMIHI LAKES DEVELOPMENT SITE (2019)

BUSINESS CASE

(Source: Kimihia Lakes Development Initial Project Business Case; Prepared in 2019 by Strateg.Ease Ltd)

Currently, domestic visitors (both overnight and day trippers) account for the majority of visitor expenditure in the Waikato District, at \$106million, and an additional \$32million comes from international visitors. The Project aims to increase both. Its economic benefits will primarily arise from:

- Providing a critical mass of outdoor recreation and tourism facilities for visitors who have relatively convenient access or were already planning to travel through or to Huntly (i.e. people coming from the wider Waikato District, Auckland, or Hamilton, many of whom currently bypass the town);
- Direct economic value added from construction and restoration work, and visitor spending at the park itself, as well as in Huntly town centre, and the wider district (requiring goods and services to be procured from this area);

In addition, there will be indirect economic value added due to the additional flow-on economic activity from workers income at the park generating higher levels of expenditure in Huntly and the wider district.

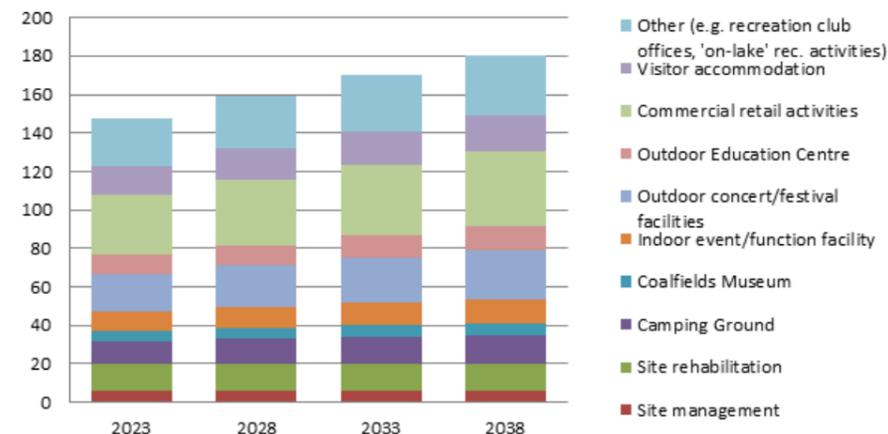
An initial Project Business Case has been completed based on official tourism data from Stats NZ and MBIE and original research, which reaches the following conclusions on likely visitor numbers, demand for accommodation and retail facilities, and employment levels at the park:

1. Based on a defined catchment of Auckland, Hamilton and Waikato District residents and school students, and taking account of the current pattern of international visitors to Waikato District, the park could realistically attract visitors in a range of 61,000-101,000 by 2023
2. Sustained growth in the potential market population will support an increased scale of activities to be developed at the site, with prospects of 72,500-121,000 visitors by 2038
3. Overnight visitors demand for accommodation (e.g. in a mix of hotel, lodge, backpackers formats) will be in the order of 63-105 units/rooms by 2023, rising to 76-126 units/rooms by 2038.
4. Total expenditure by overnight visitors is projected to be in a range of \$2.7-4.6million in 2023 and \$3.5-5.8million in 2038 (which would be spent at the lake park or in Huntly town centre). Additional expenditure will occur by day trippers.
5. Retail floorspace requirements are estimated at 800-1,300 m2 gfa in 2023, rising to 1,000-1,600m2 gfa in 2038. In practical terms that

would allow around 10-12 individual retail operations at the park in a mix of units in a 70-120m2 range for cafes, restaurants, clothing, sports equipment/hireage, cycling, camping and fishing supplies etc.

6. Additional building space in the order of 500-800 m2 gfa will be required for management/administration and sporting clubs offices, medical services, repair workshops etc.
7. Provision of a new Huntly interchange on the Waikato Expressway would facilitate a higher volume of visitors to Lake Kimihia and a higher share of those visitors going into the town centre after being at the lake, compared to the current scenario of Huntly being bypassed by the Expressway.
8. Capital investment is estimated to be in the order of \$2 million per annum in years 1 and 2 for rehabilitation work/planting; \$3million in year 2 for infrastructure/campground/administration buildings/outdoor events zones, and \$20 million over years 3-5 for a multipurpose Outdoor Education Centre/visitor accommodation/events zone/commercial development.
9. Employment levels for a fully operating park are estimated to be in the order of 150 jobs in 2023, rising to 180 jobs in 2038 (being a mixture of full-time and part-time jobs). Refer Figure 1 for employment projections. With allowance for construction jobs, the Project could well match the 200 jobs at the mine's peak in 2014.

FIGURE 1: PROJECTED JOBS AT KIMIHIA LAKES DEVELOPMENT



Source: Kimihia Lakes Development Project Business Case 2019



Photo: Kimihia Mine coal extraction conveyor belt (date unknown)

ECONOMIC CONTEXT

Boffa Miskell



KEY

- CITY POPULATION
- CITY ANNUAL GDP

<p>79,900</p> <p>DISTRICT WIDE</p>	<p>\$123m</p> <p>REGIONALLY</p>
<p>10,170</p> <p>LIVE IN WIDER HUNTLY AREA</p>	<p>10.9%</p> <p>SPENDING GROWTH</p>

POPULATION
Number of residents as of 2018 Census

TOURISM SPEND
Total expenditure as of 2019

<p>2.7%</p> <p>DISTRICT WIDE</p>	<p>12%</p> <p>ACROSS THE DISTRICT</p>
<p>1.6%</p> <p>NATIONALLY</p>	

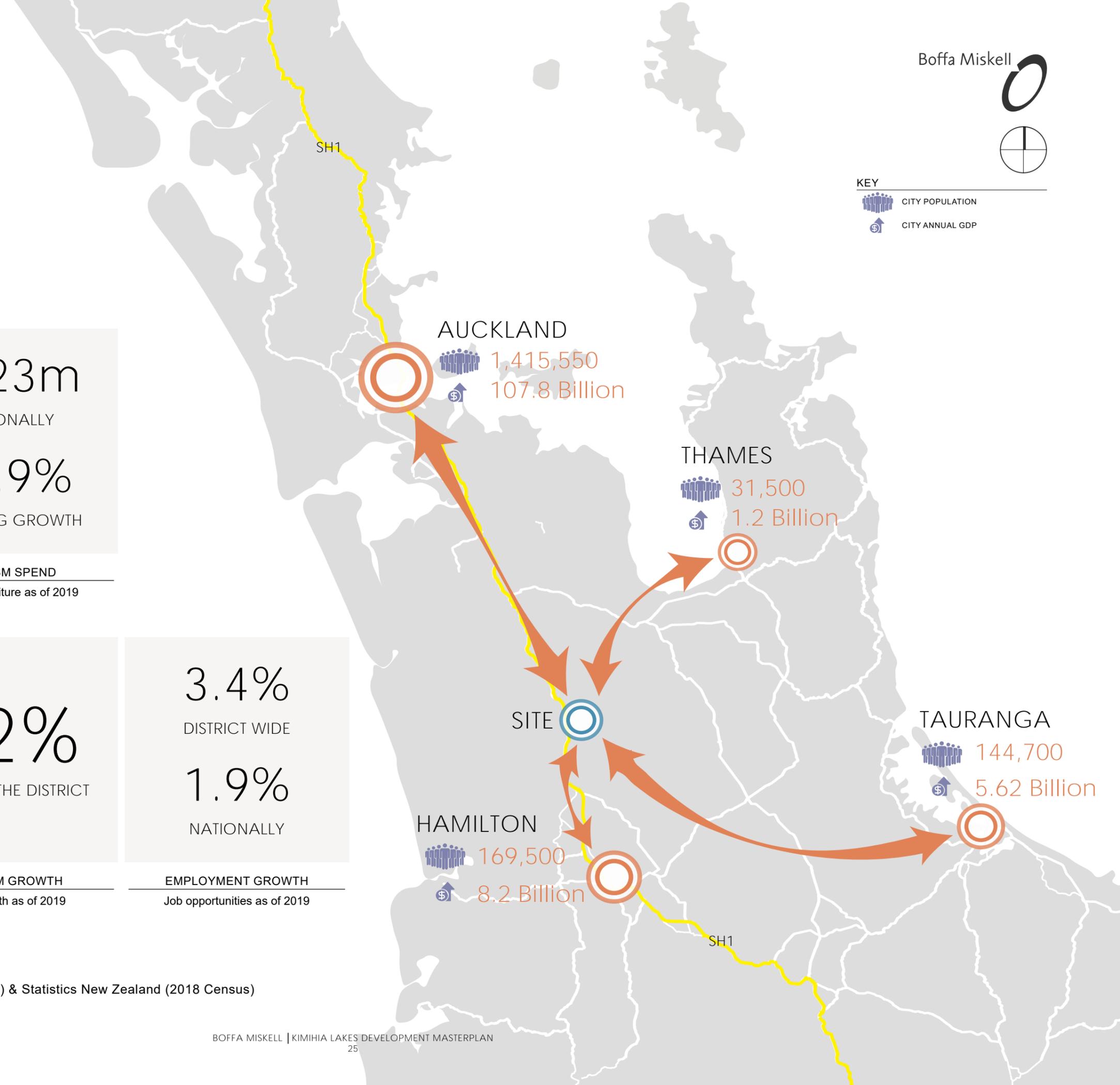
REGIONAL GROWTH
Population growth rate

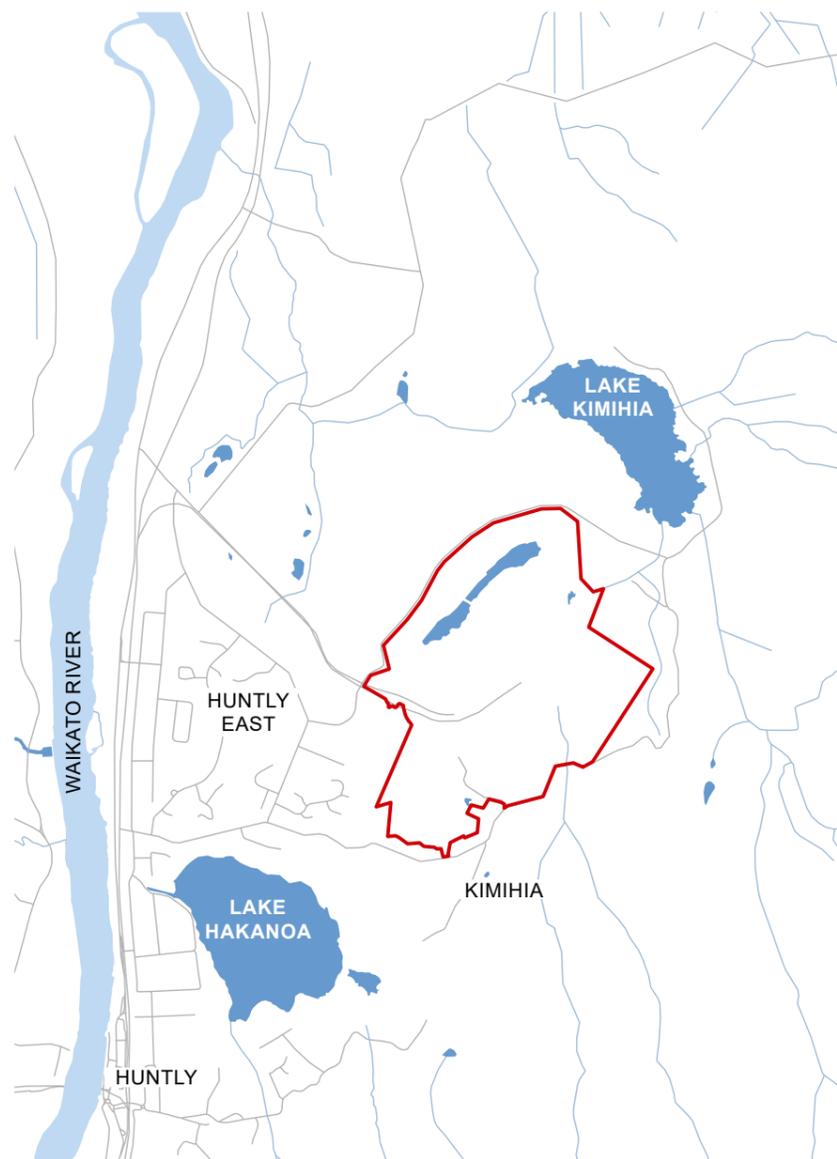
TOURISM GROWTH
GDP growth as of 2019

<p>3.4%</p> <p>DISTRICT WIDE</p>	<p>1.9%</p> <p>NATIONALLY</p>
<p>1.6%</p> <p>NATIONALLY</p>	

EMPLOYMENT GROWTH
Job opportunities as of 2019

Statistics and data sourced from: Infometrics (2019 data) & Statistics New Zealand (2018 Census)





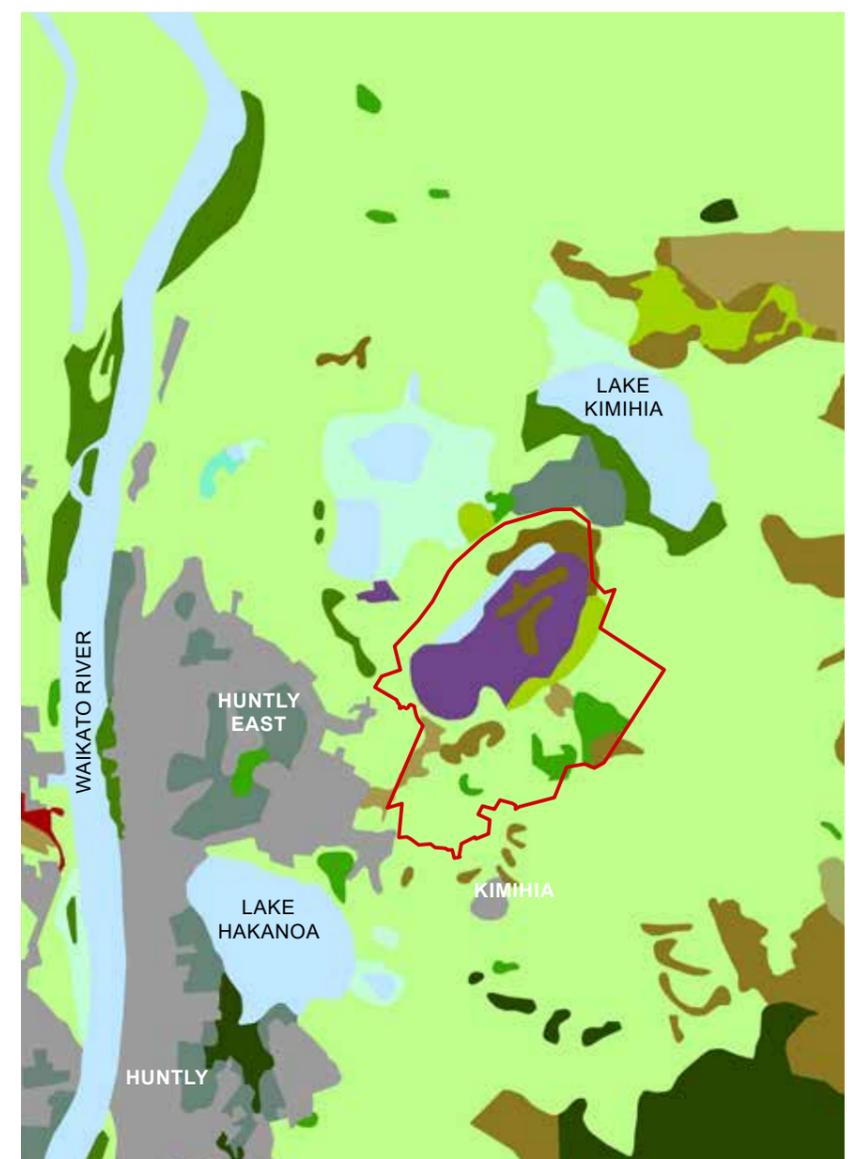
HYDROLOGY

-  Site extent
-  Roads
-  Waikato river
-  Streams
-  Lakes



VEGETATION PATTERNS

-  Site extent
-  SH1
-  NZ Native vegetation
-  NZ Exotic vegetation
-  NZ large tree point



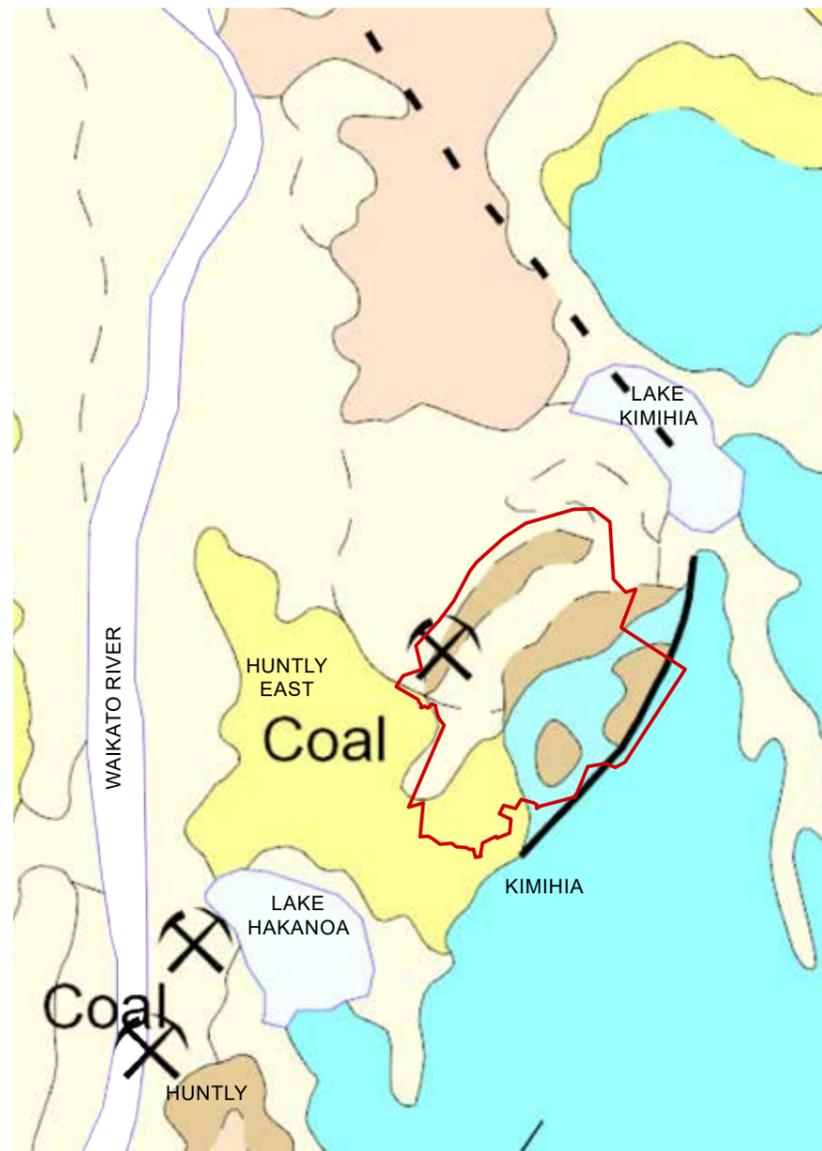
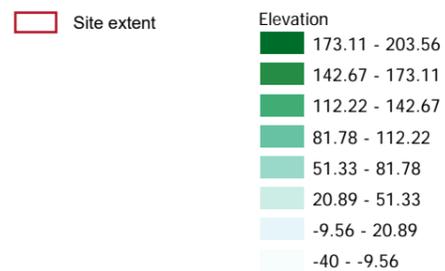
LAND COVERAGE

-  Site extent
-  Water body
-  Build-up area (settlement)
-  Surface mines and dumps
-  Transport infrastructure
-  Urban parkland / open space
-  High producing exotic grassland
-  Low producing grassland
-  Freshwater wetland vegetation
-  Flaxland
-  Gorse and/or broom
-  Manuka and/or Kanuka
-  Broadleaved indigenous hardwoods
-  Forest - Harvested
-  Deciduous hardwoods
-  Indigenous forest
-  Exotic forest

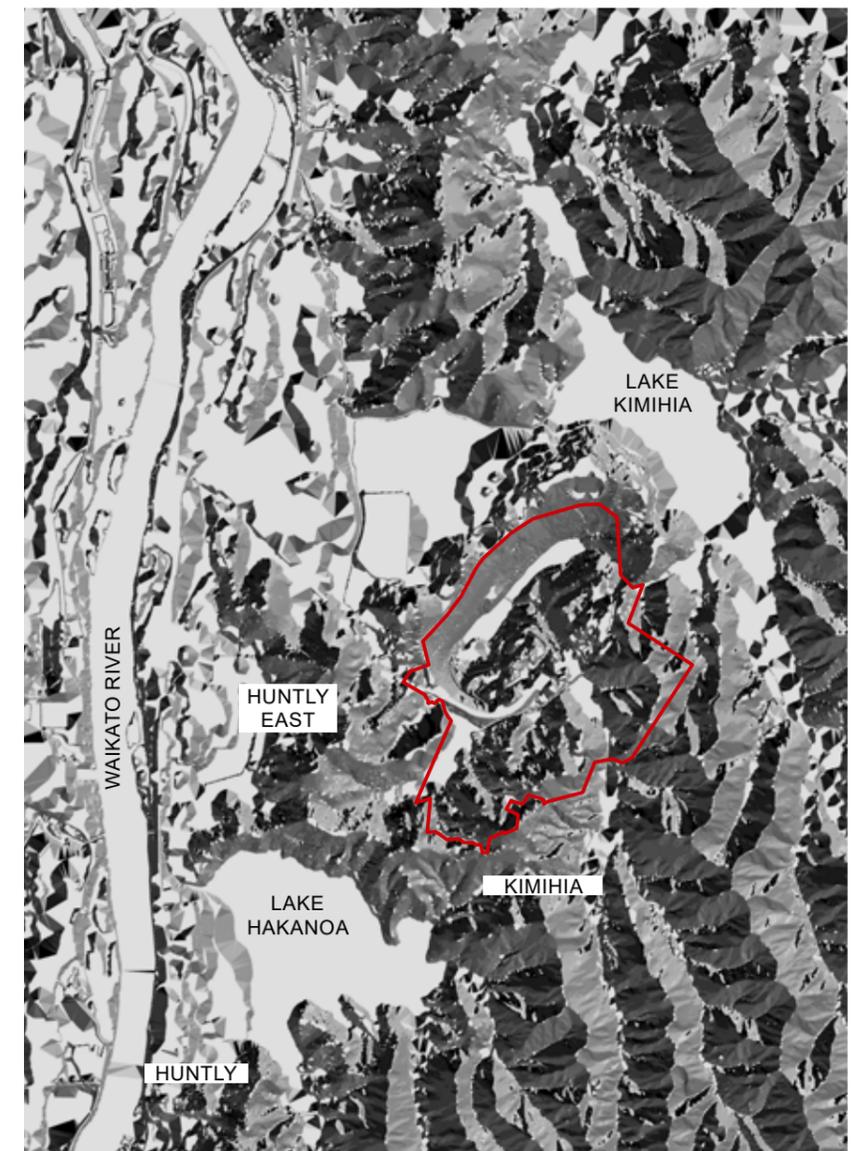
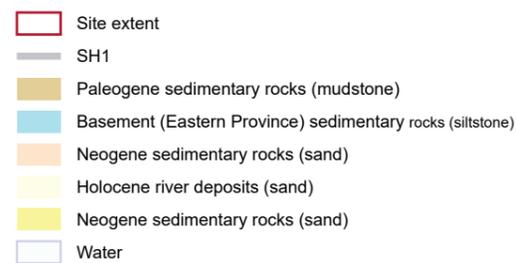
Data sourced from:
www.data.linz.govt.nz ; www.waikatodistrict.govt.nz ; www.gns.cri.nz



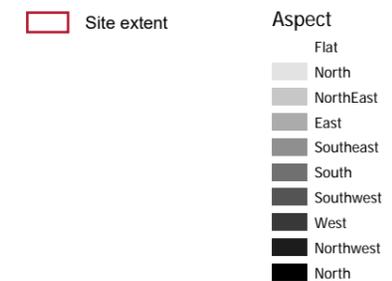
TOPOGRAPHY & SLOPE

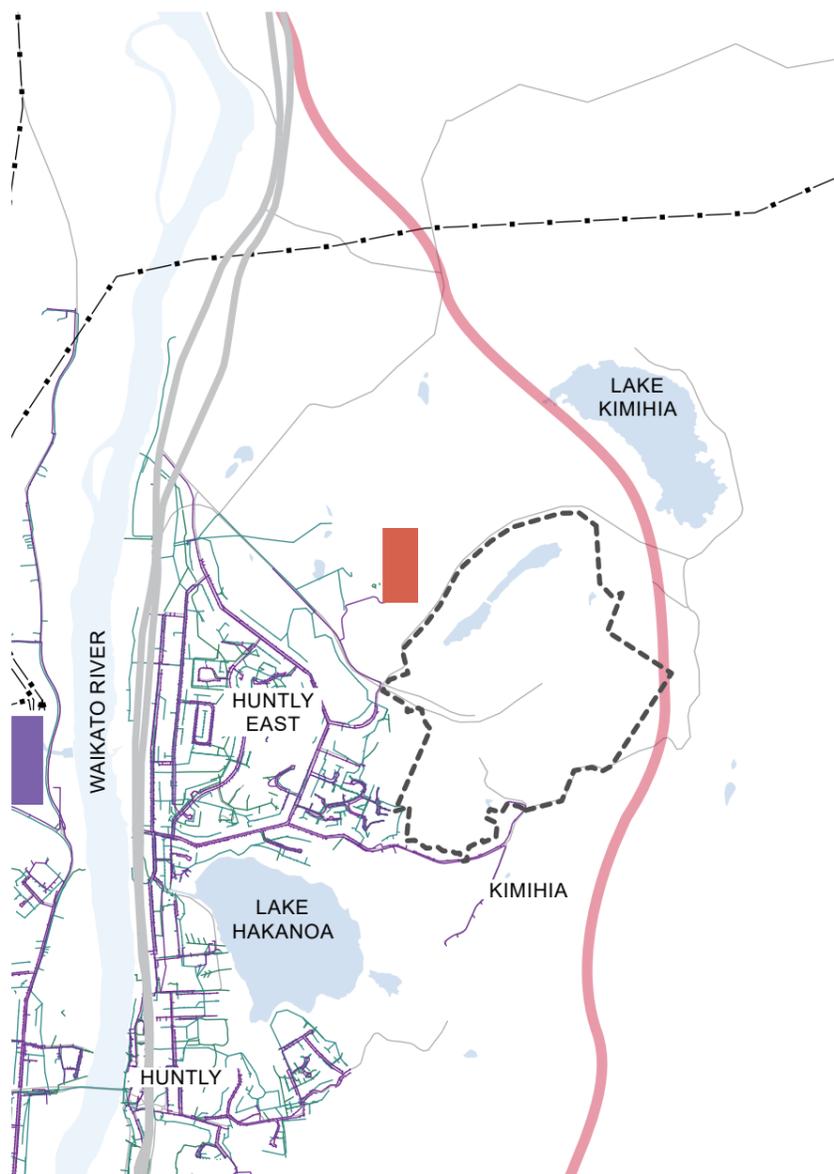


SOILS | LAND-USE CAPABILITY



ASPECT | HILLSHADE





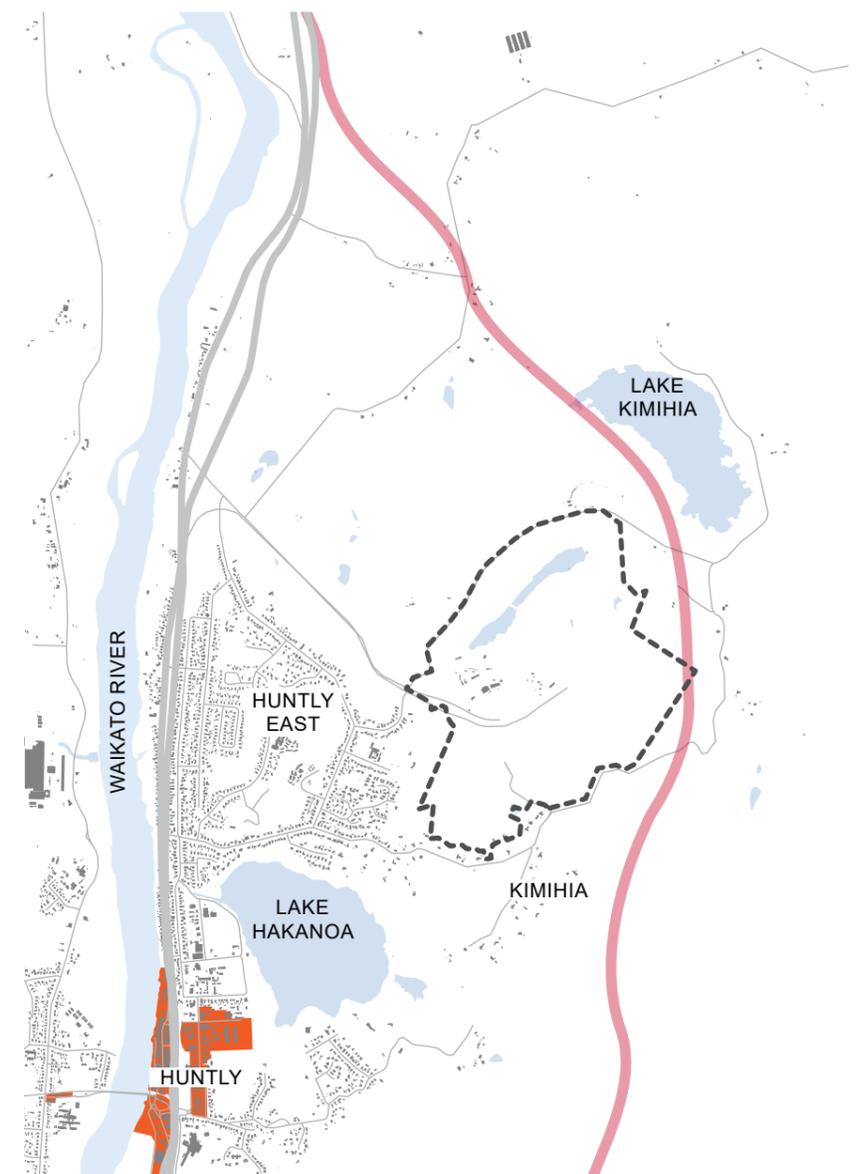
INFRASTRUCTURE

-  Site extent
-  SH1
-  Waikato expressway (Huntly bypass)
-  Transmission line
-  Huntly Power Station
-  Water supply
-  Storm water line
-  Huntly Wastewater Treatment Plant



TRANSPORTATION NETWORK

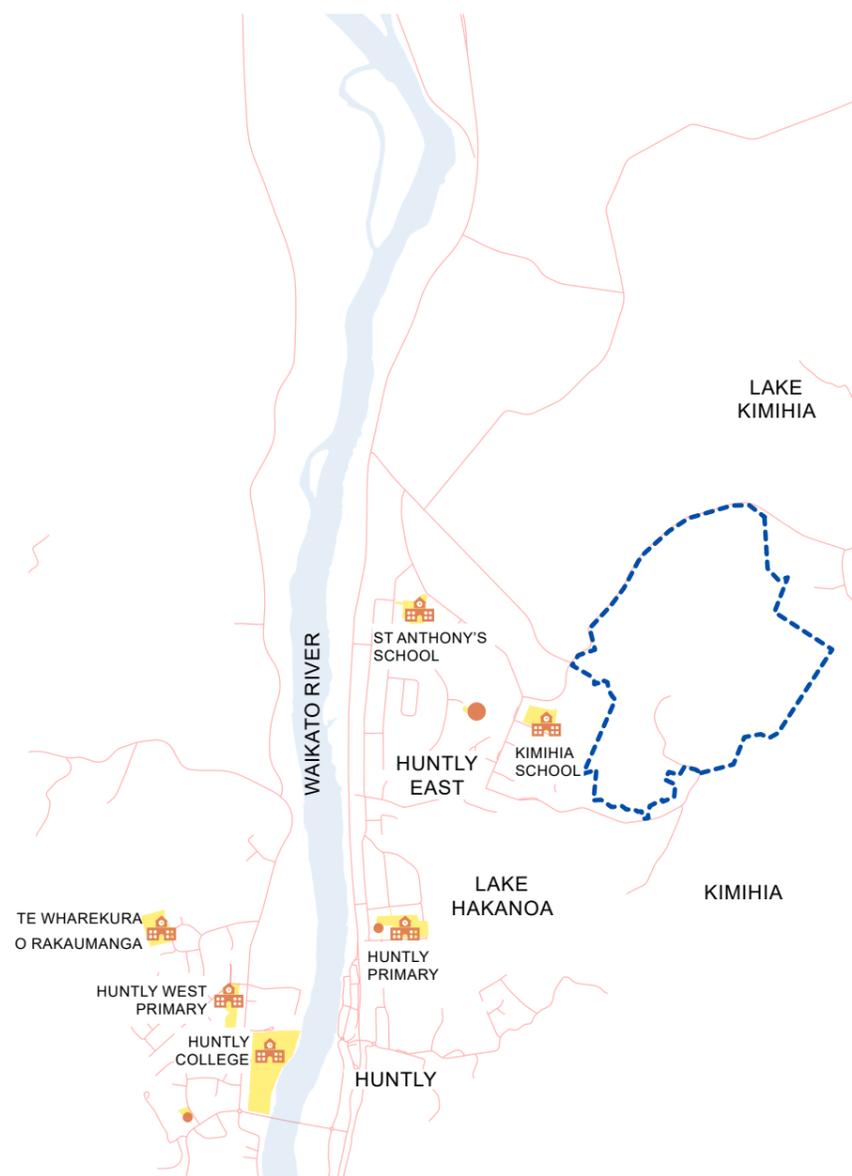
-  Site extent
-  SH1
-  Waikato expressway (Huntly bypass)
-  Rail
-  Primary collector road
-  Secondary road
-  Minor road



BUILDING FRAMEWORK

-  Site extent
-  SH1
-  Waikato expressway (Huntly bypass)
-  Building Footprints
-  Central Business Commercial Precinct

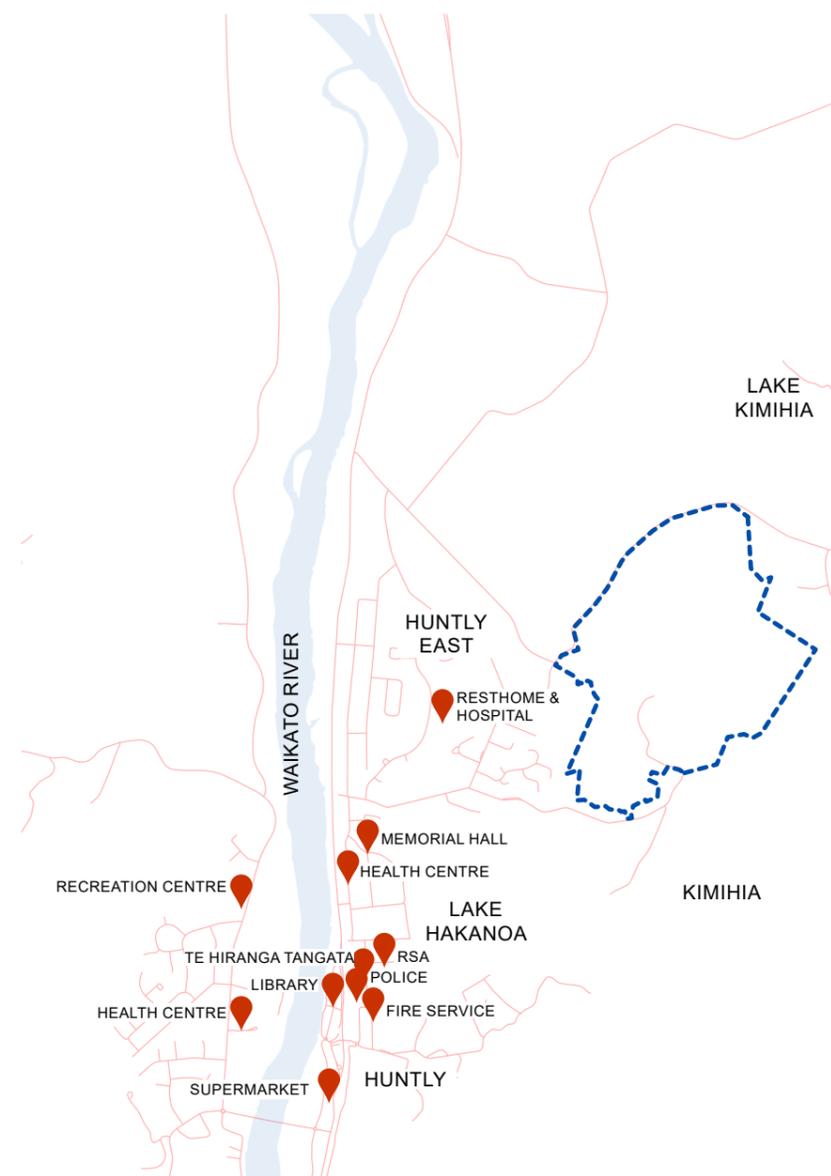
Data sourced from: www.data.linz.govt.nz



EDUCATION

Kindergartens, Primary Schools, College

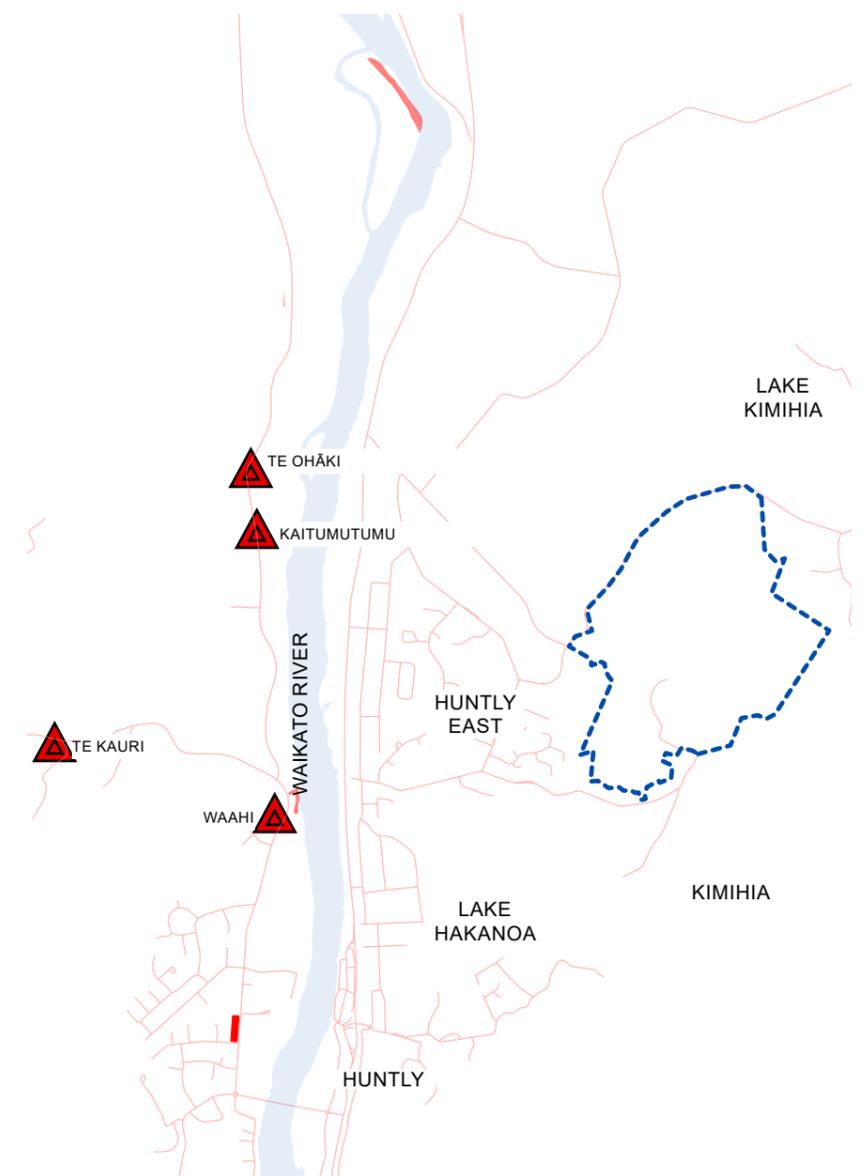
-  Site extent
-  Kindergartens
-  Schools



COMMUNITY FACILITIES

Libraries, community services, etc.

-  Site extent
-  Community facility



MARAE & ROHE

-  Site extent
-  Marae location
-  Identified Maori area of significance

Data sourced from:
www.data.linz.govt.nz ; www.waikatodistrict.govt.nz

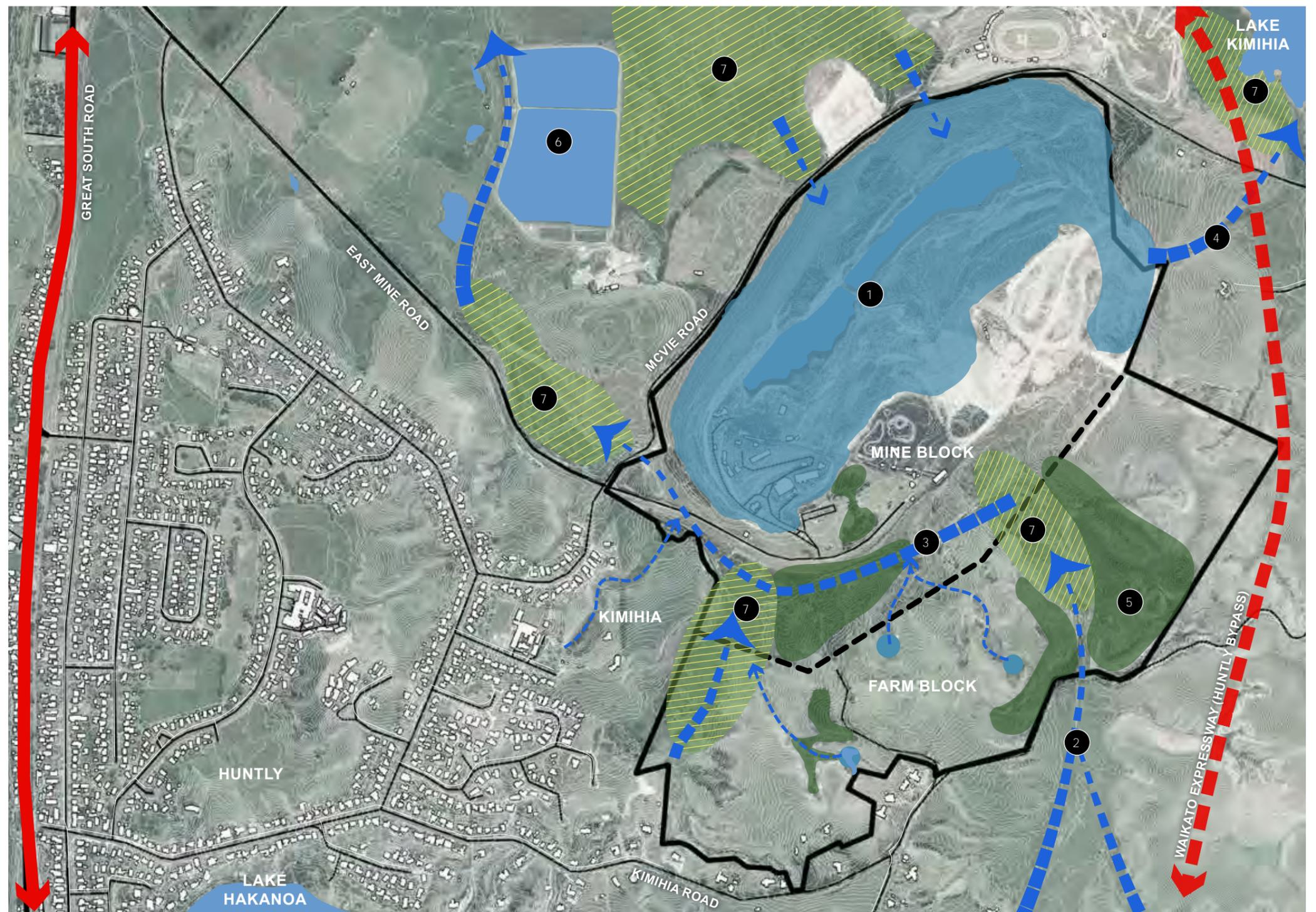


KEY

1. NEW KIMIHIA LAKE BODY (WHEN FULL)
2. MAIN WATER CATCHMENT INTO SITE
3. DIVERTED CATCHMENT STREAM
4. LAKE OUTLET (TO REMNANT KIMIHIA LAKE)
5. FORESTRY BLOCK
6. COUNCIL WASTEWATER TREATMENT PLANT
7. REMNANT WETLAND

LEGEND

-  SITE BOUNDARY
-  LAKE BODY (ESTIMATED FINAL EXTENT)
-  SCRUB / FORESTRY COVER
-  WETLAND (REMNANT OF VARYING HABITAT)
-  STREAM FLOW DIRECTION
-  WATER BODY (POND)



KEY

1. MAIN ROAD TO SITE (OFF SH1)
2. PRIMARY SITE ENTRANCE
3. MINE SITE INTERNAL ROAD
4. POWER SUBSTATION
5. OLD RAIL SHUNTING YARDS
6. ROAD TO MINE PIT BASE
7. CARPARK
8. WEIGHBRIDGE BUILDING
9. MINE EXCAVATION SPOIL MOUND
10. LOCAL ROAD TO SITE (FROM TOWN)
11. SECONDARY SITE ENTRANCE(S) TO FARM AND RE-ZONED RESIDENTIAL LAND
12. INFORMAL SITE ENTRANCE(S)
13. HISTORIC HOLLAND MINE SHAFT ENTRANCES (UNEARTHED)
14. MINING VILLAGE REMNANTS
15. BLOCK REZONED TO RESIDENTIAL UNDER PROPOSED DISTRICT PLAN
16. POTENTIAL FOR FUTURE PEDESTRIAN / CYCLEWAY CONNECTION WITH PROPOSED SLEEPYHEAD DEVELOPMENT ALONG OLD STATE HIGHWAY 1

LEGEND

-  SITE BOUNDARY
-  LAKE BODY (ESTIMATED FINAL EXTENT)
-  PRIMARY ROADING TO & AROUND SITE
-  INTERNAL ROADING
-  SITE ENTRANCE POINTS
-  OLD RAIL SHUNTING YARD
-  PARKING LOT
-  SITE FEATURE



DESIGN PROPOSAL



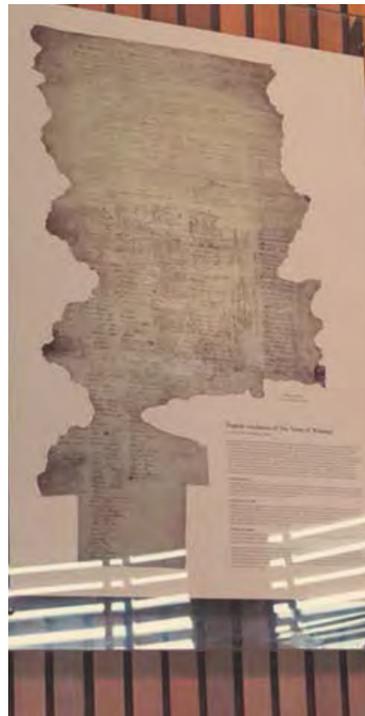
HUNTLY EAST MINE SITE (FROM RECENT TIMES)

Design principles are the aspirational goals that were developed to reflect the values and objectives of the project team. These are outcome-based principles that in aggregate are the building blocks that help transform the site to reach the desired final outcome. Each principle identifies actions that are required to attain this transformation, and are outlined below.

ENVIRONMENTAL	SOCIAL	ECONOMIC	CULTURAL		
					
<p>SUSTAINABILITY AND GUARDIANSHIP</p> <p>Identify, conserve, protect and enhance what is special about the site, including the natural environment, connection with mana whenua, and its mining heritage.</p>	<p>ENGAGEMENT AND COLLABORATION</p> <p>Council, stakeholders, mana whenua and the public are engaged throughout in a fully collaborative approach to the evolution of the masterplan.</p>	<p>RECREATION AND EDUCATION</p> <p>Provide a range of spaces, activities, uses and experiences for all people of all ages and abilities to enjoy, learn and cultivate their connection with the site and the environment.</p>	<p>ACCESSIBILITY AND CONNECTIVITY</p> <p>Create safe, easy and interesting connections and access for a wide range of users into and throughout the site.</p>	<p>VIABILITY AND ACTIVATION</p> <p>Provide places and spaces for a range of business ventures, community and cultural activities and other complementary opportunities.</p>	<p>STEWARDSHIP AND KAITIAKITANGA</p> <p>Local residents, mana whenua, schools and community groups are encouraged and supported to lead park wide initiatives.</p>

“Maori culture and identity highlights Aotearoa New Zealand’s point of difference in the world and offers up significant design opportunities that can benefit us all. The Te Aranga Maori Design Principles are a set of outcome-based principles founded on intrinsic Maori cultural values and designed to provide practical guidance for enhancing outcomes for the design environment. The principles have arisen from a widely held desire to enhance mana whenua presence, visibility and participation in the design of the physical realm.”

[Auckland Design Manual via Te Aranga Cultural Landscape Strategy by Nga Aho]



MANA TANGATIRATANGA - AUTHORITY

The status of iwi and hapū as Mana Whenua is recognised and respected.



WHAKAPAPA - NAMES & NAMING

Maori names are celebrated.



TAIAO - THE NATURAL ENVIRONMENT

The natural environment is protected, restored and / or enhanced.



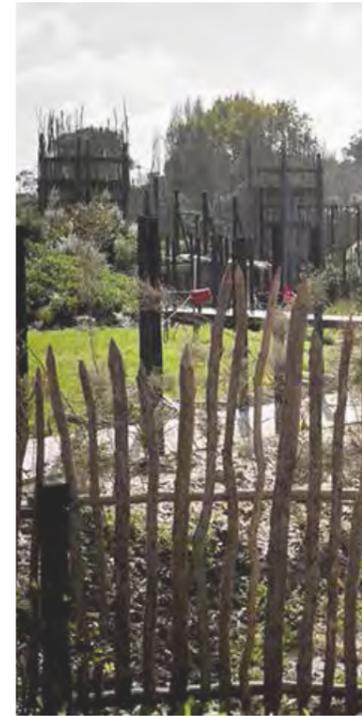
MAURI TU - ENVIRONMENTAL HEALTH

Environmental health is protected, maintained and / or enhanced.



MAHI TOI - CREATIVE EXPRESSION

Iwi / hapū narratives are captured and expressed creatively and appropriately.



TOHU - THE WIDER CULTURAL LANDSCAPE

Mana Whenua significant sites and cultural landmarks are acknowledged.



AHI KĀ - THE LIVING PRESENCE

Iwi / hapū have a living and enduring presence and are secure and valued within their rohe.

FARM BLOCK DEVELOPMENT

KIMIHIA LAKE SITE DEVELOPMENT



RESIDENTIAL DEVELOPMENT

Low Impact, Sustainable Development, Sensitive to the Landscape with Interconnecting Walkways & Cycleways

Portion of site already re-zoned to residential under Proposed District Plan

Proposed Housing Typology:

- Residential Zone (Standard Density) (600m² to 2,500m² Sized Lots)



NATIVE & EXOTIC FORESTRY

Carbon Credit Forestry & Wildlife Refuge Habitat

Utilising land that is marginal / unfit for development (i.e. steep slopes, gullies, questionable ground, etc.)



MOUNTAIN BIKING TRAILS

Promoting the Outdoors & Active Lifestyle

Opportunity to create internal track networks within the forestry block(s)

Trails should vary in their user experience and difficulty to accommodate all use skill levels



NATIVE PLANT NURSERY

A partnership with Te Whangai Trust to establish an on-site commercial native plant nursery has been confirmed. This will assist with on site habitat restoration and local employment

Ability to eco-source native plant seed from site & surrounds for plant propagation



RECREATION LAKE

Non-Powerboat Related Lake Activities, Fishing, Sailing, Waka, Canoe, Swimming, Diving, Rowing

Proposing one formal ramped access and multiple beaches and informal water access locations around lake shore



HABITAT RESTORATION

Wetland, Lake & Stream Habitat Rehabilitation for Native Fauna, Flora & Aquatic Life

Additional Potential Benefits

1. Improving quality of lake water
2. Opportunities for integrating Low Impact Stormwater design solutions
3. Ability to 'eco-source' local native plant seed for on-site nursery and subsequent habitat restoration

KIMIHIA LAKE SITE DEVELOPMENT



COMMUNITY CENTRE ACTIVITY HUB

Multi-purpose Venue for Youth Education & Development, Hosting Lake Sporting Events, Weddings, Small Conferences, Cafe & Other Commercial Opportunities

Centre to be located on the lake shore to take advantage of panoramic views and interaction with water

- Estimated GFA: 1,000-1,200m²
- Estimated student participation numbers of 9,250 students per year
- Estimated Cafe capacity of 60-80 seats



AQUATIC ACTIVITY HUB

Aquatic Training & Equipment Rental Facilities

Located near the main vessel launching ramp and parking area to maximise use of facilities and infrastructure



COAL MINING MUSEUM

Ideal Location to Showcase the Rich History with Mining on the Site & Wider Huntly Area

The original Huntly Railway Station to be re-purposed into museum

- Railway Station estimated GFA: 500m²

Museum to be complemented with the creation of an outdoor park to showcase the old (large) mining machinery and equipment, to further educate visitors of the site's and region's mining heritage



ACCOMMODATION

Accommodation & Camping Facilities for Schools, Groups, and Independent visitors

Located close to multi-purpose Kimihia Lakes Community Centre Activity Hub.

Estimated GFA: 1,000m² split into dormitory wings, separate small self contained units and campsites

Estimated capacity:

1. 6x Motel Units
2. 4x Dormitory Units (25 beds each)
3. 60x Campsites



OUTDOOR RECREATION

Walking & Cycling Trails, Nature Trails, Beaches, Open Space, Playgrounds

Opportunities to create an internal track network within the site, including trails that vary in their user experience and difficulty

Beaches spread around the lake shore to accommodate various user groups and activities

Large open grassed areas for informal and formal activities and general uses

Playgrounds, nature play elements, confidence courses for varying age groups



CULTURAL DISCOVERY

Reaffirming the Cultural Connection with the Land

To be developed in close partnership with local Tangata whenua to ensure genuine outcomes are achieved

Discovery experience could include:

1. Cultural heritage trails
2. Cultural interpretation
3. Cultural recognition elements
4. Education programme

KEY

FARM BLOCK

- ① RESIDENTIAL DEVELOPMENT PRECINCT
Standard Density Housing
- ② CONTINUED FARMING ACTIVITIES
Including Grazing, Forestry, Site Nursery, Etc.
- ③ NATIVE WETLAND RESTORATION
Wildlife Habitat Restoration, Improve Water Quality

MINE SITE

- ④ RECREATION LAKE
Non-Powerboat Related Activities
- ⑤ AQUATICS PRECINCT
Ramped Lake Access, Equipment Hireage, Jetty, Etc.
- ⑥ EDUCATION & COMMERCIAL PRECINCT
Multi-Purpose Hub, Museum, Cafe, Accommodation, Main Beach, Etc.
- ⑦ OPEN SPACE RESERVE PRECINCT



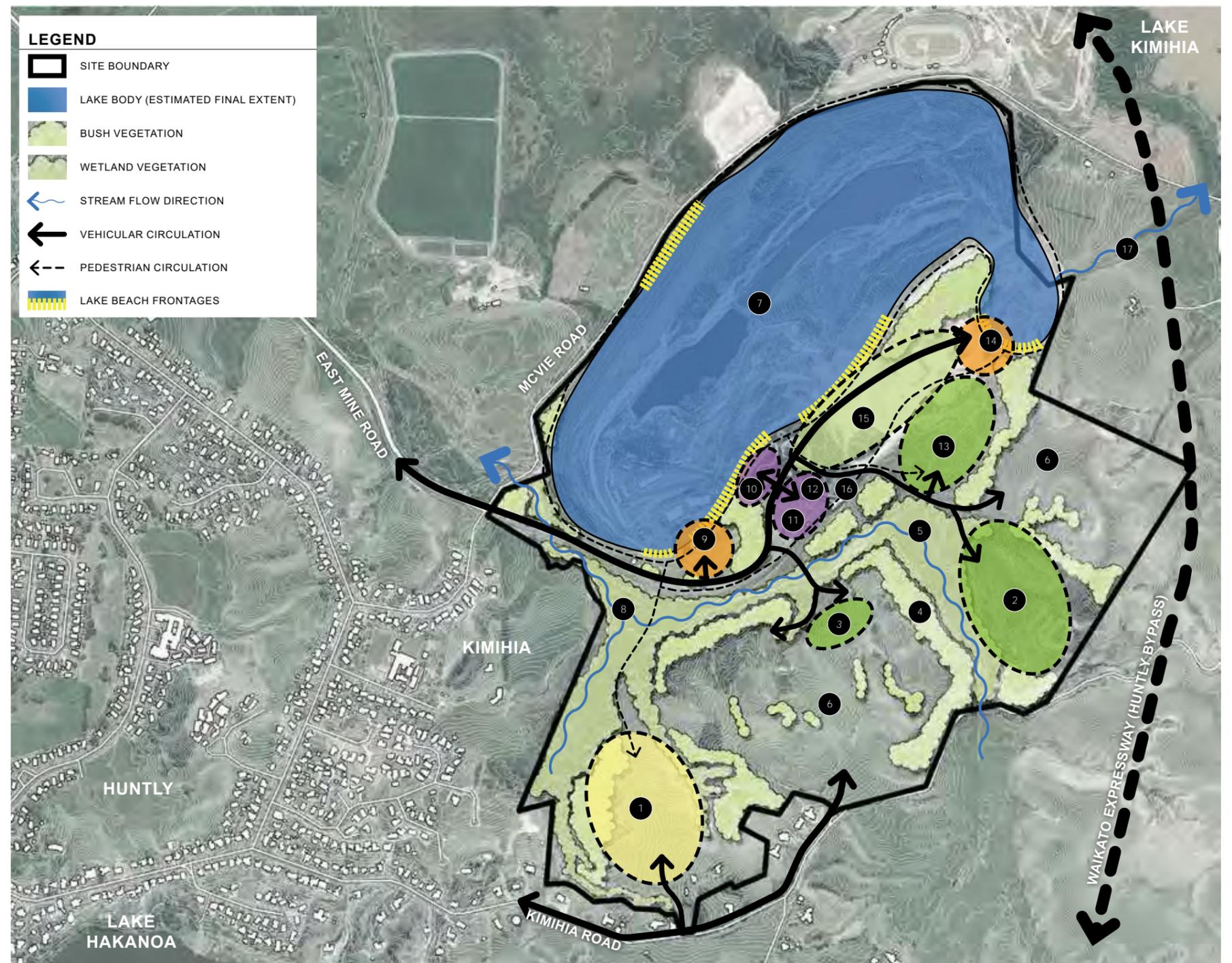
KEY

FARM BLOCK

- ① RESIDENTIAL DEVELOPMENT PRECINCT 1 - STANDARD DENSITY
Already re-zoned Residential in Proposed DP (600 - 2,500m² Lots)
- ② MOUNTAIN BIKE ZONE
Varied Skill Level Tracks Within Forestry Block
- ③ PLANT NURSERY
On-site Eco Sourced Plant Propagation & Commercial Supply
- ④ NATIVE & EXOTIC VEGETATION
Carbon Credit Forestry, Wildlife Habitat, Slope Stabilisation
- ⑤ NATIVE WETLAND RESTORATION
Wildlife Habitat Restoration, Improve Water Quality
- ⑥ CONTINUED FARMING
Drystock Grazing & Forestry Practices Continue Around New Activities

MINE SITE

- ⑦ RECREATION LAKE
Non-Powerboat Related Activities
- ⑧ HABITAT RESTORATION
Wetlands, Lakes and Stream
- ⑨ BOAT RAMP & AQUATIC CENTRE:
Incl. Trailer Parking, Jetty, Aquatic Equipment Hire Centre
- ⑩ COMMUNITY CENTRE ACTIVITY HUB
Multi-Purpose Building With Cafe, Conference Rooms & Teaching Spaces
- ⑪ COAL MINING MUSEUM
Re-purposed Historic Huntly Railway Station, Incl. Outdoor Sculpture Park
- ⑫ ACCOMMODATION
Motel Units, Dormitories & Camping Facilities
- ⑬ OUTDOOR EDUCATION
Ecological, Experiential & Educational Spaces and Walkways
- ⑭ OUTDOOR RECREATION
Beaches & Lakefront Tracks
- ⑮ PASSIVE RECREATION
Public Open Space
- ⑯ CULTURAL DISCOVERY
Heritage Trails, Interpretation & Education
- ⑰ LAKE OUTLET CHANNEL
Discharging Clean Overflow to Remnant Lake Kimihia



REFINED ACTIVITY SPATIAL LAYOUT PLAN | KIMIHI LAKES DEVELOPMENT | 2020



CONCEPT MASTERPLAN

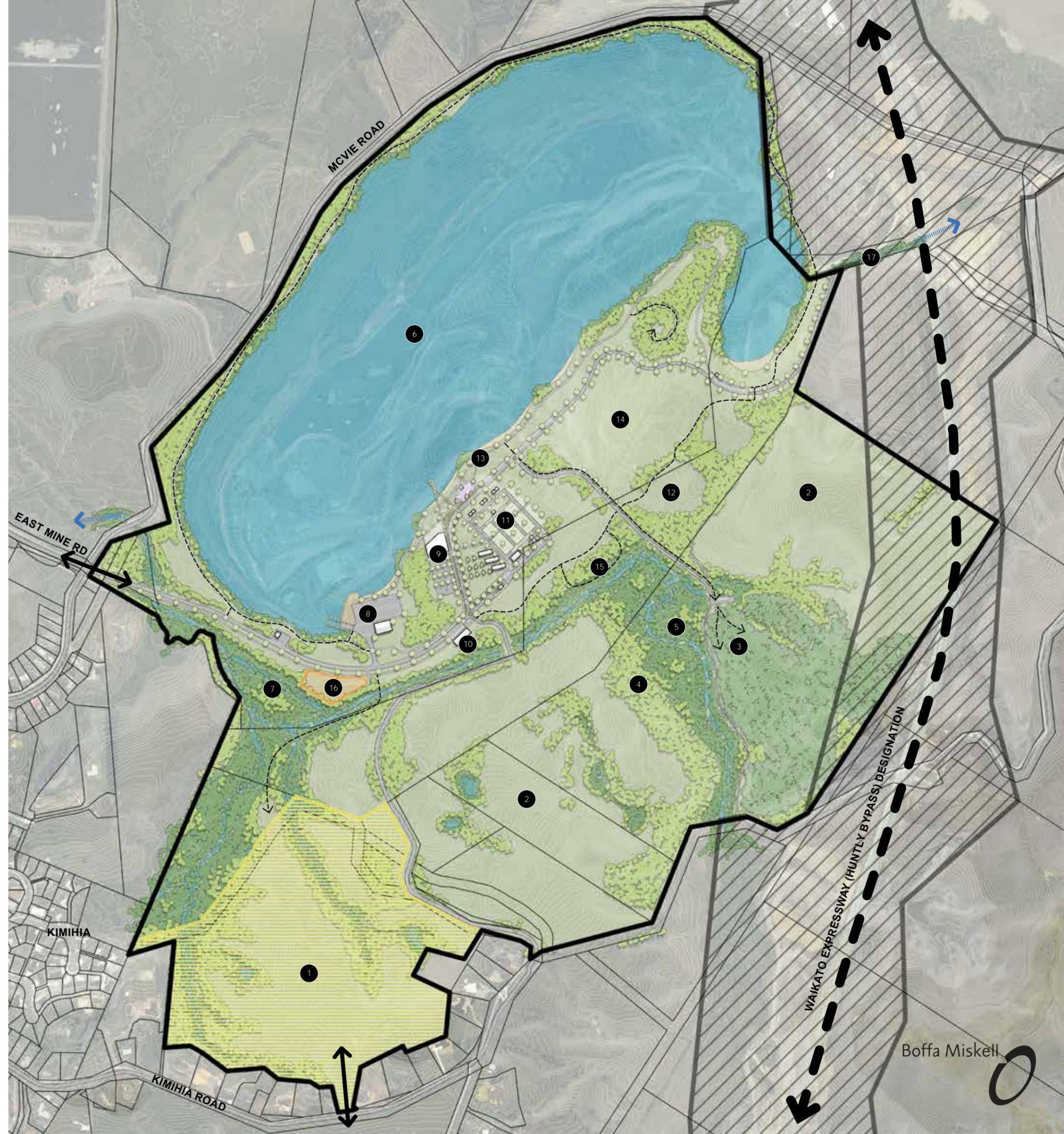
KEY

FARM BLOCK

- ① RESIDENTIAL DEVELOPMENT PRECINCT - STANDARD DENSITY
Already re-zoned Residential in Proposed DP (600 - 2,500m2 Lots)
- ② CONTINUED FARMING
Drystock Grazing & Forestry Practices Continue on Bulk of Land
- ③ MOUNTAIN BIKE ZONE
Varied Skill Level Tracks Within Forestry Block
- ④ NATIVE & EXOTIC VEGETATION
Carbon Credit Forestry, Wildlife Habitat, Slope Stabilisation
- ⑤ NATIVE WETLAND RESTORATION
Wildlife Habitat Restoration, Improve Water Quality

MINE SITE

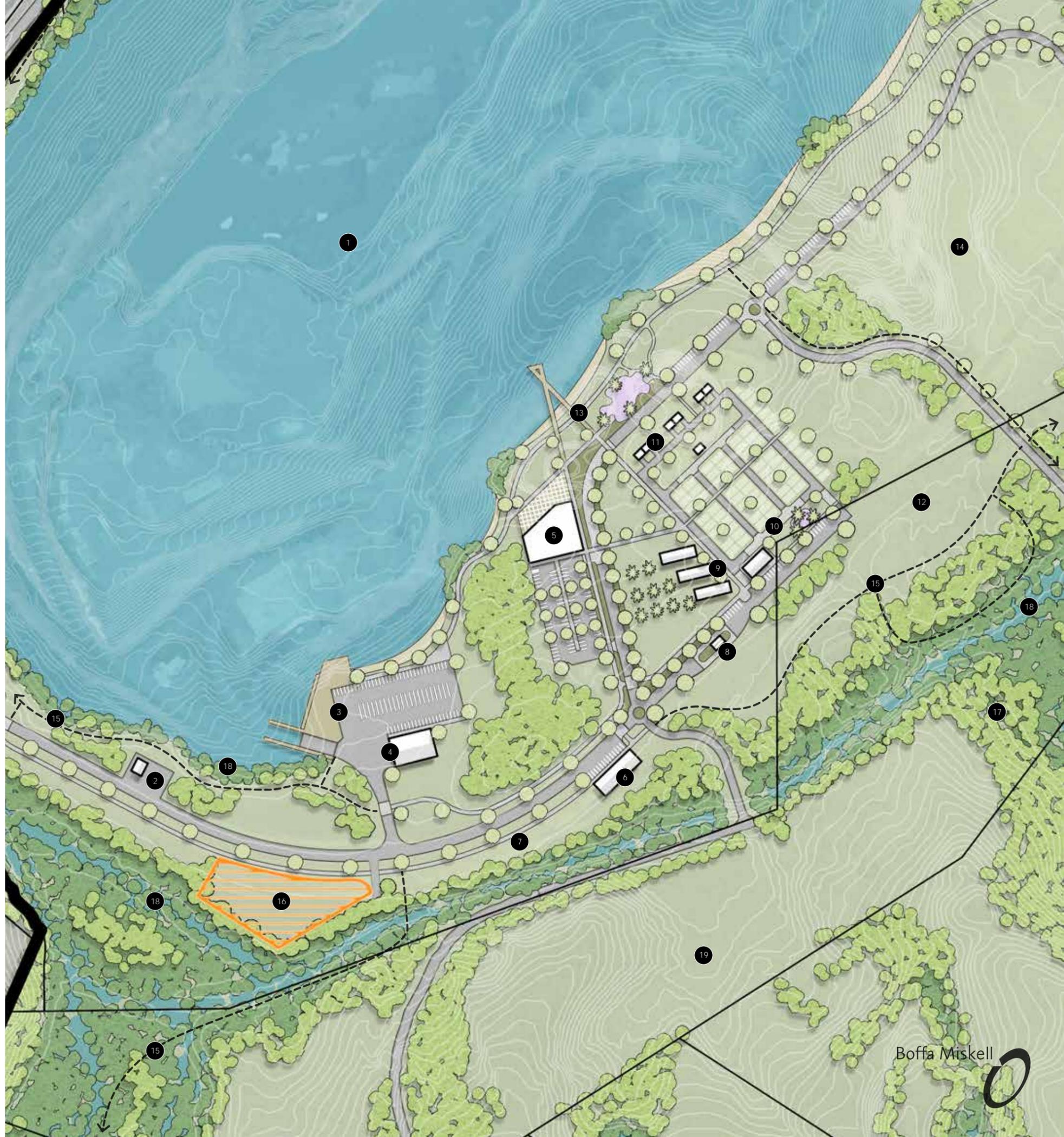
- ⑥ RECREATION LAKE
Non-Powerboat Related Activities
- ⑦ HABITAT RESTORATION
Wetlands, Lakes and Stream
- ⑧ BOAT RAMP & AQUATIC HUB
Incl. Trailer Parking, Jetty, Aquatic Equipment Hire Centre
- ⑨ COMMUNITY CENTRE ACTIVITY HUB
Multi-Purpose Building With Cafe, Conference Rooms & Teaching Spaces
- ⑩ COAL MINING MUSEUM
Re-purposed Historic Huntly Railway Station, Incl. Outdoor Sculpture Trail
- ⑪ ACCOMMODATION
Motel Units, Dormitories & Camping Facilities
- ⑫ FLEXIBLE OUTDOOR EDUCATION ZONES
Ecological, Experiential & Educational Spaces and Walkways
- ⑬ OUTDOOR RECREATION
Beaches & Lakefront Tracks
- ⑭ PASSIVE RECREATION
Multi-Purpose Open Space
- ⑮ CULTURAL DISCOVERY
Nature & Heritage Trails with Interpretation & Education Opportunities
- ⑯ PLANT NURSERY
On-site Eco Sourced Plant Propagation & Commercial Supply
- ⑰ LAKE OUTLET CHANNEL
Discharging Clean Overflow to Remnant Lake Kimihia



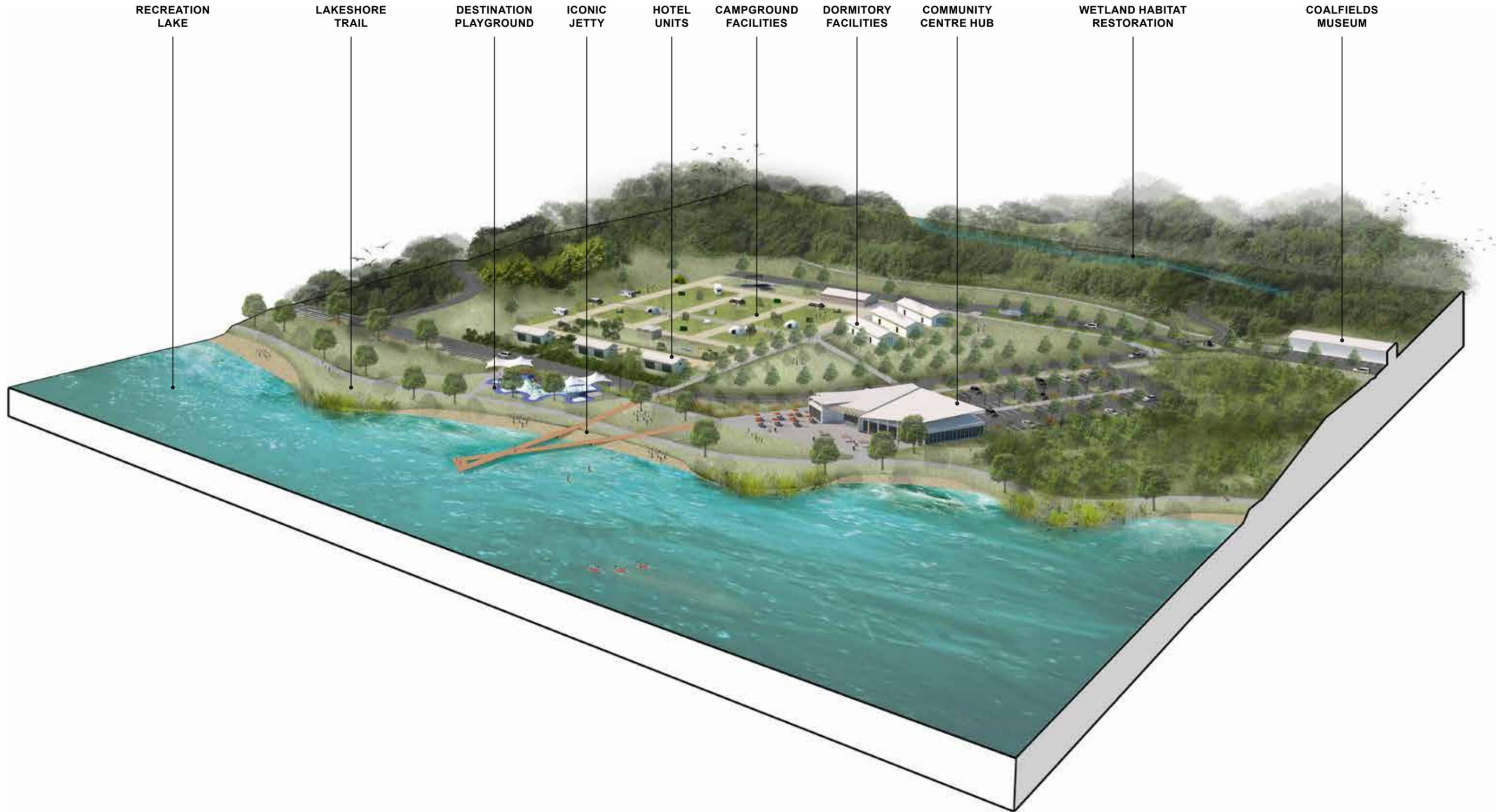
CONCEPT MASTERPLAN (HUB)

KEY

- ① NEW KIMIHI LAKE (RECREATION LAKE)
Non-Powerboat Related Activities
- ② POWER SUBSTATION
Existing On-site Infrastructure
- ③ BOAT RAMP & JETTY FACILITIES
Incl. Vessel Trailer Parking & Stepped Jetty
- ④ AQUATIC EQUIPMENT HIRE CENTRE
Incl. Space for Equipment & Training
- ⑤ COMMUNITY CENTRE ACTIVITY HUB
Multi-Purpose Building with Cafe, Conference Rooms & Teaching Spaces
- ⑥ COAL MINING MUSEUM
Re-purposed Historic Huntly Railway Station, Incl. Outdoor Sculpture Park
- ⑦ COAL MINING OUTDOOR SCULPTURE PARK
Re-purposed Large Historic Mining & Rail Equipment & Machinery
- ⑧ ACCOMMODATION
Entrance & Office Reception (Re-purposed Weighbridge Station)
- ⑨ ACCOMMODATION
Dormitories (x3 Wings of 25 Beds Each)
- ⑩ ACCOMMODATION
Camping Facilities (60+ sites, Ablutions & Kitchen Annex, Shared Space)
- ⑪ ACCOMMODATION
Motel Units (x3 Duplex Units - 6 Units Total)
- ⑫ FLEXIBLE OUTDOOR EDUCATION ZONES
Ecological, Experiential & Educational Spaces and Walkways
- ⑬ PREMIER LAKE FRONT AMENITIES
Beaches, Manicured Lawn, Tracks, Iconic Jetty, Destination Playground
- ⑭ PASSIVE RECREATION
Multi-Purpose Open Space
- ⑮ CULTURAL & NATURE DISCOVERY
Nature & Heritage Trails with Interpretation & Education Opportunities
- ⑯ PLANT NURSERY
On-site Eco Sourced Plant Propagation & Commercial Supply
- ⑰ HABITAT RESTORATION
Gully & Slope Stabilisation with Native Shrubland Plantings
- ⑱ HABITAT RESTORATION
Wetlands, Streams & Lake Margins with Native Riparian Plantings
- ⑲ CONTINUED FARMING
Drystock Grazing & Forestry Practices Continue Around New Activities



CONCEPT ARTIST IMPRESSION (HUB)



About Boffa Miskell

Boffa Miskell is a leading New Zealand professional services consultancy with offices in Auckland, Hamilton, Tauranga, Wellington, Christchurch, Dunedin and Queenstown. We work with a wide range of local and international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, cultural heritage, graphics and mapping. Over the past four decades we have built a reputation for professionalism, innovation and excellence. During this time we have been associated with a significant number of projects that have shaped New Zealand's environment.

www.boffamiskell.co.nz

Auckland 09 358 2526 Hamilton 07 960 0006 Tauranga 07 571 5511 Wellington 04 385 9315 Christchurch 03 366 8891 Queenstown 03 441 1670 Dunedin 03 470 0460

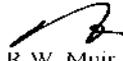
Appendix 2: Records of Title



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**



**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**


R.W. Muir
Registrar-General
of Land

Identifier **195501** **Part-Cancelled**

Land Registration District **South Auckland**

Date Issued 15 March 2006

Prior References

SA43A/907

Estate Fee Simple
Area 21.4647 hectares more or less
Legal Description Lot 18-21 Deposited Plan 347582 and
Section 3 Survey Office Plan 400374

Registered Owners

Allen Fabrics Limited

Interests

Subject to a water supply easement (in gross) over the part marked B on DP 347582 for coal mining operations under part IV Coal Mines Act 1979 in favour of the Crown created by Gazette Notice H523309 - 8.5.1984 at 9:11 am

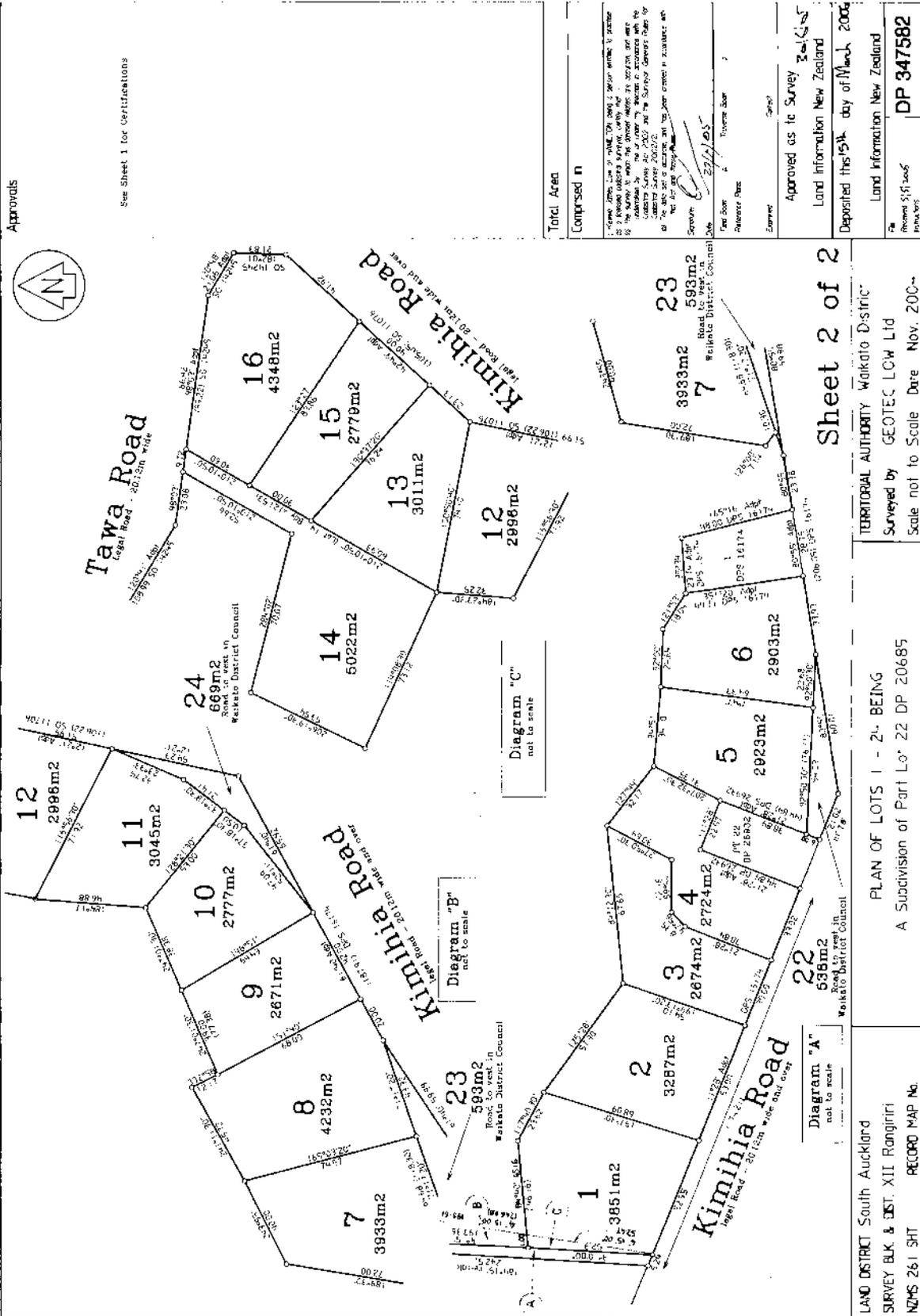
Subject to Section 241(2) Resource Management Act 1991 (affects DP 347582)

7754421.1 Certificate of consent pursuant to Section 115 Public Works Act 1981 - 18.3.2008 at 9:00 am

Subject to Section 120(3) Public Works Act 1981

7925257.1 Gazette Notice (2008 pg 3502) declares that part of the within land being Section 4 SO Plan (1067m2) shall be road and shall vest in Waikato District Council - 15.9.2008 at 9:01 am

8749345.15 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.4.2011 at 7:00 am (affects Lot 21 DP 347582)



Approvals

See Sheet 1 for Certifications

Total Area
Compressed in

I, the Licensed Surveyor, hereby certify that the above is a true and correct copy of the original plan as shown to me by the applicant, and that the same is in accordance with the provisions of the Survey Act, 1908, and the Survey Regulations, 1910, and that the same is in accordance with the provisions of the Survey Act, 1908, and the Survey Regulations, 1910, and that the same is in accordance with the provisions of the Survey Act, 1908, and the Survey Regulations, 1910.

Surveyor: *[Signature]*
 Date: 27/1/05
 Reference Date:
 Expiry:
 Approved as to Survey: *[Signature]*
 Land Information New Zealand
 Deposited this 5th day of March 2005
 Land Information New Zealand
 Received \$11,000.00
 DP 347582

Sheet 2 of 2

LAND DISTRICT South Auckland
 SURVEY BLK & DIST. XII Rangitiri
 NZMS 261 SHT RECORD MAP No.

PLAN OF LOTS 1 - 24 BEING
 A Subdivision of Part Lot 22 DP 20685

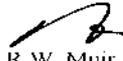
TERRITORIAL AUTHORITY Waikato District
 Surveyed by GEOTEC LOW Ltd
 Scale not to Scale Date Nov. 2005



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**

**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**




R.W. Muir
Registrar-General
of Land

Identifier **805391**
Land Registration District **South Auckland**
Date Issued 22 September 2017

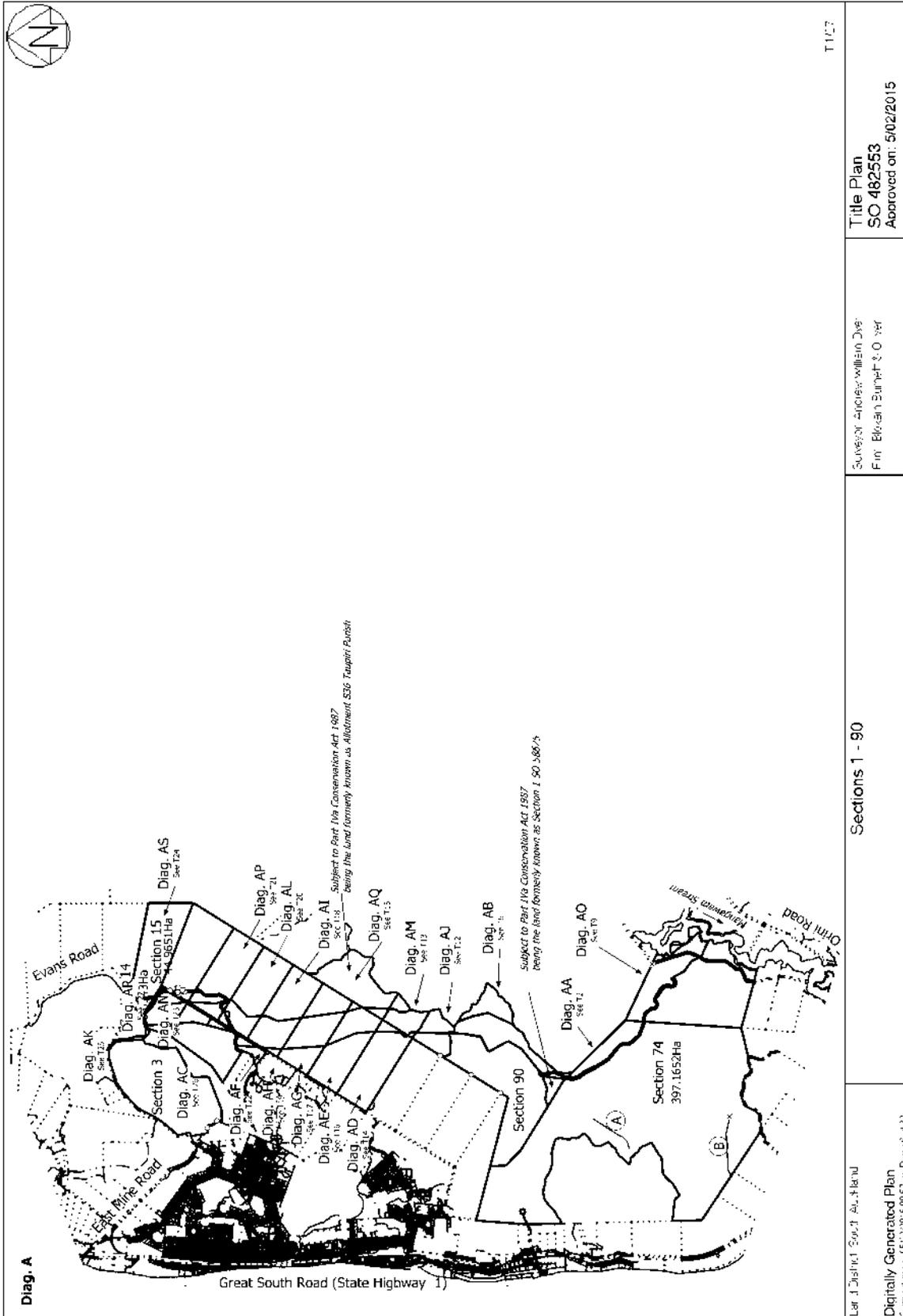
Prior References
711606

Estate Fee Simple
Area 89.6640 hectares more or less
Legal Description Section 3 Survey Office Plan 482553 and
Lot 1 Deposited Plan South Auckland
20619

Registered Owners
Allen Fabrics Limited

Interests

Subject to Section 11 Crown Minerals Act 1991 (affects Lot 1 DPS 20619)
Subject to Part IVA Conservation Act 1987 (affects Lot 1 DPS 20619)
Subject to Section 3 Geothermal Energy Act 1953 (affects Section 3 SO 482553)
Subject to Sections 6 and 8 Mining Act 1971 (affects Section 3 SO 482553)
Subject to Section 8 Atomic Energy Act 1945 (affects Section 3 SO 482553)
Subject to Section 3 Petroleum Act 1937 (affects Section 3 SO 482553)
Subject to Section 5 and 261 Coal Mines Act 1979 (affects Section 3 SO 482553)
Subject to mining and incidental rights reserved by Conveyance 249228 (R.257/517) - 6.6.1916 at 12:00 pm (affects Lot 1
DPS 20619)
9798526.1 Notice pursuant to Section 18 Public Works Act 1981.- 20.8.2014 at 8:42 am (affects Section 3 SO 482553)
Pursuant to Section 107(9A) Public Works Act 1981 Lot 1 DPS 20619 is included in the within title, see Certificate
10437662.8 - 19.5.2016 at 11:34 am
10918111.1 Encumbrance to Solid Energy New Zealand Limited - 3.10.2017 at 10:28 am
Subject to a right (in gross) to convey electricity and telecommunications over Lot 1 DPS 20619 marked A on DP 517814
and over Section 3 SO 482553 marked B on DP 517814 in favour of WEL Networks Limited created by Easement
Instrument 10955966.1 - 21.11.2017 at 12:54 pm



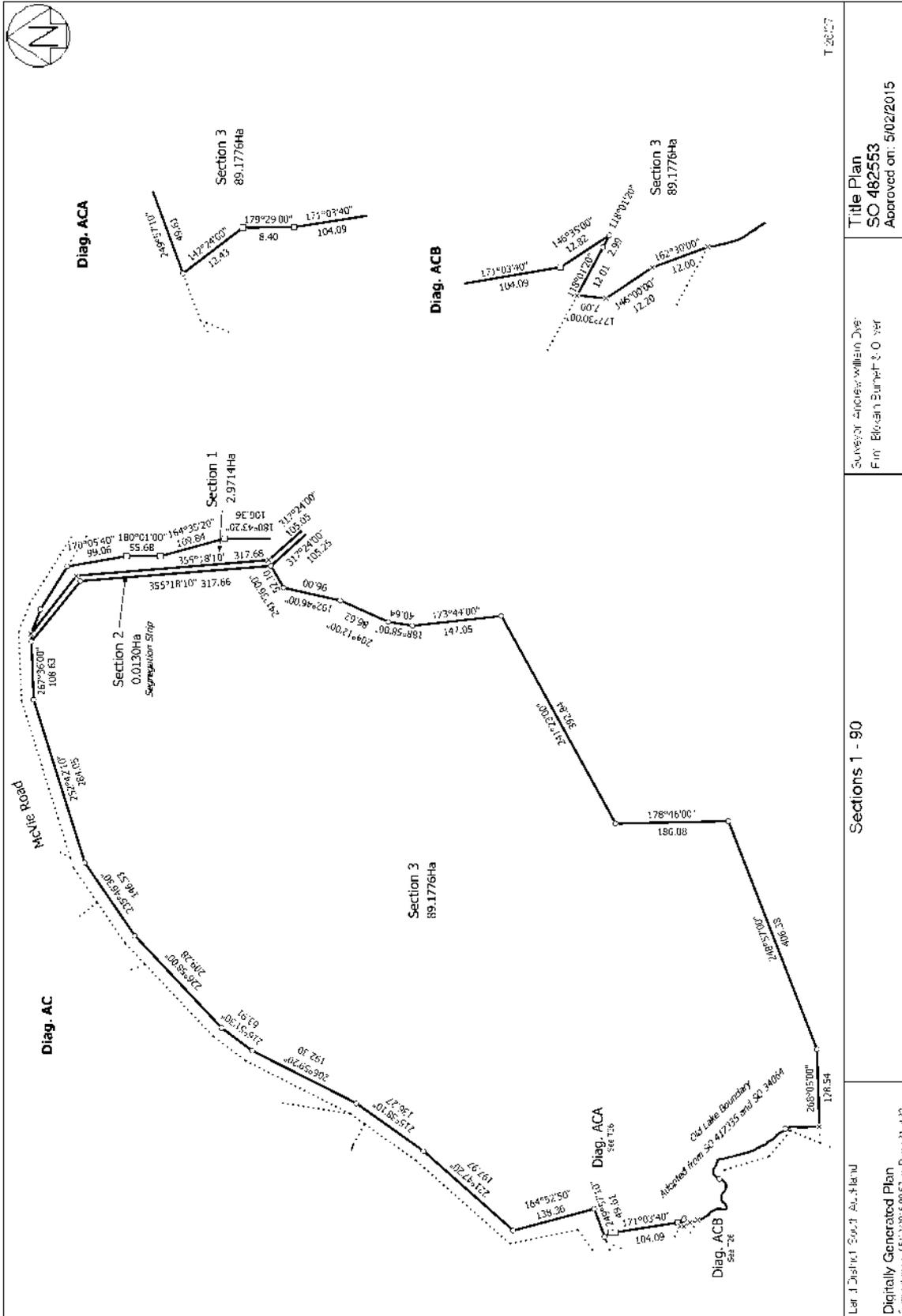
T1107

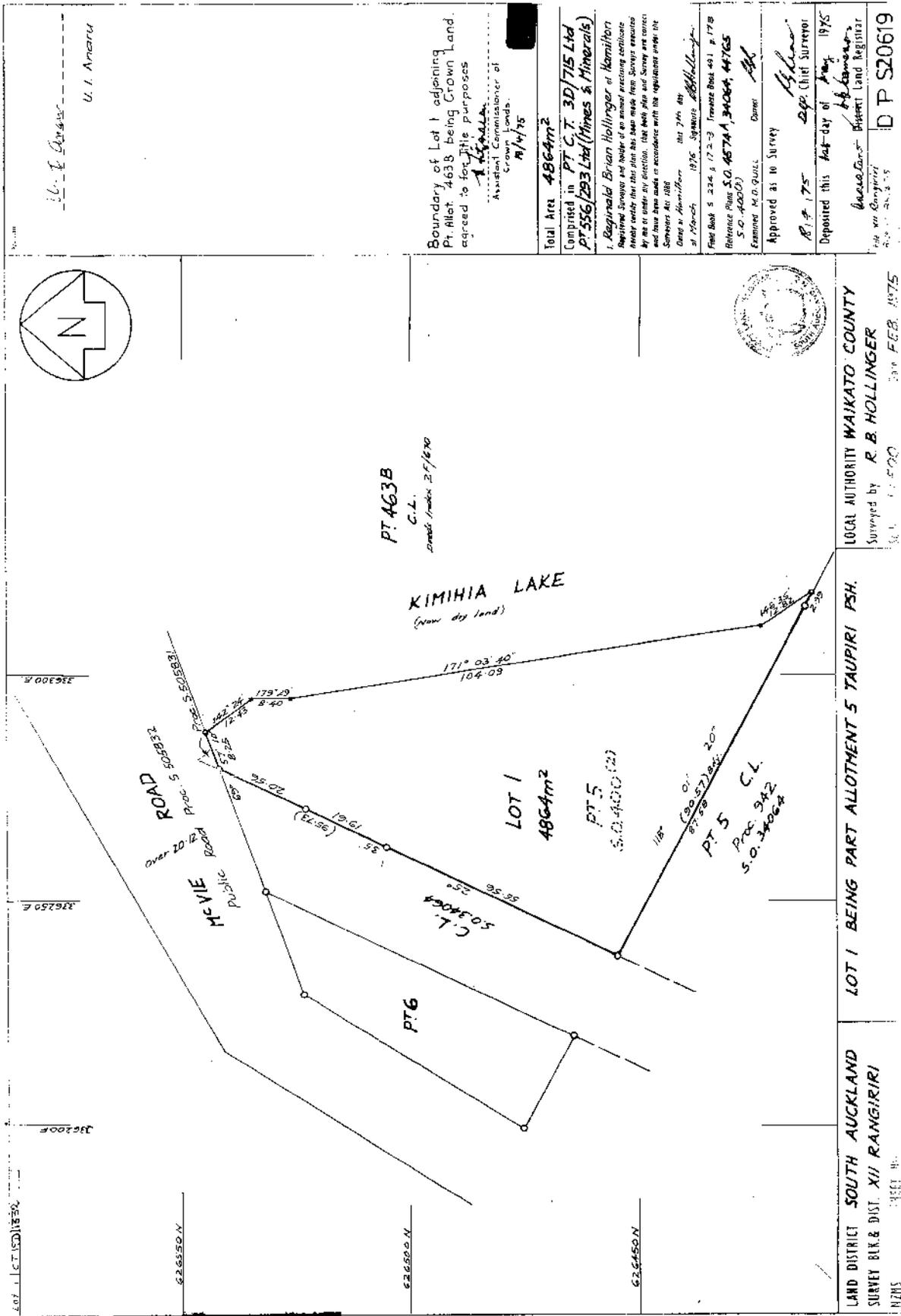
Title Plan
 SO 482553
 Approved on: 5/02/2015

Surveyor: Andrew William Dyer
 Firm: Brian Burnett & Co. Ltd

Sections 1 - 90

Let J District Court Auckland
 Digitally Generated Plan
 Commencement: 15/7/2015 09:55am Page 6 of 12





U. I. Grewer
U. I. Anaru

Boundary of Lot 1 adjoining Pt. Allot 463B being Crown Land required to facilitate purposes of *U. I. Grewer*
Assistant Commissioner of Crown Lands
11/11/75

Total Area 4864m²
Comprised in PT C.T. 3D/715 Ltd
PT 556/293 Ltd (Minerals & Minerals)
1. Registered Brian Hollinger of Hamilton Registered Surveyor and holder of an annual practicing certificate by the Registrar of Surveyors, 1975. The boundaries shown on this plan were surveyed by him on 11/11/75. The boundaries shown on this plan were made in accordance with the regulations under the Surveyors Act 1968.
Date of plan 11/11/75
1975 Signature *B. Hollinger*
Field Book S 224 & 172-3 Traverse Book 491 p 178
Reference Plus S.O. 4574A, 34064, 4765
S.O. 4000
Examined 14/10/75
Approved as to Survey
R. B. 175
Deposited this 1st day of May 1975
Bureau of Survey
District Land Registrar
D P S20619



LOCAL AUTHORITY WAIKATO COUNTY
Surveyed by R. B. HOLLINGER
Date FEB. 1975

LOT 1 BEING PART ALLOTMENT 5 TAUPIRI PSH.

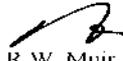
LAND DISTRICT SOUTH AUCKLAND
SURVEY BLK. & DIST. XII RANGIRIRI
NZMS



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**

**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**




R.W. Muir
Registrar-General
of Land

Identifier SA10D/800
Land Registration District South Auckland
Date Issued 15 August 1969

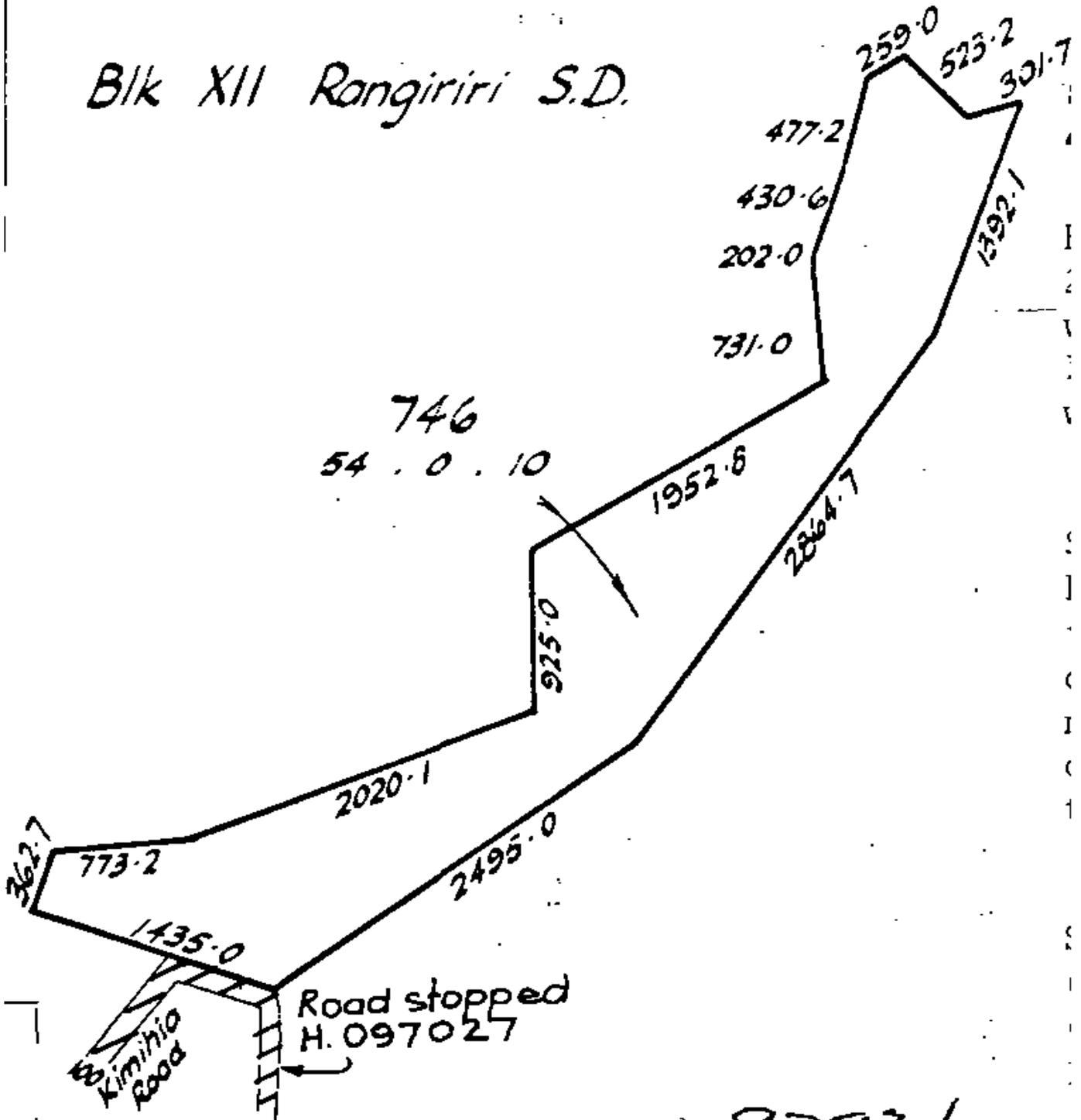
Prior References
SA377/240

Estate Fee Simple
Area 21.8783 hectares more or less
Legal Description Allotment 746 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

Interests

Subject to Section 3 Petroleum Act 1937
Subject to Section 8 Atomic Energy Act 1945
Subject to Section 3 Geothermal Energy Act 1953
Subject to Section 6 and 8 Mining Act 1971
Subject to Section 5 and 261 Coal Mines Act 1979
10918111.1 Encumbrance to Solid Energy New Zealand Limited - 3.10.2017 at 10:28 am
Subject to a right (in gross) to convey electricity and telecommunications over part marked C on DP 517814 in favour of WEL Networks Limited created by Easement Instrument 10955966.1 - 21.11.2017 at 12:54 pm

Blk XII Rangiriri S.D.

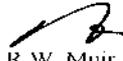




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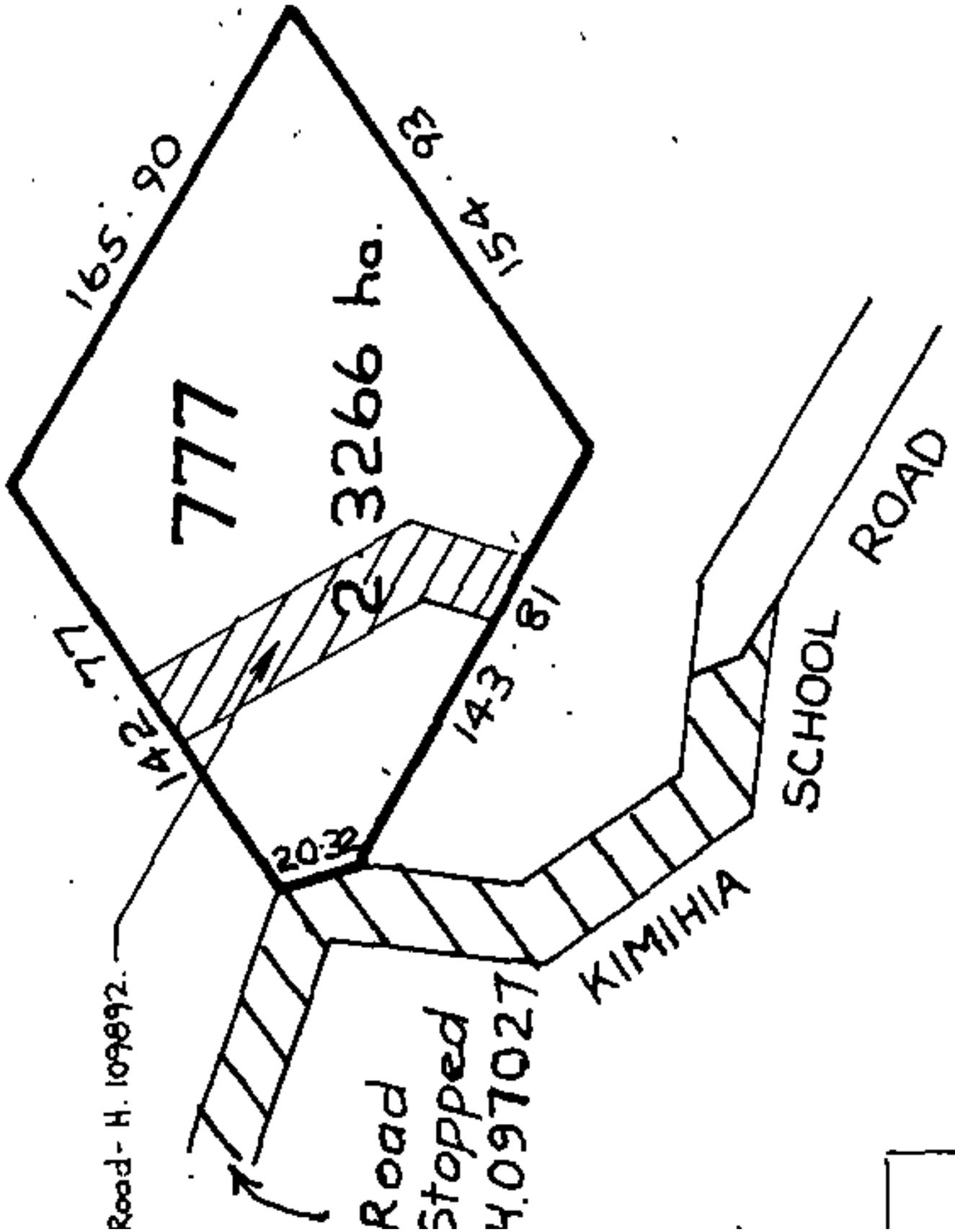

R.W. Muir
Registrar-General
of Land

Identifier **SA18B/1138** **Part-Cancelled**
Land Registration District **South Auckland**
Date Issued 07 March 1975

Estate Fee Simple
Area 2.3266 hectares more or less
Legal Description Allotment 777 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

Interests

Subject to Section 8 Mining Act 1971
Subject to Section 168A Coal Mines Act 1925
H109892 Gazette Notice proclaiming part within land (2361m²) as road and vesting the same in the Waikato County Council - 30.11.1976 at 10.41 am





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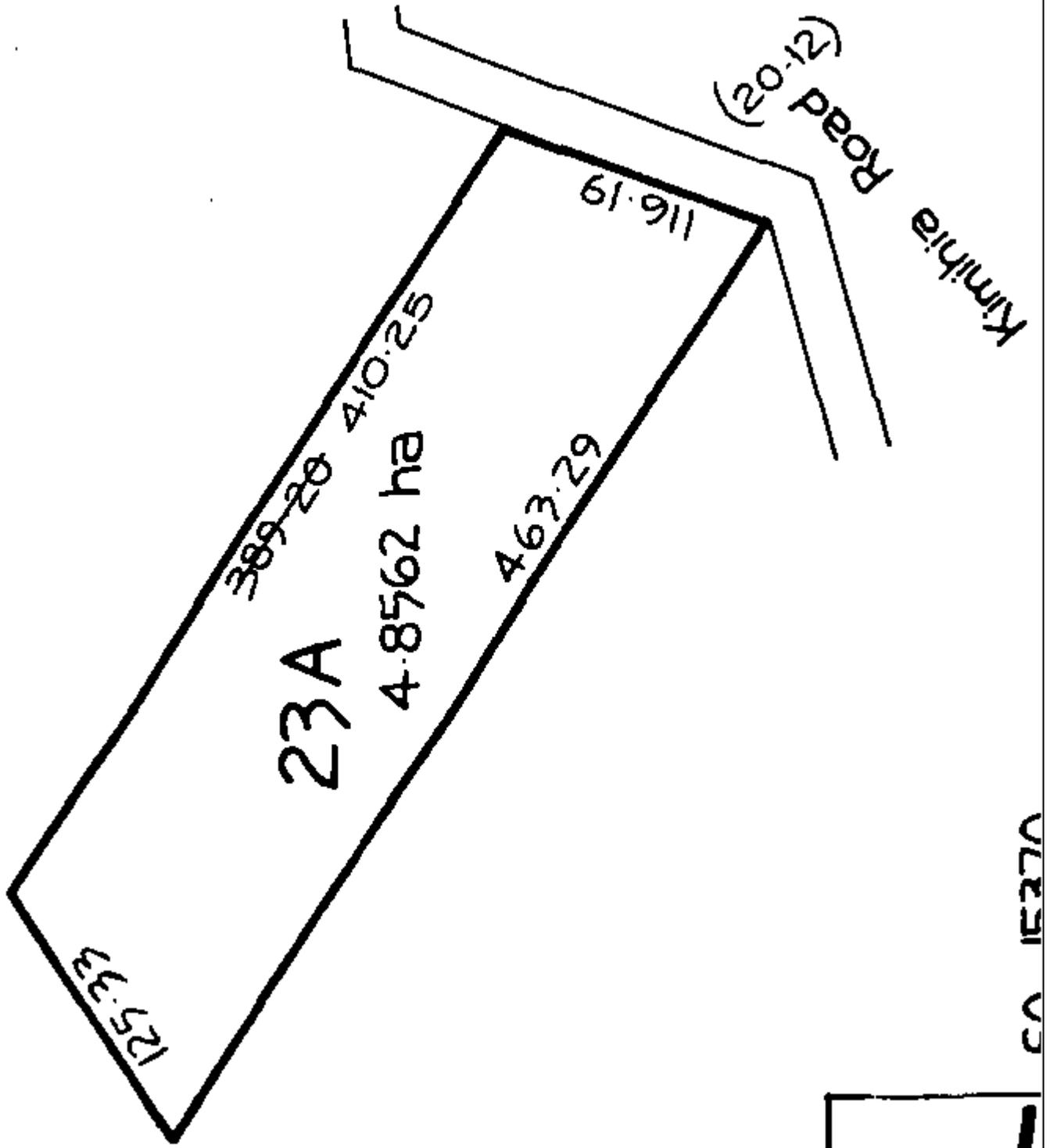
Identifier SA30A/356
Land Registration District South Auckland
Date Issued 14 July 1983

Prior References
SA168/164

Estate Fee Simple
Area 4.8562 hectares more or less
Legal Description Lot 23A Section 463 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

Interests

Subject to Section 8 Mining Act 1971
Subject to Section 5 Coal Mines Act 1979
S655279 Mining Licence by the Minister of Mines to Winstone Minerals (Huntly) Limited - 19.4.1974 at 9:30 am
8749345.15 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.4.2011 at 7:00 am

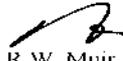




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R.W. Muir
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Identifier SA40D/985
Land Registration District South Auckland
Date Issued 23 March 1988

Prior References
SA37B/513

Estate Fee Simple - 2/3 share
Area 36.2800 hectares more or less
Legal Description Allotment 857 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

Interests

Subject to Section 8 Mining Act 1971

Subject to Section 5 Coal Mines Act 1979

S103502 Lease of part Term from and including 15.8.1955 to 31.12.2895 (save the last day) Leasehold CT SA1253/33 issued - 20.4.1956 at 1.45 pm

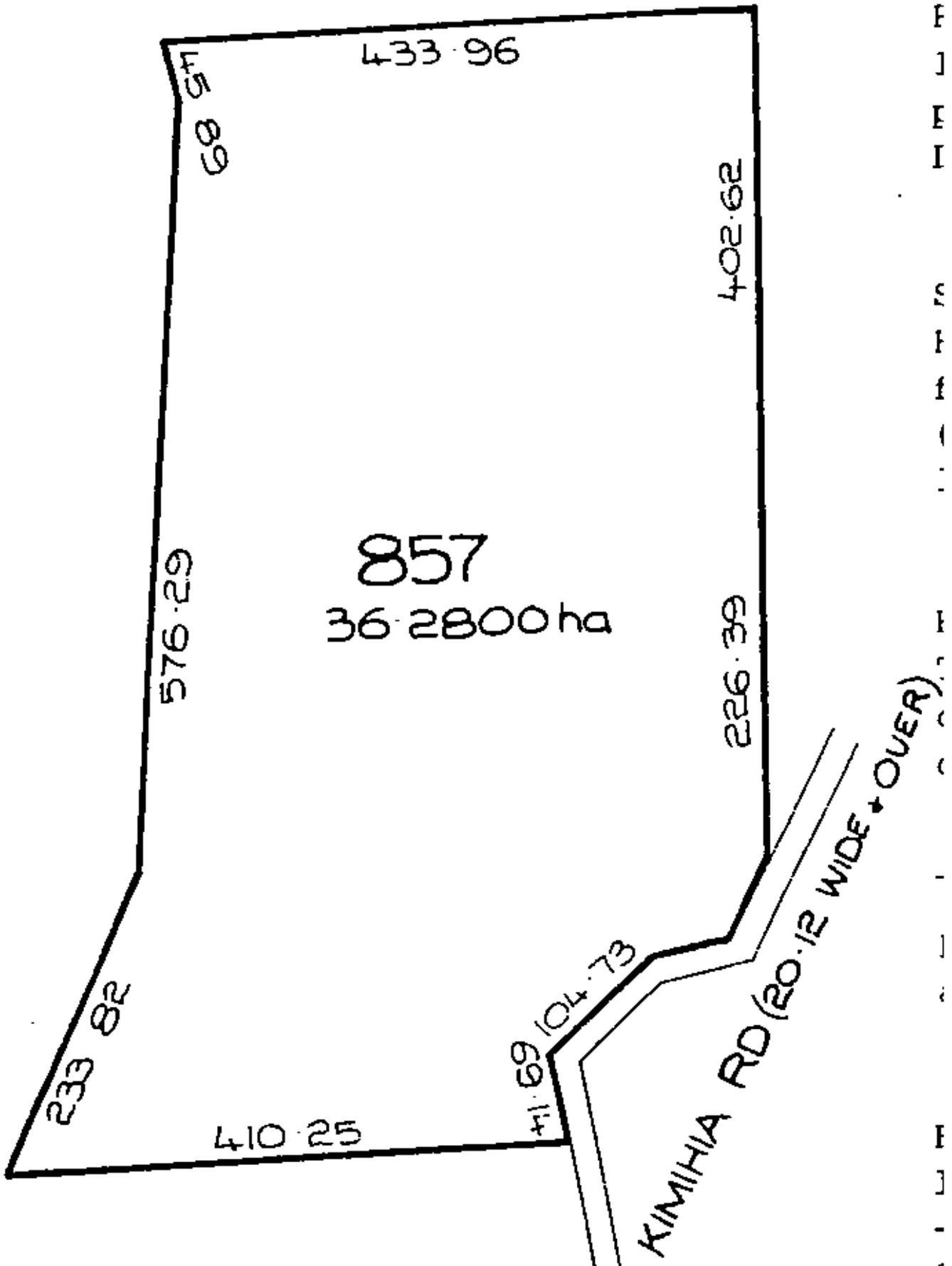
S103578 Lease of part Term from and inclusive 15.8.1955 to 31.12.2895 (save the last day) CIR 420534 issued - 23.4.1956 at 12:20 pm

8749345.15 Notice pursuant to Section 195(2) Climate Change Response Act 2002 - 26.4.2011 at 7:00 am

9801672.1 Notice pursuant to Section 18 Public Works Act 1981.- 6.8.2014 at 9:03 am

9993945.1 Notice pursuant to Section 23 Public Works Act 1981 - 16.3.2015 at 10:33 am

10103799.1 Compensation Certificate pursuant to Section 19 Public Works Act 1981 by Her Majesty the Queen - 23.6.2015 at 4:28 pm

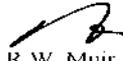




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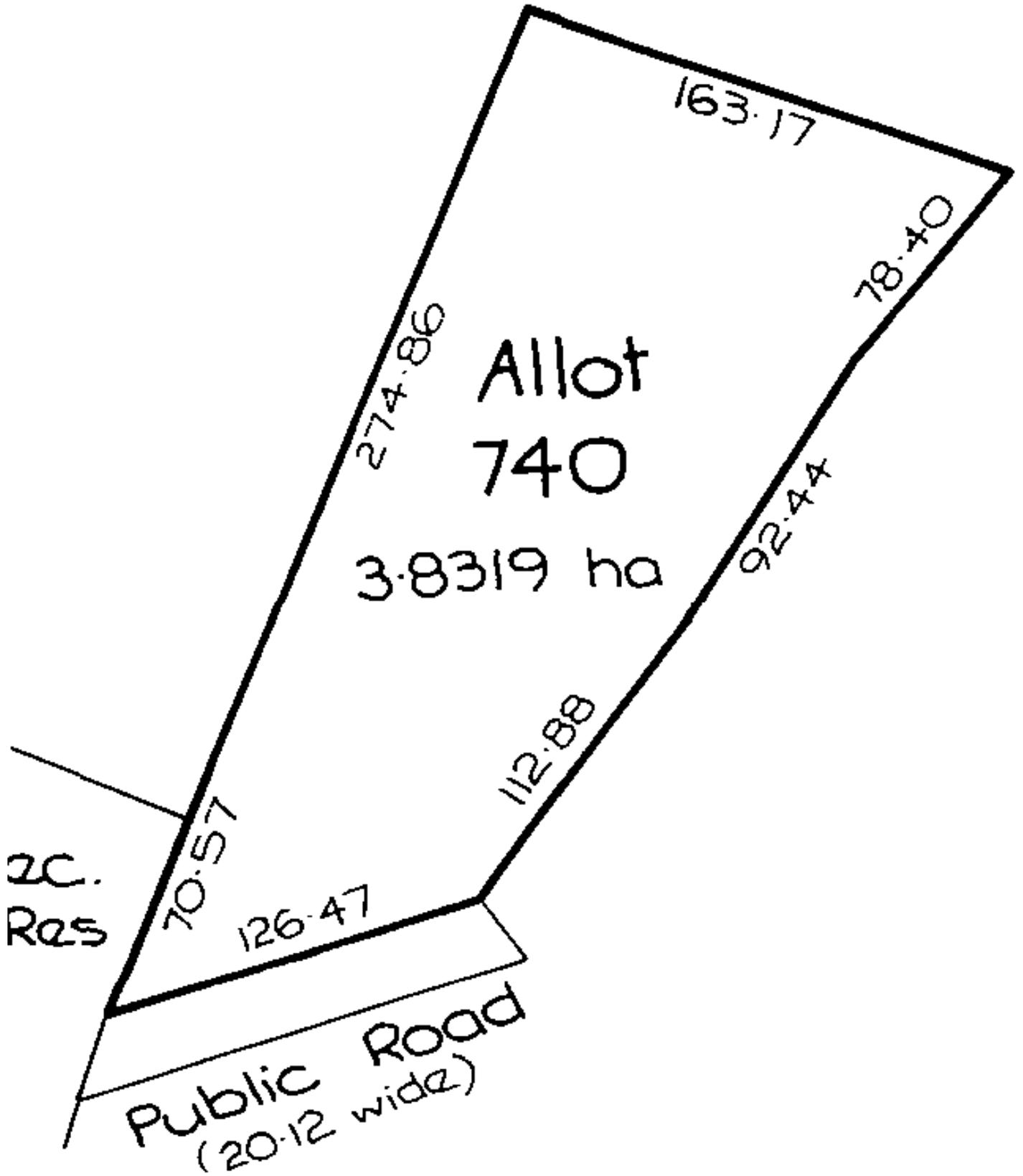

R.W. Muir
Registrar-General
of Land

Identifier SA50A/762
Land Registration District South Auckland
Date Issued 03 March 1992

Prior References
SA5C/1497

Estate Fee Simple
Area 3.8319 hectares more or less
Legal Description Allotment 740 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

Interests
Subject to Section 11 Crown Minerals Act 1991
Subject to Part IV A Conservation Act 1987

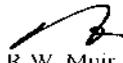




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R.W. Muir
Registrar-General
of Land

Identifier SA51/131 Part-Cancelled

Land Registration District South Auckland

Date Issued 09 September 1888

Prior References

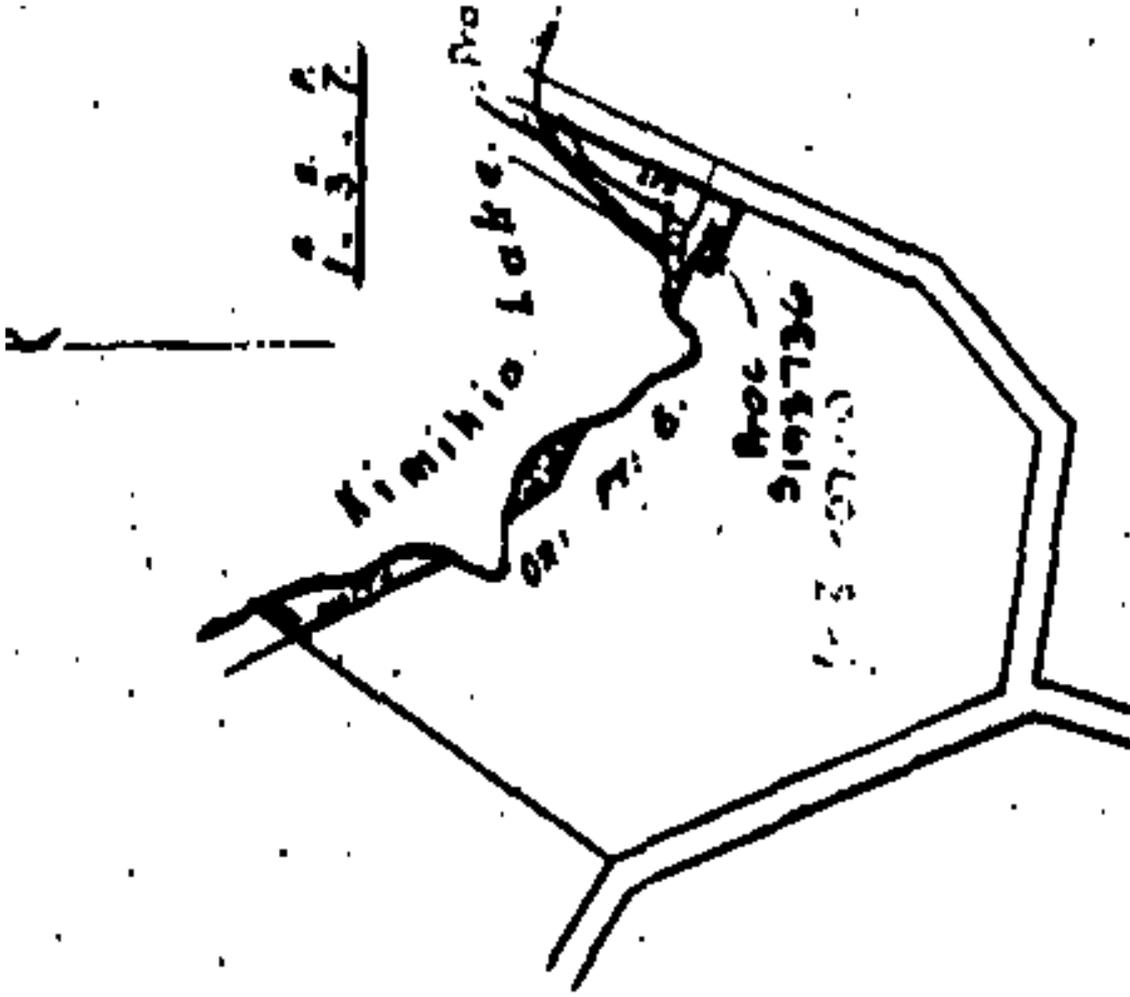
SA51/49

Estate Fee Simple
Area 7259 square metres more or less
Legal Description Allotment 6 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

Interests

Subject to Section 3 Petroleum Act 1937
Subject to Section 8 Atomic Energy Act 1945
Subject to Section 3 Geothermal Energy Act 1953
Subject to Sections 6 and 8 Mining Act 1971
Subject to Section 5 Coal Mines Act 1979
Subject to Section 261 Coal Mines Act 1979
S193736 Proclamation proclaiming part as road - 2.11.1960 at 2.30 pm
S505832 Gazette Notice proclaiming 1 Rood 25 Perches as road - 13.1.1971 at 9.45 am
B677928.2 Gazette Notice (2001 p2336) declaring part within land (2400 m²) is acquired for road and vested in The Waikato District Council, excepting all minerals contained in CsT SA51/131, SA1298/46 and SA1298/47 - 14.9.2001 at 11.20 am
10918111.1 Encumbrance to Solid Energy New Zealand Limited - 3.10.2017 at 10:28 am

Image Quality due
to Condition
of Original

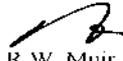




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R.W. Muir
Registrar-General
of Land

Identifier SA61B/799
Land Registration District South Auckland
Date Issued 17 March 1997

Prior References
GN B403789.1

Estate Fee Simple
Area 3835 square metres more or less
Legal Description Section 1 Survey Office Plan 60522
Registered Owners
Allen Fabrics Limited

Interests

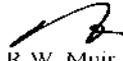
Subject to Section 11 Crown Minerals Act 1991
Subject to Part IV A Conservation Act 1987
B403789.3 Certificate by the Chief Surveyor pursuant to Section 26 State-Owned Enterprises Act 1986 - 17.3.1997 at 11.36 am
10918111.1 Encumbrance to Solid Energy New Zealand Limited - 3.10.2017 at 10:28 am



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Transfer Act 2017**




R.W. Muir
Registrar-General
of Land

Identifier SA251/176 **Part-Cancelled**
Land Registration District South Auckland
Date Issued 09 May 1916

Prior References
WA 1843

Estate Fee Simple
Area 7942 square metres more or less
Legal Description Allotment 515 Parish of Taupiri
Registered Owners
Allen Fabrics Limited

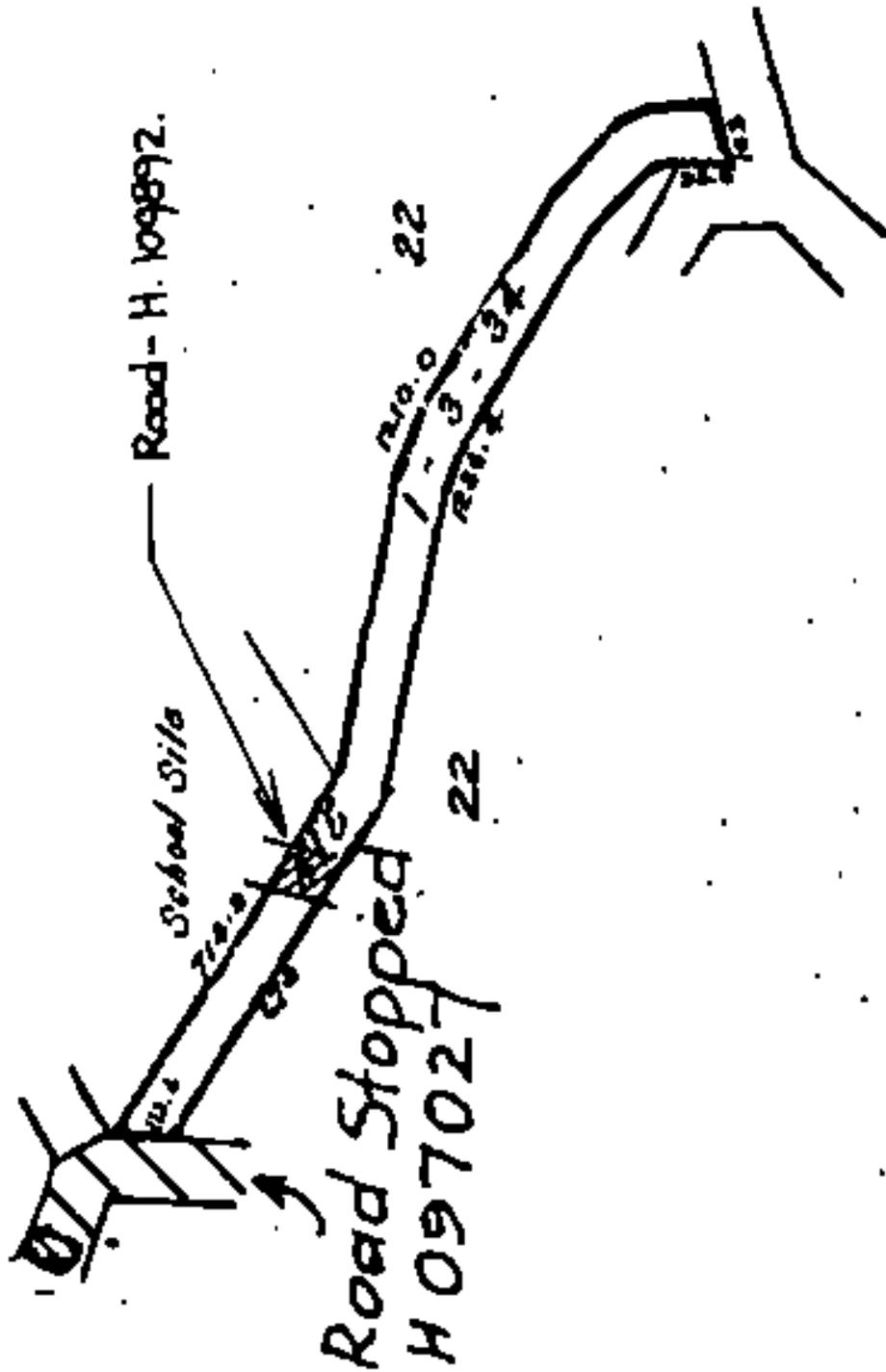
Interests

S602945 Transfer excepting all deposits of aluminous refractory clay and aluminous materials including bauxite gibbsite diasphore and corundium aluminous refractory clays fire clays halloysite and kaolins and reserving mining rights in respect of the said materials and rights ingress egress and regress for all persons lawfully engaged in working the same - 15.5.1973 at 1.55 pm

H109892 Gazette Notice proclaiming part within land (419m²) as road and vesting the same in The Waikato County Council - 30.11.1976 at 10.41 am

H855013.3 Transfer of the minerals excluded in Transfer S602945 to Allen Fabrics Limited - 24.2.1989 at 9.15 am

Taupiri P.S.A



Appendix 3: Proposed Provisions

Kimihia Lakes Zone (KLZ)

Table 1 - KLZ Objectives

KLZ-O1	The Kimihia Lakes Zone develops into a regionally significant facility, that provides for the recreational needs and well-being of people and communities.
KLZ-O2	Buildings, structures and activities do not adversely affect the amenity values or landscape character of the surrounding environment.

Table 2 – KLZ Policies

KLZ-P1: Operation and development	<ul style="list-style-type: none"> (a) Provide for buildings, facilities and infrastructure that will enable the development of the Kimihia Lakes Zone. (b) Provide for a range of activities that enable the operation of the Kimihia Lakes Zone, including recreation, sporting, educational and environmental activities.
KLZ-P2: Development Precinct	<ul style="list-style-type: none"> (a) The Development Precinct is characterised by a cluster of buildings, facilities, associated infrastructure and landscaping which forms an attractive, central lakeside hub for the Kimihia Lakes development. (b) The location of compatible activities within the Development Precinct supports the operational needs of the zone and its visitors.
KLZ-P3: Open Space	Areas of the Kimihia Lakes Zone outside of the Development Precinct are characterised by vegetated areas and open space that are retained for a range of rural, recreation and environmental enhancement activities.
KLZ-P4: Environmental Enhancement	Environmental initiatives are provided within the Kimihia Lakes Zone to enable the ongoing enhancement of the lake and surrounding natural environment.
KLZ-P5: Education	Educational initiatives which provide learning opportunities for students and youth are encouraged.
KLZ-P6: Tourism Significance	The on-going development of the Kimihia Lakes Zone as a regionally significant facility is enabled, whilst providing for the general public to use and enjoy the facilities.
KLZ-P7: Management of Adverse Effects	<p>Adverse effects are managed to ensure the operation of the site does not detract from the amenity of surrounding land uses, and in particular by:</p> <ul style="list-style-type: none"> (a) Encouraging development to occur within the Development Precinct, so that it is located centrally on site and away from neighbouring land uses; (b) Managing the interface of the zone with other zones so that adverse noise and lighting effects on the surrounding zones are minimised; and (c) Managing the adverse traffic effects to ensure the safe and efficient operation and functioning of the adjacent transport network and efficient access to surrounding facilities is maintained at all times; and (d) Ensuring signs that are visible from, or located in close proximity to, a public road are sited to ensure the safe functioning of the public road.

Table 3 - Kimihia Lakes Zone (KLZ) – Rules

All permitted activities must comply with the relevant activity specific conditions, as well as the general performance standards listed in Table 6.

Activity		Activity specific conditions
Permitted activities		
KLZ-R1	Buildings and structures	All buildings and structures must comply with the following standards: (a) The maximum height of any building must not exceed 10m. (b) The maximum building coverage of any individual building must not exceed 150m ² . (c) A building must not protrude through a height control plane rising at an angle of 37 degrees commencing at an elevation of 2.5m above ground level at every point of the site boundary. (d) A building must be setback a minimum of: i. 12m from the boundary of a road (except East Mine Road where it is located within the Kimihia Lakes Zone); ii. 25m from the designation of the Waikato Expressway; iii. 12m from the boundary of a site that is within a separate zone; iv. 25m from the margin of any water body.
KLZ-R2	Construction of structures in and/or over the lake, including (but not limited to) jetties, piers, pontoons and walkways	Nil
KLZ-R3	Up to two dwellings	(a) The dwellings must be only for the use of a manager, caretaker, or other employee on the Kimihia Lakes site, and their household.
KLZ-R4	Operational facilities	Nil
KLZ-R5	Recreation activity and facilities	Nil
KLZ-R6	Outdoor education	Nil
KLZ-R7	Farming	Nil
KLZ-R8	Conservation activities	Nil
KLZ-R9	Bee keeping	Nil
KLZ-R10	Temporary event	(a) The duration of each event must be less than 72 hours; (b) The event may operate between 7.30am to 8:30pm Monday to Sunday; (c) Temporary structures must be removed no more than 3 days after the end of the event; (d) The site must be returned to its previous condition no more than 3 days after the end of the event; (e) Any activity attracting more than 1,100 people in any given hour must provide a Traffic Management Plan (TMP) for approval by the Road Controlling

		<p>Authority. The TMP must include, but is not limited to:</p> <ol style="list-style-type: none"> i. Proposed timing and scale of activities, including the contact details for the event organiser; ii. Consideration of potential conflict with events at the Huntly Speedway; iii. Details of active traffic management at the Great South Road / East Mine Road intersection; iv. Details of journey management initiatives reducing traffic demand at the Great South Road / East Mine Road intersection; v. Details of temporary on-site parking provision; and vi. Details of how off-site parking is to be controlled to avoid parking occurring on the local road network.
KLZ-R11	Signs	<ol style="list-style-type: none"> (a) A sign must not exceed 3m²; (b) The sign height must not exceed 10m; (c) Illuminated signs visible from the outside of the site must not: <ol style="list-style-type: none"> i. Have a light source that flashes or moves; ii. Contain moving parts or reflective materials; (d) Signs must be set back at least 7.5m from an external zone boundary; (e) Signs must be set back at least 15m from the designation of the Waikato Expressway; (f) Any sign visible from the outside of the site must relate to: <ol style="list-style-type: none"> i. An event within the Kimihia Lakes Zone; or ii. A property name sign.
KLZ-R12	Earthworks	<ol style="list-style-type: none"> (a) Areas exposed by earthworks are re-vegetated must achieve 80% ground cover within 6 months of the commencement of the earthworks except where earthworks are for the purposes of creating infrastructure or facilities for recreation, events and access, no re-vegetation is required; (b) Sediment resulting from the earthworks must be retained on the site through implementation and maintenance of erosion and sediment controls; (c) The importation of fill material to site must meet the following conditions: <ol style="list-style-type: none"> i. Does not restrict the ability for land to drain; ii. Is not located within 1.5m of public sewers, utility services or manholes; iii. The sediment from fill material is retained on the site.
KLZ-R13	The use, storage or disposal of hazardous substances	<ol style="list-style-type: none"> (a) The aggregate quantity of any hazardous substances of any hazard classification on a site must be less than the quantity specified for the Kimihia Lakes Zone in Table 5.1 contained within Appendix 5 (Hazardous Substances);

		(b) The storage or use of radioactive materials must be in approved equipment for medical and diagnostic purposes, or specified as an exempt activity or article in the Radiation Safety Act and Regulations 2017.
Restricted Discretionary Activities		
KLZ-R14	Buildings and structures that do not comply with a condition listed in KLZ-R1	<u>Council's discretion is restricted to the following matters:</u> (a) Effects on amenity values; (b) Building location, bulk and design; (c) Proximity to the road and Waikato Expressway; (d) Effects on landscape character; and (e) Flooding effects.
KLZ-R15	Dwellings that do not comply with a condition in KLZ-R3	<u>Council's discretion is restricted to the following matters:</u> (a) Effects on amenity values
KLZ-R16	Signs that do not comply with a condition listed in KLZ-R11	<u>Council's discretion is restricted to the following matters:</u> (a) Effects on amenity values; (b) Effects on traffic safety; (c) Effects of glare and light spill; (d) Content, colour and location of the sign; and (e) Proximity to the road.
KLZ-R17	Earthworks that do not comply with a condition listed in KLZ-R12	<u>Council's discretion is restricted to the following matters:</u> (a) Contamination of fill material; (b) Location of the earthworks to waterways, significant indigenous vegetation and habitat; (c) Flood risk, including natural water flows and established drainage paths; (d) Land instability, erosion and sedimentation; and (e) Proximity to underground services and service connections.
Discretionary Activities		
KLZ-R18	Events that do not comply with a condition in KLZ-R10	
KLZ-R19	The storage, use or disposal of hazardous substances that do not comply with a condition in KLZ-R13	
KLZ-R20	Any permitted activity that does not comply with a general performance standard in Table 6.	
Non-complying activities		
KLZ-R21	Any activity that is not listed as permitted, restricted discretionary or discretionary	

Table 4 - Kimihia Lakes Zone (KLZ) – Rules – Subdivision

Activity	Activity specific conditions	
Restricted Discretionary Activities		
KLZ-R22	General subdivision	General subdivision must comply with all of the following conditions: (a) The Record of Title to be subdivided must be at least 20 hectares in area; (b) The proposed subdivision must create no more than one additional lot, excluding an access allotment;

		<p>(c) The additional lot must have a proposed area of between 8,000m² and 1.6ha; and</p> <p>(d) Land containing high class soil (as determined by a Land Use Capability Assessment prepared by a suitably qualified person) must be contained within the boundaries of only two lots as follows:</p> <ol style="list-style-type: none"> i. one lot must contain a minimum of 80% of the high class soil; and ii. the other lot may contain up to 20% of high class soil. <p><u>Council's discretion is restricted to the following matters:</u></p> <ol style="list-style-type: none"> (a) Subdivision layout and design including dimensions, shape and orientation of the proposed lot; (b) Effects on character and amenity values; (c) Effects on landscape values; (d) Potential for reverse sensitivity effects; and (e) Extent of earthworks including earthworks for the location of building platforms and accessways.
KLZ-R23	Boundary relocation	<p>The boundary relocation must:</p> <ol style="list-style-type: none"> (a) Not result in any additional lot; (b) The Records of Title must form a continuous landholding; and (c) Create one lot of at least 8,000m² <p><u>Council's discretion is restricted to the following matters:</u></p> <ol style="list-style-type: none"> (a) Subdivision layout and design including dimension, shape and orientation of the proposed lots; (b) Effects on character and amenity values; (c) Effects on landscape values; and (d) Potential for reverse sensitivity effects.
Discretionary Activities		
KLZ-R24	A boundary relocation that does not comply with a condition in KLZ-R24.	
Non-complying activities		
KLZ-R25	General subdivision that does not comply with a condition in KLZ-R23.	
KLZ-R26	Any subdivision not provided for.	

Table 5 - Development Precinct (DPREC) – Rules

Activity		Activity specific conditions
Permitted activities		
DPREC-R1	Any activity that is permitted in the KLZ in Table 3.	Refer to the activity specific condition as listed in Table 3, except that the activity specific conditions for KLZ-R1 do not apply to buildings and structures within the Development Precinct.
DPREC-R2	Buildings and structures	<p>All buildings and structures within the Development Precinct must comply with the following standards:</p> <ol style="list-style-type: none"> (a) The maximum height of any building must not exceed 15m.

		(b) A building must be set back a minimum of 25m from the margin of a lake.
DPREC-R3	Travellers accommodation	Nil
DPREC-R4	Restaurants and cafes	Nil
DPREC-R5	Ancillary retail	Retail activities must: (a) Be ancillary to any permitted activity within the KLZ; and (b) Not exceed 50m ²
DPREC-R6	Community facility	Nil
DPREC-R7	Museums	Nil
DPREC-R8	Ancillary office	Offices must: (a) Be ancillary to any permitted activity within the KLZ; and (b) Not exceed 50m ²
Restricted Discretionary Activities		
DPREC-R9	Buildings and structures that do not comply with a condition listed in DPREC-R2	<u>Council's discretion is restricted to the following matters:</u> (a) Effects on amenity values; (b) Building location, bulk and design; (c) Effects on landscape character; and (d) Flooding effects.
Discretionary Activities		
DPREC-R10	Retail activities that do not comply with a condition in DPREC-R5	
DPREC-R11	Offices that do not comply with a condition in DPREC-R8	
DPREC-R12	Any permitted activity which does not comply with a general performance standard in Table 6.	
Non-complying activities		
DPREC-R13	Any activity that is not listed as permitted, restricted discretionary or discretionary.	

Table 6 – General Performance Standards

<i>Rules KLZ(1) – (4) are general performance standards for all permitted and restricted discretionary activities in the KLZ.</i>	
KLZ(1)	Noise - General
	<p>All activities must comply with the following noise standards:</p> <p>(a) Noise measured within the notional boundary on any site in the Residential Zone and Rural Zone must not exceed:</p> <ol style="list-style-type: none"> i. 55dB (LAeq), 7am to 7pm every day; ii. 45dB (LAeq), 7pm to 10pm every day; and iii. 40dB (LAeq) and 65dB (LAm_{ax}), 10pm to 7am the following day. <p>(b) Noise measured within any site in any other zone not specified above must meet the noise levels permitted for that zone.</p> <p>(c) Noise levels must be measured in accordance with the requirements of New Zealand Standard NZS 6801:2008 Acoustics - Measurement of environmental sound.</p> <p>(d) Noise levels must be assessed in accordance with the requirements of New Zealand Standard NZS 6802:2008 Acoustics - Environmental noise.</p>

KLZ(2)	Noise – Construction
	<p>(a) Construction Noise must meet the limits in New Zealand Standard NZS 6803:1999 Acoustics – Construction noise.</p> <p>(b) Construction noise must be measured and assessed in accordance with the requirements of New Zealand Standard NZS6803:1999 Acoustics – Construction noise.</p>
KLZ(3)	Noise – Noise Management Plan
	<p>(a) Prior to development, a Noise Management Plan must be prepared and in place at all times that details the measures to be implemented to ensure that noise within the site does not exceed the limits specified in Rule KLZ(1).</p> <p>(b) The Noise Management Plan must as a minimum, provide details of the following measures:</p> <ol style="list-style-type: none"> i. Procedures and protocols for the setting up, installation and monitoring responsibilities (including reporting) of the noise monitoring device (microphone) located within the Kimihia Lakes development; ii. Procedures for the ongoing testing and calibration of the noise monitoring device (microphone); iii. The erection of any necessary barriers for the purpose of reducing noise emissions; iv. The design and operation of any public address system with respect to management of noise emissions; v. Procedures to monitor all activities and events that may meet the noise levels specified in Rule KLZ(1).
KLZ(4)	Glare and artificial light spill
	<p>(a) Illumination from glare and artificial light spill must not exceed 10 lux measured horizontally and vertically from the boundary of a site that is within a separate zone;</p> <p>(b) Rule KLZ(4)(a) does not apply to streetlights, navigation lights or from vehicles or equipment used in farming activities.</p>

Table 7 - Amendments to Chapter 14: Infrastructure and Energy

Rule reference	Existing Rule	Proposed Amendment
14.12.1.1	<p>All activities must comply with the following vehicle access conditions:</p> <p>....</p> <p>(e) On a site with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy in Tables 14.12.5.5 and 14.12.5.6 (where the roads have the same classification, access is only to the road with the lower average daily traffic movements);</p>	<p>Add underline:</p> <p>...</p> <p>(e) On a site with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy in Tables 14.12.5.5 and 14.12.5.6 (where the roads have the same classification, access is only to the road with the lower average daily traffic movements) <u>except in the Kimihia Lakes Zone where this rule does not apply;</u></p>
14.12.1.4	<p>Any activity must comply with the following traffic generation conditions:</p> <p>...</p>	<p>Add underline:</p> <p>...</p> <p><u>(j) Within the Kimihia Lakes Zone there is a maximum of 850 vehicle movements per hour and no more than 15% of these vehicle movements are heavy vehicle movements.</u></p>

14.12.1.8	Off-road pedestrian and cycling facilities that comply with all of the following conditions: ...	Add underline: ... (a) <u>In the Kimihia Lakes Zone there must be no activity specific conditions.</u>
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Amendments to Appendix 5: Hazardous Substances

Add the Kimihia Lakes Zone to the table with the standards for Rural and Reserve Zone.

New proposed definitions:

Recreation activity and facilities: Means any non-motorised indoor or outdoor passive or active leisure, sports, games or recreational pursuits and buildings in the Kimihia Lakes Zone for participants and/or spectators, whether or not they are undertaken for profit or reward or for which no charge is made, and must include such activities on or in water or land, or in the air and includes but is not limited to:

- Walking, running and cycling tracks
- Training or education
- Club Days and practise activities
- Outdoor skate parks and playgrounds
- Informal Recreation
- Outdoor Pursuits

Outdoor education: Means in the Kimihia Lakes Zone, land or buildings used for the formal or informal education or training and includes (but is not limited to) confidence courses.

Operational Facilities: Means the construction and use of facilities and/or infrastructure to assist in the day to day operation of the Kimihia Lakes Zone, including but not limited to carparking, internal access, ticketing offices, storage and maintenance sheds, ablution facilities, and helipads.

Community facility (as proposed in the National Planning standards): Land and buildings used by members of the community for recreational, sporting, cultural, safety, health, welfare, or worship purposes. It includes provision for any ancillary activity that assists with the operation of the community facility.

Appendix 4: Tracked change provisions

Provision in Original Submission	Proposed Amendments	Explanation
Definitions		
Ancillary Buildings (Kimihi Lakes Recreation and Events Park): Means a supporting building that is subordinate and incidental to a permitted activity undertaken in the Park, including storage units, administration and ablution facilities and clubrooms.	<u>Remove</u>	The proposal provides a permitted activity for all buildings and structures, as well as a permitted activity for “operational facilities” which is considered to cover these aspects.
Commercial Node Areas: Means those specified areas identified on Zone Maps in the Kimihi Lakes Recreation and Events Zone as ‘Commercial Node Areas’.	<u>Remove</u>	The National Planning Standards provide direction around the use of zones and spatial layers. Therefore, it is proposed that the underlying zoning of the site will be used as a Special Purpose Zone, and a “Development Precinct” will be used instead. It is not considered that a specific definition is required for the Development Precinct.
Community Activities and Facilities (Kimihi Lakes Recreation and Events Park): Means in the Kimihi Lakes Recreation and Events Zone, land or building used for community activities, generally established on a not-for-profit basis, and includes buildings for educational purposes, community functions and public toilets or public rooms.	<u>Replace with definition for Community Facility in the National Planning Standards</u>	There is a definition for “Community Facility” in the National Planning Standards. This states: <i>“land and buildings used by members of the community for recreational, sporting, cultural, safety, health, welfare, or worship purposes. It includes provision for any ancillary activity that assists with the operation of the community facility.”</i> In order to be consistent with the National Planning Standards, it has now been determined that a separate definition for Community Activities and Facilities (as originally proposed) is not required.
Operational Facilities: Means the construction and use of facilities and /or infrastructure to assist in the day to day operation of the Kimihi Lakes Recreation and Events Park, including but not limited to carparking, internal access, ticketing offices, storage and maintenance sheds, and helipads.	<u>Amend</u> Means the construction and use of facilities and /or infrastructure to assist in the day to day operation of the Kimihi Lakes <u>Zone Recreation and Events Park</u> , including but not limited to carparking, internal access, ticketing offices, storage and maintenance sheds, and helipads.	Slight changes to reflect the name of the zone.
Outdoor Education: Means in the Kimihi Lakes Recreation and Events Zone, land or buildings used for the formal or informal education or training and includes (but is not limited to) confidence courses.	<u>Amend</u> Means in the Kimihi Lakes Recreation and Events Zone, land or buildings used for the formal or informal education or training and includes (but is not limited to) confidence courses.	Slight changes to reflect the name of the zone.
Outdoor Pursuits: Means moving across land by non-powered means for example biking, orienteering, tramping, and horse trekking.	<u>Remove</u>	Not considered relevant / already covered by other definitions.
Recreation Activity and Facilities: Means any non-motorised indoor or outdoor passive or active leisure, sports, entertainment, games or recreational pursuits and buildings in the Kimihi Lakes Recreation and Events Park Zone for participants and/or spectators, whether or not they are undertaken for profit or reward or for which no charge is made, and shall include such activities on or in water or land, or in the air and includes but is not limited to: <ul style="list-style-type: none">• Recreational events and activities• Walking, running and cycling tracks• Training or education• Club Days and practise activities• Organised Events and festivals• Concerts• Multi sport and off road running events• Outdoor skate parks and playgrounds• Informal Recreation• Tourism related activities• Outdoor Pursuits	<u>Amend</u> Recreation Activity and Facilities: Means any non-motorised indoor or outdoor passive or active leisure, sports, entertainment , games or recreational pursuits and buildings in the Kimihi Lakes Recreation and Events Park Zone for participants and/or spectators, whether or not they are undertaken for profit or reward or for which no charge is made, and shall include such activities on or in water or land, or in the air and includes but is not limited to: <ul style="list-style-type: none">• Recreational events and activities• Walking, running and cycling tracks• Training or education• Club Days and practise activities• Organised Events and festivals• Concerts• Multi sport and off road running events• Outdoor skate parks and playgrounds• Informal Recreation• Tourism related activities• Outdoor Pursuits	Changes better reflect the activities envisaged within the zone to be provided as a permitted activity. Temporary events are covered under a separate rule.
Kimihi Lakes Recreation Zone (KLRZ)		
Objective: Development and operation of the Kimihi Lakes Recreation and Events zone. The Kimihi Lakes Recreation and Events Park develops into a regionally-significant events and recreation facility.	<u>Amend</u> KLRZ-O1: The Kimihi Lakes Zone Recreation and Events Park develops into a regionally-significant events and recreation facility	The name of the Zone has been amended and the “events” aspect has been taken out. The objective has also been further refined to be consistent with the purpose of the RMA. The one existing objective related only to the development of the site and does not reflect the management of adverse effects on the environment, in accordance with Part 2 of the RMA.

	<p><u>that provides for the recreational needs and well-being of people and communities.</u></p> <p><u>New objective:</u></p> <p><u>KLRZ-O2: Buildings, structures and activities do not adversely affect the amenity values or landscape character of the surrounding environment.</u></p>	Therefore, a new objective has been proposed to suit this. This objective also links in with the existing policy relating to the management of environmental effects.
<p>Policy: Operation and development</p> <p>(a) Enable the development of the Kimihia Lakes Recreation and Events zone by providing for the development of the Park, including facilities, buildings, structures and infrastructure to support recreation activities and events.</p> <p>(b) Enable the operation of the Kimihia Lakes Recreation and Events Park by providing for recreational activities, facilities and events including a wide range of community, sporting, educational, environmental and educational activities.</p>	<p><u>Amend</u></p> <p><u>KLRZ-P1: Operation and development</u></p> <p>(a) Enable the development of the Kimihia Lakes Recreation Zone by providing for the development of the Park, including facilities, buildings, structures and infrastructure to support recreation activities and outdoor education.</p> <p>(a) <u>Provide for buildings, facilities and infrastructure that will enable the development of the Kimihia Lakes Zone.</u></p> <p>(b) <u>Provide for a range of activities that enable the operation of the Kimihia Lakes Zone, including recreation, sporting, educational and environmental activities.</u></p> <p>(c) Enable the operation of the Kimihia Lakes Recreation Zone by providing for recreational activities and facilities including a wide range of community, sporting, environmental and educational activities.</p>	Slight re-wording to change the emphasis.
<p>Policy: Environment and Education</p> <p>Encourage environmental and educational initiatives within the Kimihia Lakes Recreation and Events Zone to enable the enhancement of the surrounding natural environment.</p>	<p><u>Replace with two separate policies</u></p> <p><u>KLRZ-P4: Environmental enhancement</u></p> <p><u>Environmental initiatives are provided within the Kimihia Lakes Zone to enable the ongoing enhancement of the lake and surrounding natural environment.</u></p> <p><u>KLZ-P5: Education</u></p> <p><u>Educational initiatives which provide learning opportunities for students and youth are encouraged.</u></p>	This policy was seeking two cover two separate aspects and therefore it has been replaced with two new policies that are more specific.
<p>Policy: Commercial activity</p> <p>Provide for commercial activities in commercial nodes that support the operational needs of the park and its visitors, including cafes, tourism retail, visitor accommodation and function venues.</p>	<p><u>Replace</u></p> <p><u>KLRZ-P2: Development Precinct</u></p> <p>(a) <u>The Development Precinct is characterised by a cluster of buildings, facilities, associated infrastructure and landscaping which forms an attractive, central lakeside hub for the Kimihia Lakes development.</u></p> <p>(b) <u>Locate compatible activities within the Development Precinct that support the operational needs of the zone and its visitors.</u></p>	The new policy better reflects the character of the Development Precinct.
New policy	<p><u>Add</u></p> <p><u>KLZ-P3: Open Space</u></p> <p><u>Areas of the Kimihia Lakes Zone outside of the Development Precinct are characterised by vegetated areas and open space which is retained for a range of rural, recreation and environmental enhancement activities.</u></p>	This new policy reflects that the majority of the site will remain as open space. The rules reflect this, as the areas outside of the Development Precinct retain many of the existing rural provisions.

<p>Policy: Tourism Significance</p> <p>To promote the on-going development of the Kimihia Lakes Recreation and Events Park as a venue for regional, national, and international events and outdoor pursuits, whilst providing for the general public to use and enjoy the facilities.</p>	<p>Amend</p> <p>KLRZ-P5: Tourism Significance</p> <p>To promote the on-going development of the Kimihia Lakes Recreation and Events Park as a venue for regional, national, and international events and outdoor pursuits. <u>The on-going development of the Kimihia Lakes Zone as a regionally significant facility is enabled,</u> whilst providing for the general public to use and enjoy the facilities.</p>	<p>Amendments to better reflect the types of activities proposed for the development.</p>
<p>Policy: Management of adverse effects</p> <p>(a) Manage adverse effects to ensure the operation of the Park does not detract from the amenity of surrounding land uses, in particular:</p> <p>i) Manage the interface of the zone with other zones so that adverse noise and lighting effects on the surrounding zones are minimised; and</p> <p>ii) Manage the adverse traffic safety effects to ensure the safe and efficient operation and functioning of the adjacent transport network and efficient access to surrounding facilities is maintained at all times; and</p> <p>iii) Ensure signs that are visible from, or located in close proximity to, a public road are sited to ensure the safe functioning of the public road; and</p> <p>iv) Manage the effects of artificial outdoor lighting to enable night time use and security.</p>	<p>Amend</p> <p>KLRZ-P6: Management of adverse effects</p> <p>Adverse effects are managed <u>Manage adverse effects</u> to ensure the operation of the Park site <u>Development Precinct</u> does not detract from the amenity of surrounding land uses, in particular:</p> <p>(a) <u>Encouraging development to occur within the Development Precinct, so that it is located centrally on site and away from neighbouring land uses;</u></p> <p>(b) Managing the interface of the zone with other zones so that adverse noise and lighting effects on the surrounding zones are minimised; and</p> <p>(c) Managing the adverse traffic safety effects to ensure the safe and efficient operation and functioning of the adjacent transport network and efficient access to surrounding facilities is maintained at all times; and</p> <p>(d) Ensure signs that are visible from, or located in close proximity to, a public road are sited to ensure the safe functioning of the public road; and</p> <p>(e) Manage the effects of artificial outdoor lighting to enable night time use and security.</p>	<p>A new aspect has been added to this policy, which relates to the Development Precinct. Locating the majority of buildings and structures in this area will minimise adverse effects on neighbours.</p> <p>The last line (e) has been deleted as it is already covered by (b).</p>
Kimihia Lakes Recreation and Events Zone – Activity Status Rules		
<p>Permitted Activities:</p> <p>All permitted activities are subject to compliance with the Land Use Effects, Land Use Building and Activity Specific rules below.</p> <ul style="list-style-type: none"> • Recreation Activity and Facilities • Construction, additions and alterations of buildings to support and/or accommodate Recreation Activities • Construction of structures in and/or over the lake, including (but not limited to) jetties, piers, pontoons and walkways; • Community Activities and Facilities; • Outdoor Education • Commercial activities within the Commercial Node Areas; - Ancillary buildings; • Operational Facilities; • Travellers' Accommodation including campgrounds; • Signs; • Earthworks; • Managers/Caretakers Dwellings. • Bee Keeping • Temporary Event; • A Conservation activity 	<p>Amend</p> <p>Permitted Activities:</p> <ul style="list-style-type: none"> • Recreation Activity and Facilities • Construction, additions and alterations of buildings to support and/or accommodate Recreation Activities • <u>Buildings and structures</u> • Construction of structures in and/or over the lake, including (but not limited to) jetties, piers, pontoons and walkways; • Community Activities and Facilities; • Outdoor Education • Commercial activities within the Commercial Node Areas; - Ancillary buildings; • Operational Facilities and Infrastructure; • Travellers' Accommodation including campgrounds; • Signs; • Earthworks; • Managers/Caretakers Dwellings. • Bee Keeping • Temporary Event; • A Conservation activity • <u>Farming</u> 	<p>The proposal generally seeks to retain the same permitted activities. However, community facilities, traveller's accommodation and commercial activity have been removed, as these will be provided for only in the Development Precinct. It is also proposed to include farming as a permitted activity to allow the use of stock grazing as currently occurring on site.</p>
<p>Restricted Discretionary Activities:</p> <ul style="list-style-type: none"> • Any permitted activity which fails to achieve compliance with any Land Use Effects and Land Use Building rules 	<p>Amend</p> <p>Restricted Discretionary Activities:</p>	<p>Permitted activities that do not comply with the general performance standards will be a discretionary activity. There are however activity specific criteria for some permitted activities,</p>

<ul style="list-style-type: none"> Subdivision Commercial and retail activities outside of the Commercial Node Area 	<ul style="list-style-type: none"> Any permitted activity which fails to achieve compliance with any Land Use Effects and Land Use Building rules Commercial and retail activities outside of the Commercial Node Area Commercial Precinct 	<p>where non-compliance would require a restricted discretionary activity consent. Specific matters of discretion are provided for these activities.</p> <p>Subdivision rules are retained. However, the only relevant rules adopted from the Rural Zone are for general subdivision and boundary relocations (see below).</p> <p>Commercial and retail activities that are outside of the Development Precinct will fall under the catch-all rule which is “any activity that is not listed as permitted, restricted discretionary or discretionary” will be non-complying.</p>
<p>Discretionary Activities</p> <ul style="list-style-type: none"> Any other activity not provided for as a Permitted, Restricted Discretionary or Non-Complying activity. 	<p>Replace</p> <p>Discretionary Activities Non-complying activities Any other activity not provided for as a Permitted, Restricted Discretionary or Non-Complying activity. Discretionary</p>	<p>Activities that are not provided for will be non-complying.</p>
<p>Non-complying Activities</p> <ul style="list-style-type: none"> Motorised recreation activities (excluding construction activities) 	<p>Remove</p>	<p>Motorised recreation activities are not defined in the District Plan. Whilst it is generally not proposed for the site, this may preclude the use of motorbikes (for farming activities) which is not the intention.</p>
<p>Kimihia Lakes Recreation and Events Zone – Land Use Effects Rules</p>		
<p>Adopt the following Reserve Zone rules (as notified):</p> <ul style="list-style-type: none"> Noise standards 25.2.1.1, 25.2.1.2 Glare and Artificial Light Spill standards 25.2.3 Hazardous Substances standards 25.2.5 	<p>Retain</p>	<p>The noise standards have been retained although slightly amended to remove those zones that are not relevant.</p> <p>Glare and artificial lighting and hazardous substance provisions have been retained.</p>
<p>Noise - General</p> <p>Insert new standards (underlined):</p> <p>P4 Noise in the Kimihia Lakes Recreation and Events Zone Activity Specific Condition:</p> <p>Site Noise Monitoring</p> <p>(a) A Noise Management Plan shall be in place at all times, that details the measures to be implemented to ensure that noise does not exceed the limits specified in Rule xxx (ie the permitted Reserve Zone rules);</p> <p>(b) The Noise Management Plan shall as a minimum, provide details of the following measures:</p> <ol style="list-style-type: none"> Procedures and protocols for the setting up, installation and monitoring responsibilities (including reporting) of the noise monitoring device (microphone) located within the Kimihia Lakes Recreation and Events Park Procedures for the ongoing testing and calibration of the noise monitoring device (microphone) The erection of any necessary barriers for the purpose of reducing noise emissions; The design and operation of the public address system with respect to management of noise emissions; Procedures to monitor all activities and events that may meet the noise levels specified in Rule xxx (ie the permitted Reserve Zone rules) 	<p>Amend</p> <p>(a) <u>Prior to development</u>, a Noise Management Plan <u>must be prepared and shall be</u> in place at all times, that details the measures to be implemented to ensure that noise <u>within the site</u> does not exceed the limits specified in Rule <u>KLZ(1)</u> xxx (ie the permitted Reserve Zone rules);</p> <p>(b) The Noise Management Plan shall <u>must</u> as a minimum, provide details of the following measures:</p> <ol style="list-style-type: none"> Procedures and protocols for the setting up, installation and monitoring responsibilities (including reporting) of the noise monitoring device (microphone) located within the Kimihia Lakes Recreation and Events Park <u>Development</u>; Procedures for the ongoing testing and calibration of the noise monitoring device (microphone) The erection of any necessary barriers for the purpose of reducing noise emissions; The design and operation of the any public address system with respect to management of noise emissions; Procedures to monitor all activities and events that may meet the noise levels specified in Rule xxx (ie the permitted Reserve Zone rules) <u>KLZ(1)</u>. 	<p>Slight amendments to reflect when the noise management plan must be in place.</p>
<p>Earthworks</p> <p>P1: (a) Earthworks within the site must meet the following conditions:</p> <ol style="list-style-type: none"> Be located more than 1.5m from a public sewer, open drain, overland flow path or other service pipe; Areas exposed by earthworks are re-vegetated to achieve 80% ground cover within 6 months of the commencement of the earthworks except where earthworks are for the purposes of creating infrastructure or facilities for recreation, events and access, no revegetation is required. Sediment resulting from the earthworks is retained on the site through implementation and maintenance of erosion and sediment controls. 	<p>Amend</p> <p>(i) Be located more than 1.5m from a public sewer, open drain, overland flow path or other service pipe;</p> <p>(ii) Areas exposed by earthworks are re-vegetated to achieve 80% ground cover within 6 months of the commencement of the earthworks except where earthworks are for the purposes of creating infrastructure or facilities for recreation, events and access, no revegetation is required.</p> <p>(iii) Sediment resulting from the earthworks is retained on the site through implementation and maintenance of erosion and sediment controls.</p>	<p>Slight amendments to allow for earthworks for infrastructure, and combining the provision relating to fill below.</p>

	<p>(c) <u>The importation of fill material to site must meet the following conditions:</u></p> <p>i. <u>Does not restrict the ability for land to drain;</u></p> <p>ii. <u>Is not located within 1.5m of public sewers, utility services or manholes;</u></p> <p>iii. <u>The sediment from fill material is retained on the site.</u></p>	
<p>P2: (a) The importation of fill material to a site shall meet all of the following conditions in addition to Rule 26.2.5.P1:</p> <p>(i) Does not restrict the ability for land to drain;</p> <p>(ii) Is not located within 1.5m of public sewers, utility services or manholes;</p> <p>(iii) The sediment from fill material is retained on the site.</p>	<p><u>Added to earthworks condition above</u></p>	
<p>RD1:</p> <p>(a) Earthworks that does not comply with Rule P1 or P2.</p> <p>(b) Council's discretion is restricted to the following:</p> <p>(i) Contamination of fill material;</p> <p>(ii) Location of the earthworks to waterways, significant indigenous vegetation and habitat;</p> <p>(iii) Flood risk, including natural water flows and established drainage path</p> <p>(iv) Land instability, erosion and sedimentation; and</p> <p>(v) Proximity to underground services and service connections.</p>	<p><u>Retain</u></p>	
<p>Signs P1</p> <p>(a) A sign shall comply with all of the following conditions:</p> <p>(i) It does not exceed 3m²;</p> <p>(ii) The sign height does not exceed 10m;</p> <p>(iii) Illuminated signs visible from the outside of the site shall not:</p> <p>A. Have a light source that flashes or moves;</p> <p>B. Contain moving parts or reflective materials;</p> <p>(iv) It is set back at least 7.5m from an external zone boundary</p> <p>(v) It is set back at least 15m from State Highway 1;</p> <p>(vi) Is orientated to be internally facing so the main audience are spectators or visitors on site;</p> <p>(vii) Is screened from State Highway 1;</p> <p>(viii) Any sign visible from the outside of the site shall relate to:</p> <p>A. Any recreation or event within the Recreation and Events Zone; or</p> <p>B. A property name sign.</p>	<p><u>Amend</u></p> <p>(i) It does not exceed 3m²;</p> <p>(ii) The sign height does not exceed 10m;</p> <p>(iii) Illuminated signs visible from the outside of the site shall not:</p> <p>A. Have a light source that flashes or moves;</p> <p>B. Contain moving parts or reflective materials;</p> <p>(iv) It is set back at least 7.5m from an external zone boundary</p> <p>(v) It is set back at least 15m from <u>State Highway 1; the designation boundary of the Waikato Expressway</u></p> <p>(vi) Is orientated to be internally facing so the main audience are spectators or visitors on site;</p> <p>(vii) Is screened from State Highway 1;</p> <p>(viii) Any sign visible from the outside of the site shall relate to:</p> <p>A. Any recreation or event within the <u>Recreation and Events Zone Kimihia Lakes Zone</u>; or</p> <p>B. A property name sign.</p>	<p>Slight amendments to clarify that the setback shall be from the designation boundary.</p>
<p>RD 1</p> <p>(a) Any sign that does not comply with P1;</p> <p>Council's discretion is restricted to the following matters:</p> <p>(i) Effects on amenity values;</p> <p>(ii) Effects on traffic safety;</p> <p>(iii) Effects of glare and light spill;</p> <p>(iv) Content, colour and location of the sign;</p> <p>(v) Proximity to the road.</p>	<p><u>Retain</u></p>	
<p><u>Managers/Caretakers dwelling</u></p> <p>P1 Up to 2 manager's/caretaker's dwellings are permitted in the Park.</p>	<p><u>Amend</u></p> <p><u>The dwellings must be only for the use of a manager, caretaker, or other employee on the Kimihia Lakes site, and their household.</u></p>	<p>Slight amendment to the permitted activity condition to allow for managers, caretakers, or other employees and their household.</p>
<p>RD2: Any managers/caretakers dwelling which fails to comply with P1.</p> <p>Council's discretion is restricted to the following matters:</p> <p>(i) Effects on amenity values.</p>	<p><u>Retain</u></p>	
<p>Commercial node:</p> <p>P1: Commercial activities shall be limited to:</p>	<p><u>Amend</u></p>	<p>Removing activities that are already provided for across the KLZ and instead adding "any activity that is permitted in the KLZ".</p>

<ul style="list-style-type: none"> • Traveller's accommodation, • hospitality (such as café, restaurant), • functions, • education, • recreation activities and events, • support facilities (such as ticketing, hireage kiosks and administration, offices and ablution buildings), and • ancillary retail. 	<ul style="list-style-type: none"> • <u>Any activity that is permitted in the KLZ</u> • <u>Buildings and structures</u> • Travellers accommodation • Restaurants and cafes • Functions • Education • Recreation activities and events • Support facilities • Ancillary retail • <u>Community facility</u> • <u>Museums</u> • <u>Ancillary office</u> 	<p>Also allowing for museums, community facility and ancillary offices which have been proposed for the site within the masterplan.</p> <p>Functions will be covered under temporary activities and therefore this has been removed to avoid duplication.</p>
<p>RD1: Any commercial activity not listed in P1 Council's discretion is restricted to the following matters: (i) Effects on amenity values.</p>	<p>Remove</p>	<p>Similar approach to the remainder of the KLZ (as outlined above) – activities not provided for will be non-complying.</p>
<p>Kimihia Lakes Recreation and Events Zone – Land Use Building Rules</p>		
<p>Adopt the following Rural Zone provisions (as notified) for the Kimihia Lakes Recreation and Events zone:</p> <ul style="list-style-type: none"> • 22.3.5 – Daylighting Admission; and • 22.3.7.1 – Building setbacks. <p>No other rules are necessary given the unique nature of the type of buildings, such as jetties, ziplines etc.</p>	<p>Replace:</p> <p><u>Buildings and structure within the whole KLZ:</u></p> <p><u>All buildings and structures must comply with the following standards:</u></p> <p><u>(a) The maximum height of any building must not exceed 10m.</u></p> <p><u>(b) The maximum building coverage of any individual building must not exceed 150m².</u></p> <p><u>(c) A building must not protrude through a height control plane rising at an angle of 37 degrees commencing at an elevation of 2.5m above ground level at every point of the site boundary.</u></p> <p><u>(d) A building must be setback a minimum of:</u></p> <ul style="list-style-type: none"> <u>i. 12m from the boundary of a road (except East Mine Road where it is located within the Kimihia Lakes Zone);</u> <u>ii. 25m from the designation of the Waikato Expressway;</u> <u>iii. 12m from the boundary of a site that is within a separate zone;</u> <u>iv. 25m from the margin of any water body.</u> <p><u>Buildings and structures within the Development Precinct:</u></p> <p><u>(a) The maximum height of any building must not exceed 15m.</u></p> <p><u>(b) A building must be set back a minimum of 25m from the margin of a lake.</u></p>	<p>The building setbacks and daylight admission have been retained, however a building height limit and building coverage limit for the KLZ has been added. This is similar to the Rural Zone provisions and reflects that these areas on site shall be retained generally as open space.</p> <p>For the Development Precinct, there is no building coverage and the maximum height limit is 15m rather than 10m. This reflects that this area is where most development will occur, and is therefore more enabling than the remainder of the site.</p>
<p>Kimihia Lakes Recreation and Events Zone – Subdivision</p>		
<p>Adopt the Rural Zone Subdivision (as notified) provisions for the Kimihia Lakes Recreation and Events Zone except for:</p> <ul style="list-style-type: none"> • Provision 22.4.7 as no esplanade reserve or strip should be required to be vested, when the entire land holding is for recreation and environmental enhancement; • In the commercial node, Every allotment, excluding an access allotment or utility allotment, shall have a net site area of at least 225m² 	<p>Amend:</p> <p>Provision 22.4.7 as no esplanade reserve or strip should be required to be vested, when the entire land holding is for recreation and environmental enhancement;</p> <p>In the commercial node, Every allotment, excluding an access allotment or utility allotment, shall have a net site area of at least 225m²</p>	<p>The subdivision rules from the Rural Zone have been copied over into the KLZ, however only the rules for general subdivision and boundary relocation. Subdivision within this zone is generally not expected.</p> <p>The proposed additional provisions from the original submission have been removed as they are no longer considered relevant.</p>
<p>Infrastructure and Energy Chapter</p>		

<p>Adopt the following new provisions (<u>underlined</u>) to Chapter 14.12.1 Transportation, Permitted Activities: P1 Vehicle access for all activities, Activity specific conditions 14.12.1.1 e) On a site with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy in Tables 14.12.5.5 and 14.12.5.6 (where the roads have the same classification, access is only to the road with the lower average daily traffic movements) <u>except in the Kimihia Lakes Recreation and Events Zone where this rule does not apply.</u></p>	<p><u>Retain</u></p>	<p>Explanation provided in ITA</p>
<p>Adopt the following new provisions (<u>underlined</u>) to Chapter 14.12.1 Transportation, Permitted Activities: P2 On-site parking and loading, Activity specific conditions 14.12.1.2 2) <u>In the Kimihia Lakes Recreation and Events Zone the above standards do not apply providing that:</u> a) <u>A minimum of 1500 on-site parking spaces shall be provided except where activities are undertaken within the carpark area or where activity demand exceeds 1500 car parks, then temporary alternative on-site parking shall be provided.</u></p>	<p><u>Remove</u></p>	<p>Explanation provided in ITA</p>
<p>Adopt the following new provisions (<u>underlined</u>) to Chapter 14.12.1 Transportation, Permitted Activities: P4 Traffic Generation, Activity specific conditions 14.12.1.4 j) <u>Within the Kimihia Lakes Recreation and Events Zone, there shall be no maximum traffic generation provided that:</u> a) <u>A certified Traffic Management Plan (which shall include, but is not limited to, the provisions of a wide area assessment) shall be in place and implemented for all activities.</u> <u>The Traffic Management Plan shall:</u> i) <u>Provide for the supervision and control of patrons entering and exiting the Kimihia Lakes Recreation and Events Park, and the transportation of patrons to and from the Park;</u> ii) <u>Limit the speed of traffic within the Kimihia Lakes Recreation and Events Park to 30km/h</u> iv) <u>Provide for monitoring and reporting on the number of vehicle movements for all activities and events;</u> v) <u>Include protocols for undertaking reviews of the Traffic Management Plan by an Implementation Monitoring Committee consisting of the New Zealand Police, the Council and the Kimihia Lakes Recreation and Events Park operator</u> vi) <u>Be reviewed, certified and endorsed by the Council, by (date) of each year.</u> b) <u>For any activity or event, or combination of activities and events where there is likely to be in excess of 5,000 people, the operator of the park shall advise the Council a minimum of 10 working days before the activity and event occurs of the details of the activity and event and the relevant provisions of the Traffic Management Plan that are to be implemented.</u></p>	<p><u>Replace</u></p> <p><u>(j) Within the Kimihia Lakes Zone there is a maximum of 850 vehicle movements per hour and no more than 15% of these vehicle movements are heavy vehicle movements.</u></p>	<p>Explanation provided in ITA</p>
<p>Adopt the following new provisions (<u>underlined</u>) to Chapter 14.12.1 Transportation, Permitted Activities: P8 Off-road pedestrian and cycle facilities, Activity Specific Condition 14.12.1.8 b) <u>In the Kimihia Lakes Recreation and Events Zone there shall be no activity specific conditions.</u></p>	<p><u>Retain</u></p>	<p>Explanation provided in ITA</p>
<p>Proposed residential zoning</p>	<p><u>Remove</u></p>	<p>Residential no longer proposed.</p>

Appendix 5: Original submission



3 October 2018

Submission to the Proposed Waikato District Plan
Waikato District Council
Private Bay 544
Ngaruawahia 3742

Sent via Email to: districtplan@waidc.govt.nz and Sandra.kelly@waidc.govt.nz
Cc: Murray and Jennifer Allen - allfab@xtra.co.nz
Charlie Young- cmy58@hotmail.com

Dear Sir/Madam

SUBMISSION TO THE PROPOSED WAIKATO DISTRICT PLAN ON BEHALF OF ALLEN FABRICS LIMITED

1. INTRODUCTION

1.1 Submitter Details

Louise Feathers Planning Limited have prepared the following submission to the Proposed Waikato District Plan on behalf of Allen Fabrics Limited ("AFL").

AFL have owned land on Kimihia Road since 1987 and have undertaken lifestyle subdivision (2500m²-5000m² approx) on part of this, with balance land being grazed and Carbon Credit Forested. AFL have recently purchased the now defunct Huntly East Mine and have grand intentions of developing the majority of this land as a 100ha (approximately) recreation and events park to provide a community and sporting facility for not only the Huntly community, but to act as a regionally significant tourist attraction. The remaining land, located adjacent to the existing residential zone (south west) is sought to be rezoned from Rural to Residential for subdivision and sale to fund the development of what is to be known as the "Kimihia Lakes Recreation and Events Park."

It is important to note here that this submission to rezone land and provide specific provisions for that zone does not include the existing Lake Kimihia to the north of the site, which is a DOC owned and Gazetted site (for purposes of Wildlife Management). The new lake, central to this submission is in private ownership and is for recreation and events purposes.

Attached as Appendix 1 are plans to depict the site subject to this submission along with the proposed rezoning and an example of possible activities.

1.2 Property Address Details

The land subject to this submission includes the following:



Legal Description	Area
Section 3 SO 482553 and Lot 1 DPS 20619 (CFR805391)	89.6ha
Allotment 746 Parish of Taupiri (CFR:SA10D/800)	21.87ha
Section 1 SO Plan 60522 (CFR:SA61B/799)	0.38ha
Allotment 740 Parish of Taupiri (CFR:SA50A/762)	3.8ha
Lot 18-21 DP 347582 and Sec 3 SO Plan 400374 (CFR:195501)	21.35ha
Allotment 777 Parish of Taupiri (CFR:SA18B/1138)	2ha
Lot 23A Section 463 Parish of Taupiri (CFR:SA30A/356)	4.85ha
Allot 857 Parish of Taupiri (SA40D/985)	36.28ha
Allot 515 Parish of Taupiri (CFR:SA251/176)	0.75ha
Allot 789 Parish of Taupiri (SA26C/345)	1.7ha
Allotment 6 Parish of Taupiri (SA51/131)	0.51ha
TOTAL LANDHOLDING (Approx)	183ha

A copy of all Certificates of Title are attached as **Appendix 3**.

An aerial photo showing the location of the site and the surrounding area is provided in Figure 1 below:



Figure 1 Aerial Photo of the Site and the Surrounding Area (Source: ChowHill Architects)



1.3 Existing Land Use Zoning, Activities and Development

1.3.1 Zoning

The subject site is (predominantly) zoned Rural under both the Operative District Plan and the Proposed District Plan (as notified July 2018), with the following overlays and notations fully or partially affecting the overall site as listed in the table below and as demonstrated in Figures (2 and 3) below:

Operative District Plan	Proposed District Plan (as notified July 2018)
Rural	Rural
Coal Mining Policy Area	
Waikato River Catchment	Waikato River Catchment
Designation (J19 – NZTA)	
Area of Interest (Energy Surface Facility)	

NB: Lot 18-21 DP 347582 and Sec 3 SO Plan 400374 (CFR:195501) is split Residential/Rural in both plans.

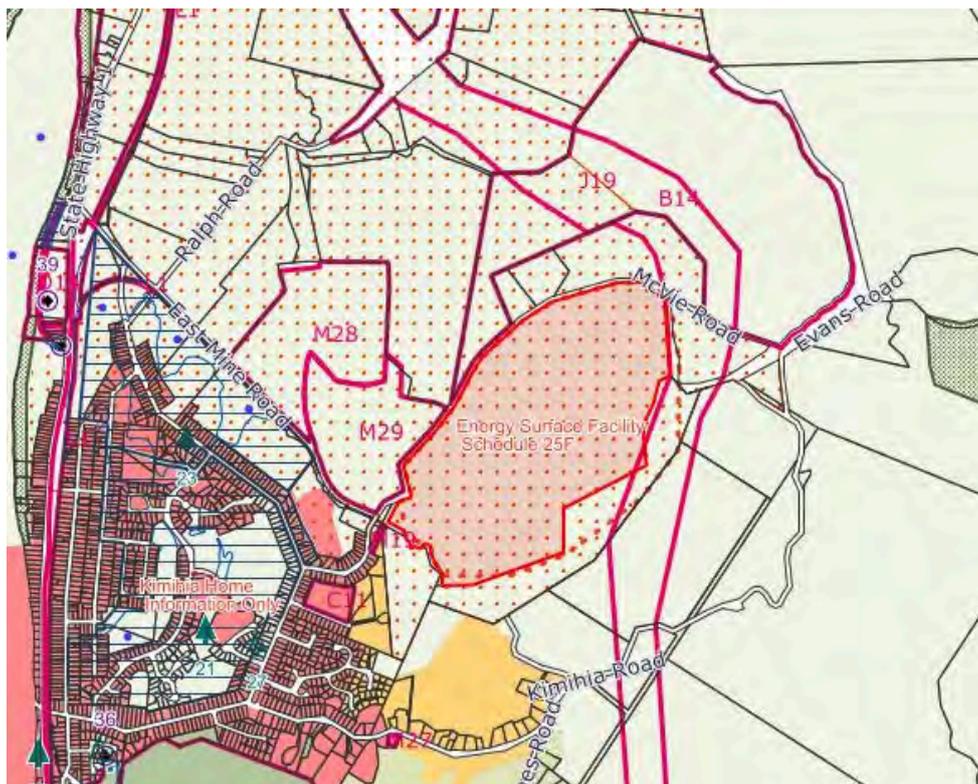


Figure 2 ODP Zoning

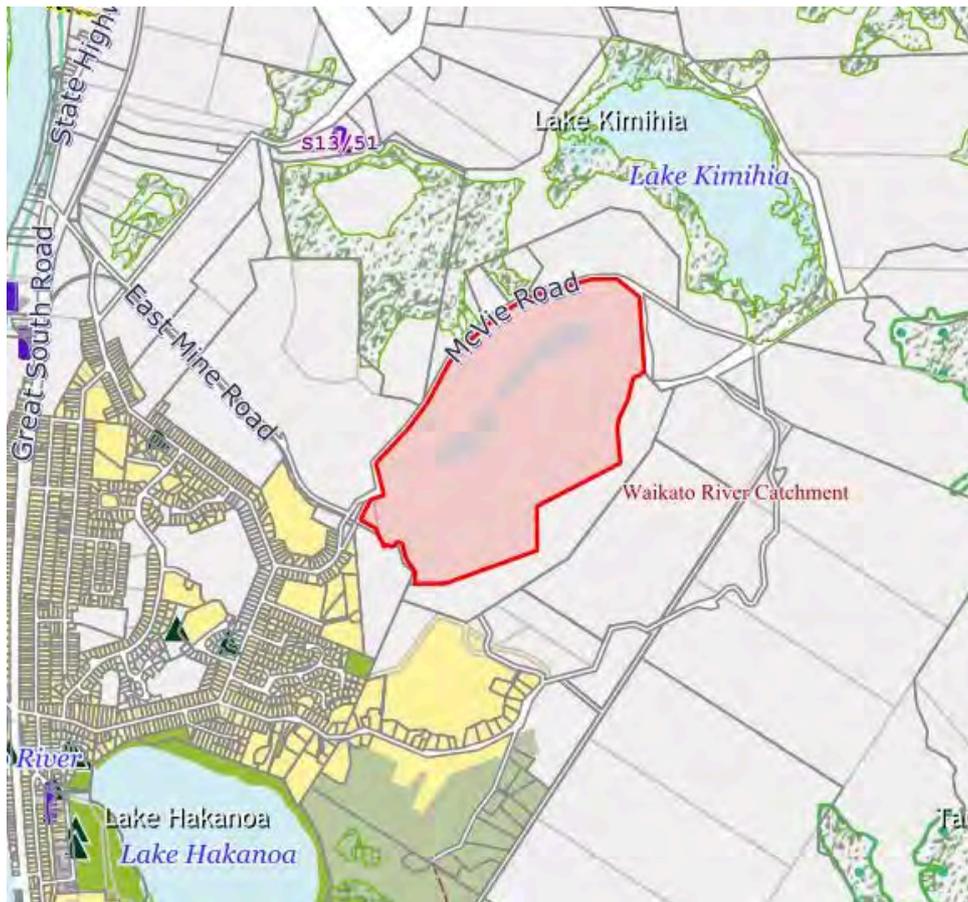


Figure 3 PDP (as Notified July 2018) Zoning

1.3.2 Historical Use and Development

There were several historic mines located on the subject land and prior to being the Kimihia Opencast Mine, the area was part of the natural Kimihia Lake. In 1944 the New Zealand State Coal Mines decided to develop an open pit. A stop bank was constructed across the lake, with water pumped out of the southern portion, then overburden removed from the coal seams underneath. The lake was reduced from 318 hectares to 58 hectares. After the coal was recovered from the pit, Coal Corp (later Solid Energy ownership) changed the mine to an underground operation with the name Eastmine which operated from 1978 until 2015.

At its peak, 200 direct employees and 50 contractors worked at the mine and 450 kilo-tonnes of coal was produced (in 2014). The site development comprised of rail lines, workers houses and significant infrastructure including 3 drift entries with roading up to 350m below river level.

Several large scale buildings and many ancillary buildings occupied the site to support the coal mining, with well formed and heavily compacted roading and access networks to accommodate the heavy machinery.

1.3.3 Closure

According to the 'Management Plan – Huntly East Mine' dated January 2018 (page 2) – copy attached as Appendix 2, a closure plan was developed to ensure that an appropriate sequence



for closure was implemented, and that the site would be left in good order for future utilisation by the new owners. The Plan states (page 2):

Conceptually it had been long envisaged that the old Kimihia Opencast area in which the majority of surface structures and the mine portals were situated would be allowed to flood and that this would result in a second Kimihia lake which would be connected...to the existing Kimihia lake and then ultimately connecting to the Waikato River.

AFL purchased the land from Solid Energy in 2017 with a clear intention to develop that second Kimihia lake as envisaged by Solid Energy. AFL have much broader aspirations for the site however, and we seek the re-zoning of the majority of the land to allow the Kimihia Lakes Recreation and Events park to become a reality.

1.3.4 Current Use

AFL have been progressively improving the land through pest and weed control, installation of tracks and general maintenance. Minor grazing also occurs along with lifestyle activities on the residential zoned land.

As the pumping of water from the quarry has ceased, and the old opencast mine area is refilling with water and water will continue to rise until it gets to the drainage level and connects to the existing lake Kimihia to the north.

Many buildings have been removed, however some still remain and may be reused as ticketing booths and the like.



2. VISION OF AFL

AFL purchased the closed Huntly East Mine with a vision of developing the majority of this land as a recreation and events park to provide a community and sporting facility. The central premise to the park is the re-instatement and restoration of the historical Kimihia Lake and to enhance the wider environment, through education, experience and involvement. The scale of the vision is vast, as is the landholding area involved, which enables the development of a facility that is not only for the Huntly community, but as a regionally significant tourist attraction.

AFL recognise this project as a 'lifelong' legacy and in order to fulfil the vision funding is required, both at the outset to establish the infrastructure and continuously in order to maintain that infrastructure. To this end, AFL seek the retention of existing owned land as Residential along with an extension to the Residential zone, to allow for subdivision and development as a funding source. Commercial nodes are proposed within the area alongside the lake, from which leases would provide for that ongoing maintenance. It is envisaged as a natural 'playground' with the intention that clubs and charity organisations would have free use of a part of the property and be encouraged to provide facilities and events that will attract public ticket sales.

There is no end to the type of recreation and events that could be held here, with the one exclusion of power/motored activities. For example speed boats and dirt bikes are not envisaged. Rather activities such as rowing, waka ama and mountain biking are proposed to be provided for.

It is anticipated that it will take approximately 7 years to fill the lake, at which stage a total depth of 58 metres from its present depth of 16 metres at mid-September 2018 would be envisaged.

Existing infrastructure including roads and parking areas form the bones of this Park, with added accessibility should any off ramp be formed from the expressway in the immediate vicinity. Existing Council walkways connect to the site providing for connectivity with the existing Huntly community.

Essentially, the area will be known as the Kimihia Lakes Recreation and Events Park where there will be three key facilities/areas:

- I. The lake upon which all types of water based and waters-edge based sports, recreation activities including events (and non-powered boating) would occur;
- II. The Commercial Nodes immediately adjacent to the lake where a community and education focussed 'Aquatic Centre' would be built along with ancillary recreation and retail facilities such as cafes, hireage kiosks, administration and storage, visitor accommodation etc; and
- III. The remaining natural area where all types of non-motorised recreation activities and events could occur, including walking, biking, horsetrekking, freedom camping and environmental enhancement.

The Residential area is proposed to be located outside the Park.



AFL will develop this Park over time, therefore we do not wish to limit or list activities, however to assist the public and Council in understanding the opportunities that this facility would provide to the community, below is a list from AFL of 'possibilities'. Both formal/organised events and activities and informal recreation would be envisaged.

Water/Lake based	Land based	Environmental and Education based	Events based	Buildings and Structures
Waka ama	Freedom camping/motorhome sites	Nursery and native planting	Music festivals/concerts in the natural amphitheatres	Caretakers residence
Rowing, Kayaking Paddling etc	Zip Lines/flying foxes	Outdoor education/school trips	Races (Marathon, BMX, mountain biking)	Jetties/boat ramps, pontoons
Scuba Diving & Training	Luges	Bird sanctuary	Multi-sport type events	Hireage kiosks/ancillary offices and storage facilities, general administration and ablution facilities.
Water slides	Artificial Ski Slopes	Demonstration Farm	School sports	Retail / cafes
Fishing	Archery Range	Beekeeping	Regional competitions	Aquatic Centre
Model boats	Airsoft Gaming with biodegradable pellets	Any type of training/instruction.	Cultural activities and events	Confidence courses
Swimming	Forest run/walk/cycle tracks	Reinstatement of the Railway & move the historic Rail Station back from its redundant position at Puketurini	Arts/Sculpture,	Motel/visitor accommodation areas
Beach/sand activities and events	Pedestrian connections with adjoining networks	Regular lessons or training (ie not events) eg Swimming lessons and Sports Clubs	Fairs, fetes, markets.	Swing bridges and Jump platforms
				Storage and workshop sheds (Ancillary buildings)

It is envisaged that no more than 10,000 people would be accommodated on site at any one time, with 'large' activities/events of 5000 people more likely to be the norm.

Figure 4 below visually depicts a selection of envisaged activities and events at the Kimihia Lakes Recreation and Events Park.



Figure 4 – Selection of envisaged activities (Source – Chowhill Architects)



3.0 PROPOSED DISTRICT PLAN PROVISIONS

There is currently no zone or provisions in the Proposed District Plan (nor the Operative District Plan) that provides a good fit for the creation of a recreation and events based park such as this, on this scale. Neither are the provisions as contained within the existing zones or district wide rules able to be relied on in order to establish and operate this park.

For example, in the rural zone and reserves zone of the PDP, temporary events are restricted, and education, commercial and travellers accommodation are all either Discretionary or Non-Complying activities.

The District Plan provides for these 'out of the box' and significant developments through the creation of purpose-written Zones and provisions. Particularly I refer to the Hampton Downs Motorsport Park Zone and the Te Kowhai Airfield Zone. I believe an apt comparison can be made, given the scale of these areas/developments, the importance to the regional economy (in respect of Hampton Downs) and the specific activities that occur there and no-where else in the District.

To this end, our submission seeks the creation of a new Zone for the Park, with specific provisions to permit the development and operation as envisaged. The extension of the residential area is seen as a means to the end, as without a funding source, the creation of the park would not be achievable.



4.0 PROPOSED KIMIHIYA LAKES RECREATION AND EVENTS ZONE

4.1 Introduction and Approach

The submitter has considered various options for the establishment and operation of the Proposed Kimihia Lakes Recreation and Events Park

Options and alternatives included:

- Rezoning;- seeking a rezone to another zone already in the District Plan;
- Retain zoning but seek a specific overlay and rules within the Rural zone for the establishment of the Park;
- Retain zoning but seek a Schedule that addresses the specific activities;
- Resource Consents;- proceeding through various resource consents to develop the Park.

Relying on resource consents creates uncertainty, ongoing costs and time delays and given the charitable nature of the Park, was deemed an uneconomic option. As a comparable example, I refer to the Hampton Downs Motor Sport Park, which was governed by resource consent with in excess of a dozen resource consents granted (included several variations to existing land use consents) over its twelve years of development to date. The approach in the PDP is to provide this activity with its own zone due to the unique nature and recognition of the onerous resource consenting required to establish new activities.

Retaining the zoning but creating an overlay is feasible, however due the scale and type of Park activities, the Rural zone expectations (such as noise and vehicle movements) as contained in the PDP would not be achieved. It is also evident in the PDP format that overlays are more in relation to significant tracts of land covering various zones (such as the Tangata Whenua overlay, Infrastructure overlay, or Built Environment overlay).

It is understood from previous discussions with WDC that site specific schedules are no longer desirable in the District Plan (refer to treatment of Hampton Downs MotorSport Park and Tamahere Eventide Rest Home).

Site specific, large scale and unique activities have been addressed by way of specific zoning and we seek to utilize the existing PDP format, to enable ease of comprehension. The establishment of a zone with supporting provisions is envisaged to 'fast forward' the development of the Park without onerous and numerous resource consenting processes.

A review of existing provisions in related zones and adoption into the Specific Zoning further endorses the format of the PDP. The Reserves Zone and HD Motorsport and Recreation Zone are the closest provisions that support the development and operation of the Park and so have largely been adopted, where relevant.

4.2 Submission

This submission seeks the introduction of a Specific Zone called the Kimihia Lakes Recreation and Events Zone. Despite the plurality of the name, it seeks to include only that privately owned land and lake and excludes the existing Lake Kimihia which is DOC owned and managed.

Submission Points:

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4.2.1 Maps and Legend

Rezone the land legally identified (via legal description) in the table in 6.1 below from Rural to Kimihia Lakes Recreation and Events Zone.

4.2.2 Chapter 9.5

Insert a new Section 9.5 Kimihia Lakes Recreation and Events Zone and adopt the following Objectives and Policies :

Objective: *Development and operation of the Kimihia Lakes Recreation and Events zone.*

- a) *The Kimihia Lakes Recreation and Events Park develops into a regionally-significant events and recreation facility.*

Policy: *Operation and development*

- a) *Enable the development of the Kimihia Lakes Recreation and Events zone by providing for the development of the Park, including facilities, buildings, structures and infrastructure to support recreation activities and events..*
- b) *Enable the operation of the Kimihia Lakes Recreation and Events Park by providing for recreational activities, facilities and events including a wide range of community, sporting, educational, environmental and educational activities.*

Policy: *Environment and Education*

- a) *Encourage environmental and educational initiatives within the Kimihia Lakes Recreation and Events Zone to enable the enhancement of the surrounding natural environment.*

Policy: *Commercial activity*

- a) *Provide for commercial activities in commercial nodes that support the operational needs of the park and its visitors, including cafes, tourism retail, visitor accommodation and function venues.*

Policy: *Tourism Significance*

- a) *To promote the on-going development of the Kimihia Lakes Recreation and Events Park as a venue for regional, national, and international events and outdoor pursuits, whilst providing for the general public to use and enjoy the facilities.*

Policy: *Management of adverse effects*

- a) *Manage adverse effects to ensure the operation of the Park does not detract from the amenity of surrounding land uses, in particular:*
 - i) *Manage the interface of the zone with other zones so that adverse noise and lighting effects on the surrounding zones are minimised; and*
 - ii) *Manage the adverse traffic safety effects to ensure the safe and efficient operation and functioning of the adjacent transport network and efficient access to surrounding facilities is maintained at all times; and*



- iii) Ensure signs that are visible from, or located in close proximity to, a public road are sited to ensure the safe functioning of the public road; and
- iv) Manage the effects of artificial outdoor lighting to enable night time use and security.

4.2.3 Chapter 13 – Definitions

Insert the following definitions:

'Ancillary Buildings (Kimihia Lakes Recreation and Events Park)':

Means a supporting building that is subordinate and incidental to a permitted activity undertaken in the Park, including storage units, administration and ablution facilities and clubrooms.

'Commercial Node Areas'

Means those specified areas identified on Zone Maps in the Kimihia Lakes Recreation and Events Zone as 'Commercial Node Areas'

'Community Activities and Facilities (Kimihia Lakes Recreation and Events Park)'.

Means in the Kimihia Lakes Recreation and Events Zone, land or building used for community activities, generally established on a not-for-profit basis, and includes buildings for educational purposes, community functions and public toilets or public rooms.

'Operational Facilities'

Means the construction and use of facilities and /or infrastructure to assist in the day to day operation of the Kimihia Lakes Recreation and Events Park, including but not limited to carparking, internal access; ticketing offices, storage and maintenance sheds, and helipads.

'Outdoor Education'

Means in the Kimihia Lakes Recreation and Events Zone, land or buildings used for the formal or informal education or training and includes (but is not limited to) confidence courses.

'Outdoor Pursuits'

Means moving across land by non-powered means for example biking, orienteering, tramping, and horse trekking.

'Recreation Activity and Facilities'

Means any non-motorised indoor or outdoor passive or active leisure, sports, entertainment, games or recreational pursuits and buildings in the Kimihia Lakes Recreation and Events Park Zone for participants and/or spectators, whether or not they are undertaken for profit or reward or for which no charge is made, and shall include such activities on or in water or land, or in the air and includes but is not limited to:

- *Recreational events and activities*
- *Walking, running and cycling tracks*
- *Training or education*



- Club Days and practise activities
- Organised Events and festivals
- Concerts
- Multi sport and off road running events;
- Outdoor skate parks and playgrounds.
- Informal Recreation
- Tourism related activities
- Outdoor Pursuits

4.2.4 Section C – Rules

Insert a new Chapter 29: Kimihia Lakes Recreation and Events Zone and adopt the following:

29.1.1 Permitted Activities

All permitted activities are subject to compliance with the Land Use Effects, Land Use Building and Activity Specific rules below.

- Recreation Activity and Facilities
- Construction, additions and alterations of buildings to support and/or accommodate Recreation Activities
- Construction of structures in and/or over the lake, including (but not limited to) jetties, piers, pontoons and walkways;
- Community Activities and Facilities;
- Outdoor Education
- Commercial activities within the Commercial Node Areas;
- Ancillary buildings;
- Operational Facilities;
- Travellers' Accommodation including campgrounds;
- Signs;
- Earthworks;
- Managers/Caretakers Dwellings.
- Bee Keeping
- Temporary Event;
- A Conservation activity

29.1.2 Restricted Discretionary Activities

- Any permitted activity which fails to achieve compliance with any Land Use Effects and Land Use Building rules
- Subdivision
- Commercial and retail activities outside of the Commercial Node Area

29.1.3 Discretionary Activities

- Any other activity not provided for as a Permitted, Restricted Discretionary or Non-Complying activity.

29.1.4 Non-Complying Activities

- Motorised recreation activities (excluding construction activities)

There are no 'Activity Specific Conditions' proposed.



29.2 Land Use – Effects

Adopt the following Reserve Zone rules (as notified):

- Noise standards 25.2.1.1, 25.2.1.2
- Glare and Artificial Light Spill standards 25.2.3
- Hazardous Substances standards 25.2.5

29.2.1.1 Noise - General

Insert new standards (underlined):

P4 Noise in the Kimihia Lakes Recreation and Events Zone

Activity Specific Condition

Site Noise Monitoring

- a) A Noise Management Plan shall be in place at all times, that details the measures to be implemented to ensure that noise does not exceed the limits specified in Rule xxx (ie the permitted Reserve Zone rules);
- b) The Noise Management Plan shall as a minimum, provide details of the following measures:
 - i) Procedures and protocols for the setting up, installation and monitoring responsibilities (including reporting) of the noise monitoring device (microphone) located within the Kimihia Lakes Recreation and Events Park
 - ii) Procedures for the ongoing testing and calibration of the noise monitoring device (microphone)
 - iii) The erection of any necessary barriers for the purpose of reducing noise emissions;
 - iv) The design and operation of the public address system with respect to management of noise emissions;
 - v) Procedures to monitor all activities and events that may meet the noise levels specified in Rule xxx (ie the permitted Reserve Zone rules)

Earthworks

<u>P1</u>	<p>(a)<u>Earthworks</u> within the <u>site</u> must meet the following conditions:</p> <p>(i)<u>Be located more than 1.5m from a public sewer, open drain, overland flow path or other service pipe;</u></p> <p>(ii)<u>Areas exposed by <u>earthworks</u> are re-vegetated to achieve 80% ground cover within 6 months of the commencement of the <u>earthworks</u> except where <u>earthworks</u> are for the purposes of creating infrastructure or facilities for recreation, events and access, no revegetation is required.</u></p> <p>(iii)<u>Sediment resulting from the <u>earthworks</u> is retained on the <u>site</u> through implementation and maintenance of erosion and sediment controls.</u></p>
<u>P2</u>	<p>(a)<u>The importation of <u>fill material</u> to a <u>site</u> shall meet all of the following conditions in addition to Rule 26.2.5.P1:</u></p> <p>(i)<u>Does not restrict the ability for land to drain;</u></p> <p>(ii)<u>Is not located within 1.5m of public sewers, utility services or manholes;</u></p> <p>(iii)<u>The sediment from <u>fill material</u> is retained on the <u>site</u>.</u></p>
<u>RD1</u>	<p>(a)<u>Earthworks</u> that does not comply with Rule P1 or P2.</p> <p>(b)<u>Council's discretion is restricted to the following:</u></p>



	<p><u>(i) Contamination of fill material;</u></p> <p><u>(ii) Location of the earthworks to waterways, significant indigenous vegetation and habitat;</u></p> <p><u>(iii) Flood risk, including natural water flows and established drainage paths;</u></p> <p><u>(iv) Land instability, erosion and sedimentation; and</u></p> <p><u>(v) Proximity to underground services and service connections.</u></p>
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Signs

<u>P1</u>	<p><u>(a) A sign shall comply with all of the following conditions:</u></p> <p><u>(i) It does not exceed 3m²;</u></p> <p><u>(ii) The sign height does not exceed 10m;</u></p> <p><u>(iii) Illuminated signs visible from the outside of the site shall not:</u></p> <p style="padding-left: 40px;"><u>A. Have a light source that flashes or moves;</u></p> <p style="padding-left: 40px;"><u>B. Contain moving parts or reflective materials;</u></p> <p><u>(iv) It is set back at least 7.5m from an external zone boundary</u></p> <p><u>(v) It is set back at least 15m from State Highway 1;</u></p> <p><u>(vi) Is orientated to be internally facing so the main audience are spectators or visitors on site;</u></p> <p><u>(vii) Is screened from State Highway 1;</u></p> <p><u>(viii) Any sign visible from the outside of the site shall relate to:</u></p> <p style="padding-left: 40px;"><u>A. Any recreation or event within the Recreation and Events Zone; or</u></p> <p style="padding-left: 40px;"><u>B. A property name sign.</u></p>
<u>RD1</u>	<p><u>(a) Any sign that does not comply with P1;</u></p> <p><u>Council's discretion is restricted to the following matters:</u></p> <p><u>(i) Effects on amenity values;</u></p> <p><u>(ii) Effects on traffic safety;</u></p> <p><u>(iii) Effects of glare and light spill;</u></p> <p><u>(iv) Content, colour and location of the sign;</u></p> <p><u>(v) Proximity to the road.</u></p>

Managers/Caretakers dwelling

<u>P1</u>	<u>Up to 2 manager's/caretaker's dwellings are permitted in the Park.</u>
<u>RD1</u>	<p><u>Any managers/caretakers dwelling which fails to comply with P1.</u></p> <p><u>Council's discretion is restricted to the following matters:</u></p> <p><u>(i) Effects on amenity values.</u></p>

Commercial node

<u>P1</u>	<p><u>Commercial activities shall be limited to:</u></p> <ul style="list-style-type: none"> • <u>Traveller's accommodation,</u> • <u>hospitality (such as café, restaurant),</u> • <u>functions,</u> • <u>education,</u> • <u>recreation activities and events,</u> • <u>support facilities (such as ticketing, hireage kiosks and administration, offices and ablution buildings), and</u> • <u>ancillary retail.</u>
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<u>RD1</u>	<u>Any commercial activity not listed in P1</u> <u>Council's discretion is restricted to the following matters:</u> <u>(i) Effects on amenity values.</u>
<u>Note</u>	<u>Community activities, events and recreation are permitted in the Commercial Node.</u>

29.3 Land Use – Building

Adopt the following Rural Zone provisions (as notified) for the Kimihia Lakes Recreation and Events zone:

- 22.3.5 – Daylighting Admission; and
- 22.3.7.1 – Building setbacks.

No other rules are necessary given the unique nature of the type of buildings, such as jetties, ziplines etc.

29.4 Subdivision

Adopt the Rural Zone Subdivision (as notified) provisions for the Kimihia Lakes Recreation and Events Zone except for:

- provision 22.4.7 as no esplanade reserve or strip should be required to be vested, when the entire land holding is for recreation and environmental enhancement;
- In the commercial node, Every [allotment](#), excluding an [access allotment](#) or [utility allotment](#), shall have a [net site area](#) of at least 225m²

4.2.5 Chapter 14 Infrastructure and Energy

Adopt the following new provisions (underlined) to Chapter 14.12.1 Transportation, Permitted Activities:

P1 Vehicle access for all activities

Activity specific conditions 14.12.1.1

- e) On a [site](#) with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy in [Tables 14.12.5.5](#) and [14.12.5.6](#) (where the roads have the same classification, access is only to the road with the lower average daily traffic movements) except in the Kimihia Lakes Recreation and Events Zone where this rule does not apply.

P2 On-site parking and loading

Activity specific conditions 14.12.1.2

- 2) In the Kimihia Lakes Recreation and Events Zone the above standards do not apply providing that:



- a) A minimum of 1500 on-site parking spaces shall be provided except where activities are undertaken within the carpark area or where activity demand exceeds 1500 car parks, then temporary alternative on-site parking shall be provided.

P4 Traffic Generation

Activity specific conditions 14.12.1.4

- j) Within the Kimihia Lakes Recreation and Events Zone, there shall be no maximum traffic generation provided that:
- a) A certified Traffic Management Plan (which shall include, but is not limited to, the provisions of a wide area assessment) shall be in place and implemented for all activities. The Traffic Management Plan shall:
- i) Provide for the supervision and control of patrons entering and exiting the Kimihia Lakes Recreation and Events Park, and the transportation of patrons to and from the Park;
 - ii) Limit the speed of traffic within the Kimihia Lakes Recreation and Events Park to 30 km/h
 - iv) Provide for monitoring and reporting on the number of vehicle movements for all activities and events;
 - v) Include protocols for undertaking reviews of the Traffic Management Plan by an Implementation Monitoring Committee consisting of the New Zealand Police, the Council and the Kimihia Lakes Recreation and Events Park operator
 - vi) Be reviewed, certified and endorsed by the Council, by (date) of each year.
- b) For any activity or event, or combination of activities and events where there is likely to be in excess of 5,000 people, the operator of the park shall advise the Council a minimum of 10 working days before the activity and event occurs of the details of the activity and event and the relevant provisions of the Traffic Management Plan that are to be implemented.

P8 Off-road pedestrian and cycle facilities

Activity Specific Condition 14.12.1.8

- b) In the Kimihia Lakes Recreation and Events Zone there shall be no activity specific conditions.

4.2.6 Other

It is noted that the Regional Infrastructural Specifications (RITS) and the WRC Regional Plan will be relevant documents for some developments in the park.

4.2.7 Consequential

Appropriate consequential amendments to other provisions are expected.



5.0 RESIDENTIAL ZONED LAND

5.1 Introduction and Approach

In order to fund and facilitate the development and ongoing maintenance of the Park, it is sought to rezone an area of Rural land owned by AFL to Residential. This area is located abutting existing Residential zoned land and so forms a contiguous residential tract, ensuring services and infrastructure can easily be extended to the new residential area.

While no geotechnical specific testing has been undertaken, the owner/submitter advises that no tunnel mining was undertaken at the Huntly East Mine. On the subject site, the coal seams have been opencast mined and mining ceased when the hard clay slopes of the Kimihia hills and ridge line were encountered. Therefore no underground mining was carried out under the land subject to the residential application. Tunnel mining was undertaken west of the site and under the Huntly township including State Highway 1, Schools, the Power Station, the Waikato River and Riverine Lakes. Subsidence as a result of mining, as what has occurred in the past and may occur in the future west of the site would not occur in this location. Residential use of the land is therefore not subject to that risk.

5.2 Submission

This submission seeks to rezone land currently Rural to Residential, and to retain the Residential zoning of that land owned by AFL in the vicinity of the Huntly East Mine. The existing Residential zone standards for development and subdivision would apply to the rezoned land.

Submission Points:

5.2.1 Maps and Legend

Amend the Planning Maps to rezone the land identified (via legal description) in the table in 6.1 below and as identified in Figure 5 below from Rural to Residential.

5.2.2 Maps and Legend

Retain the land identified (via legal description) in the table in 6.1 below and as identified in Figure 5 below as Residential.

5.2.3 Consequential

Appropriate consequential amendments to other provisions are expected.

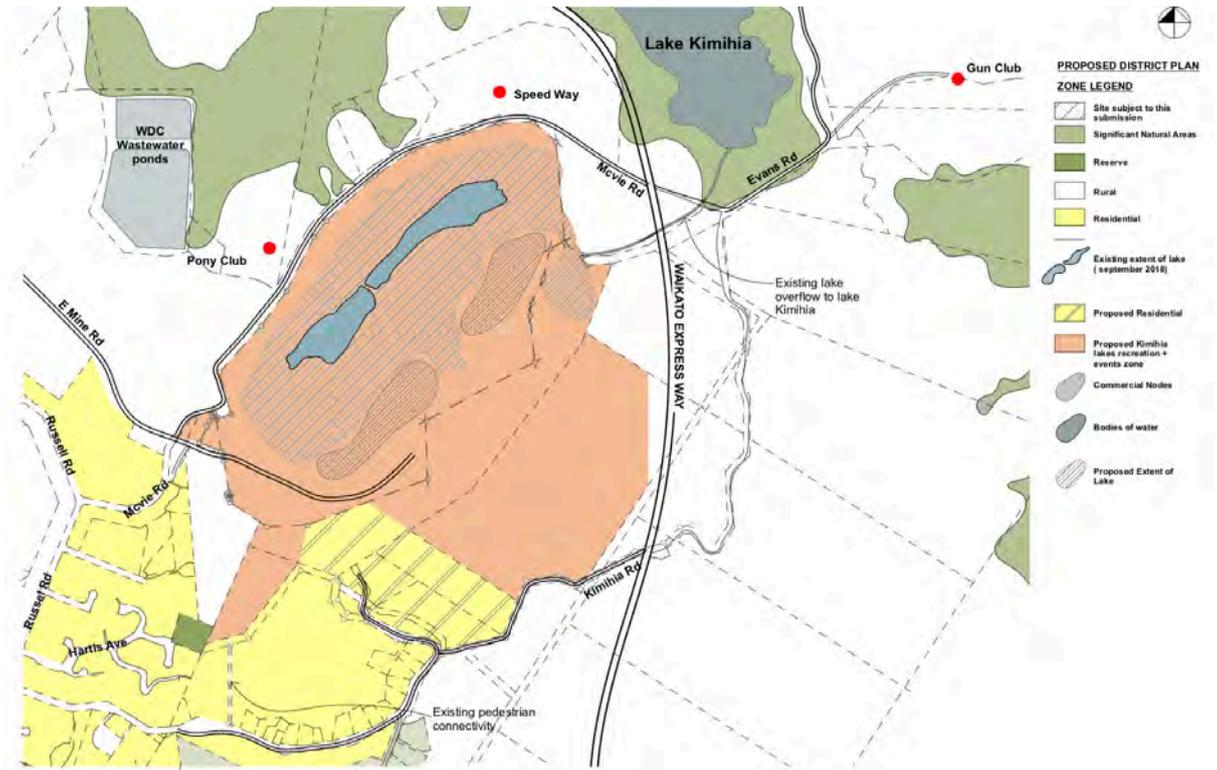


Figure 5 – Proposed and supported Zoning.



6.0 SUMMARY OF RELIEF SOUGHT

6.1 Summary of Proposed Changes of Planning Maps/Legend:

The relief sought by this submission is to rezone the land as summarized in the table below, and retain the zoning where no change is noted.

Legal Description	Title	Area	PDP Zoning	Zoning Sought by this submission
Section 3 SO 482553 and Lot 1 DPS 20619	CFR805391	89.6ha	Rural	Kimihia Lakes Recreation and Events Zone
Allotment 746 Parish of Taupiri	CFR:SA10D/800	21.87ha	Rural	Residential
Section 1 SO Plan 60522	CFR:SA61B/799	0.38ha	Rural	Kimihia Lakes Recreation and Events Zone
Allotment 740 Parish of Taupiri	CFR:SA50A/762	3.8ha	Rural	Kimihia Lakes Recreation and Events Zone
Lot 18 DP 347582	(CFR:195501)	21.35ha	Residential	Residential
Lot 19 DP 347582			Residential	Residential
Lot 20 DP 347582			Rural	Residential
Lot 21 DP 347582			Rural	Residential
Sec 3 SO Plan 400374			Residential	Residential
Allotment 777 Parish of Taupiri	CFR:SA18B/1138	2ha	Rural	Residential
Lot 23A Section 463 Parish of Taupiri	CFR:SA30A/356	4.85ha	Rural	Residential
Allot 857 Parish of Taupiri	SA40D/985	36.28ha	Rural	Kimihia Lakes Recreation and Events Zone
Allot 515 Parish of Taupiri	CFR:SA251/176	0.75ha	Residential	Residential
Allot 789 Parish of Taupiri	SA26C/345	1.7ha	Residential	Residential
Allotment 6 Parish of Taupiri	SA51/131	0.51ha	Rural	Kimihia Lakes Recreation



				and Events Zone
TOTAL LANDHOLDING (Approx)		183ha		

6.2 Provision Amendments

In summary of the relief sought by the submitter in relation to PDP provisions:

- Insert a new Section 9.5 Kimihia Lakes Recreation and Events Zone And adopt the listed Objectives and Policies as provided in section 4.2.2 above;
- Insert the new definitions listed in section 4.2.3 above into Chapter 13 (Definitions);
- Insert the new provisions listed in 4.2.5 above into Chapter 14 (Infrastructure and Transportation);
- Insert a new Chapter 29: Kimihia Lakes Recreation and Events Zone and adopt the listed activity status' and rules as provided in section 4.2.4 above;
- Make any consequential amendments as necessary.



7.0 OTHER

7.1 AFL wish to be heard in relation to this submission and welcome pre-hearing discussions with Council.

7.2 AFL would consider a joint submission with others.

Yours faithfully

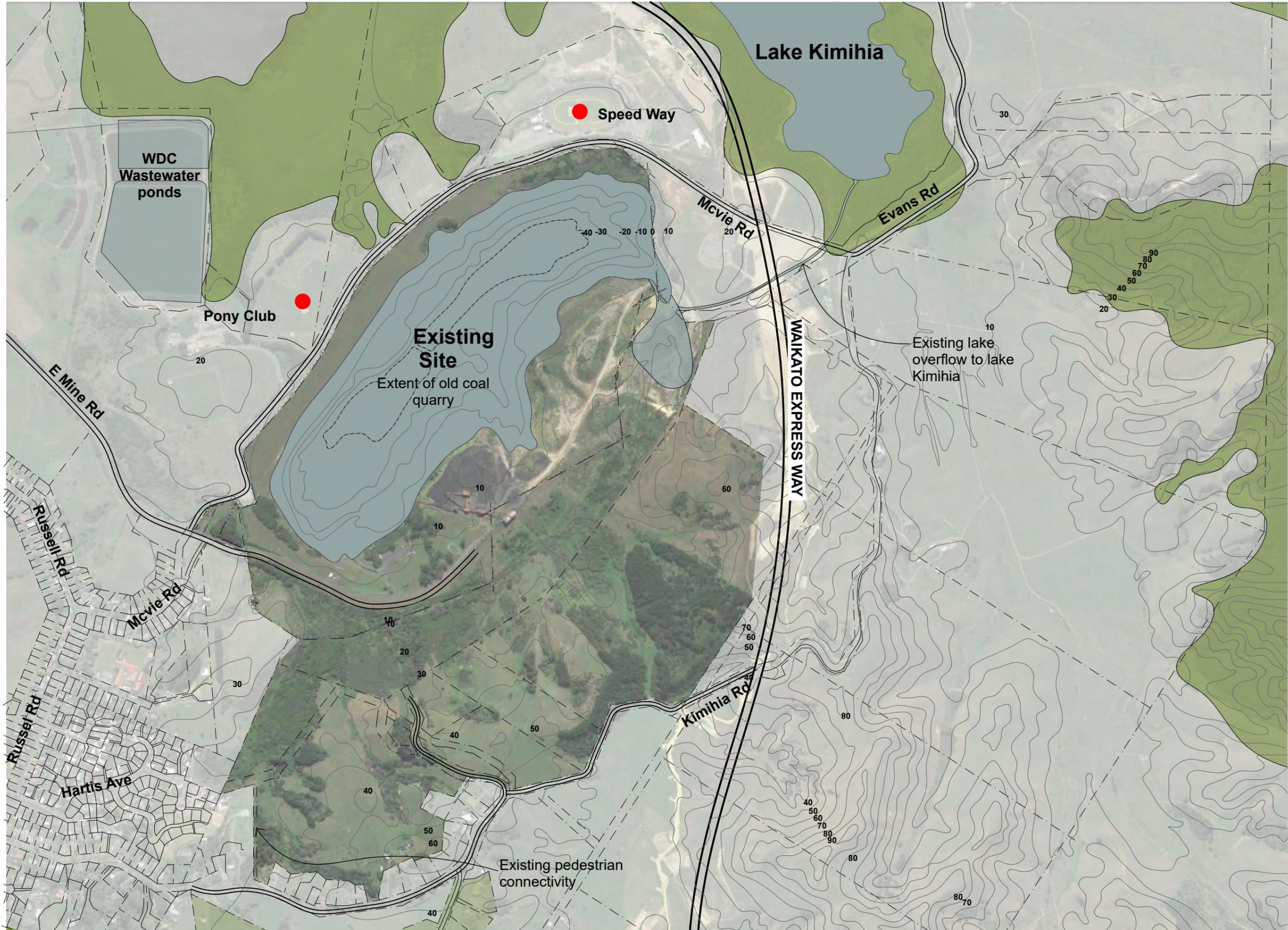
A handwritten signature in black ink, appearing to read 'Louise Feathers'.

Louise Feathers
Louise Feathers Planning Limited.

APPENDIX 1
Site and Concept Plans

KIMIHI LAKES RECREATION + EVENTS ZONE

Tuesday, 25 September 2018



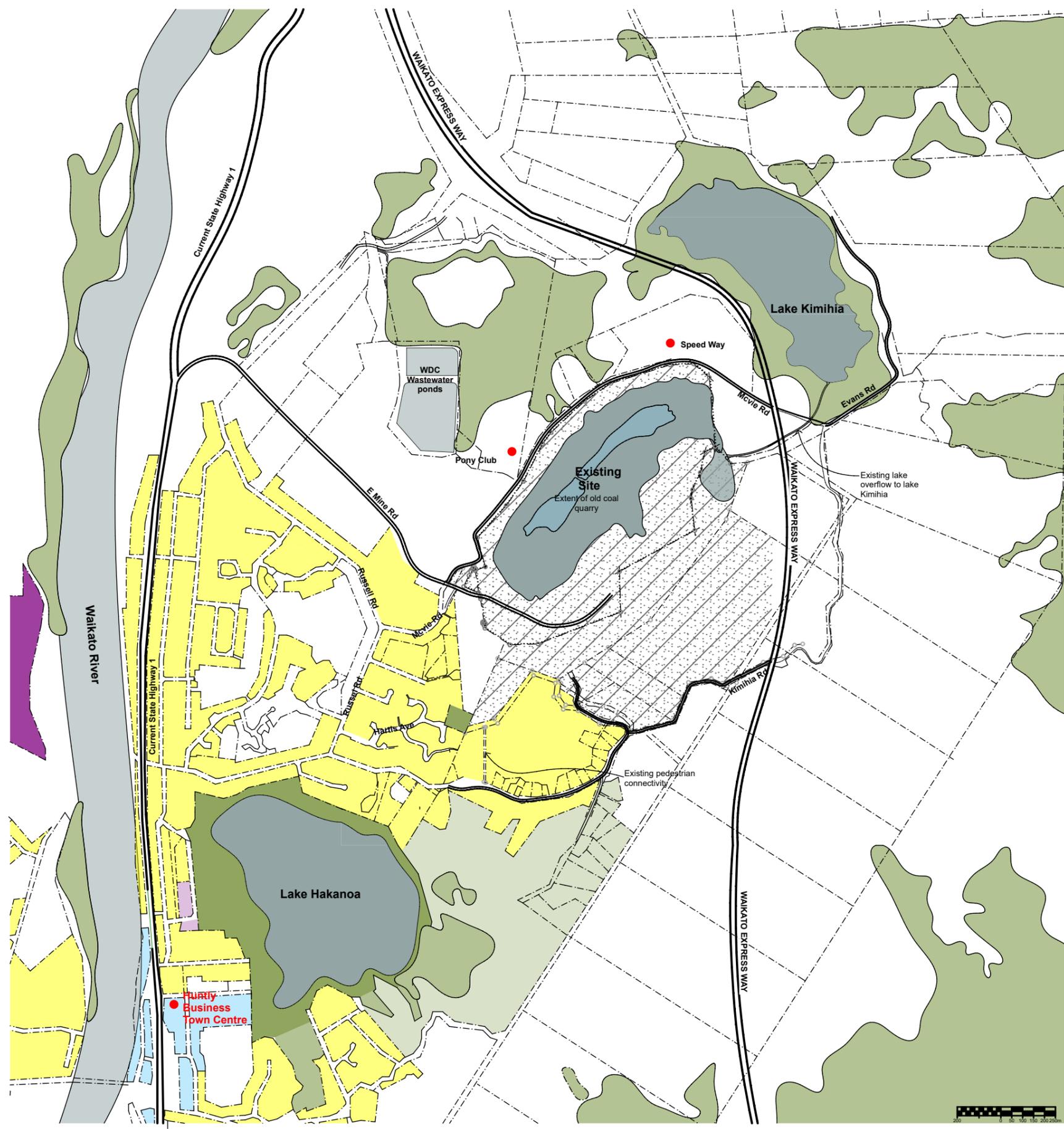
EXISTING ZONE PLAN
 KIMIHIA LAKES RECREATION + EVENTS ZONE

Tuesday, 25 September 2018

Job: 18049

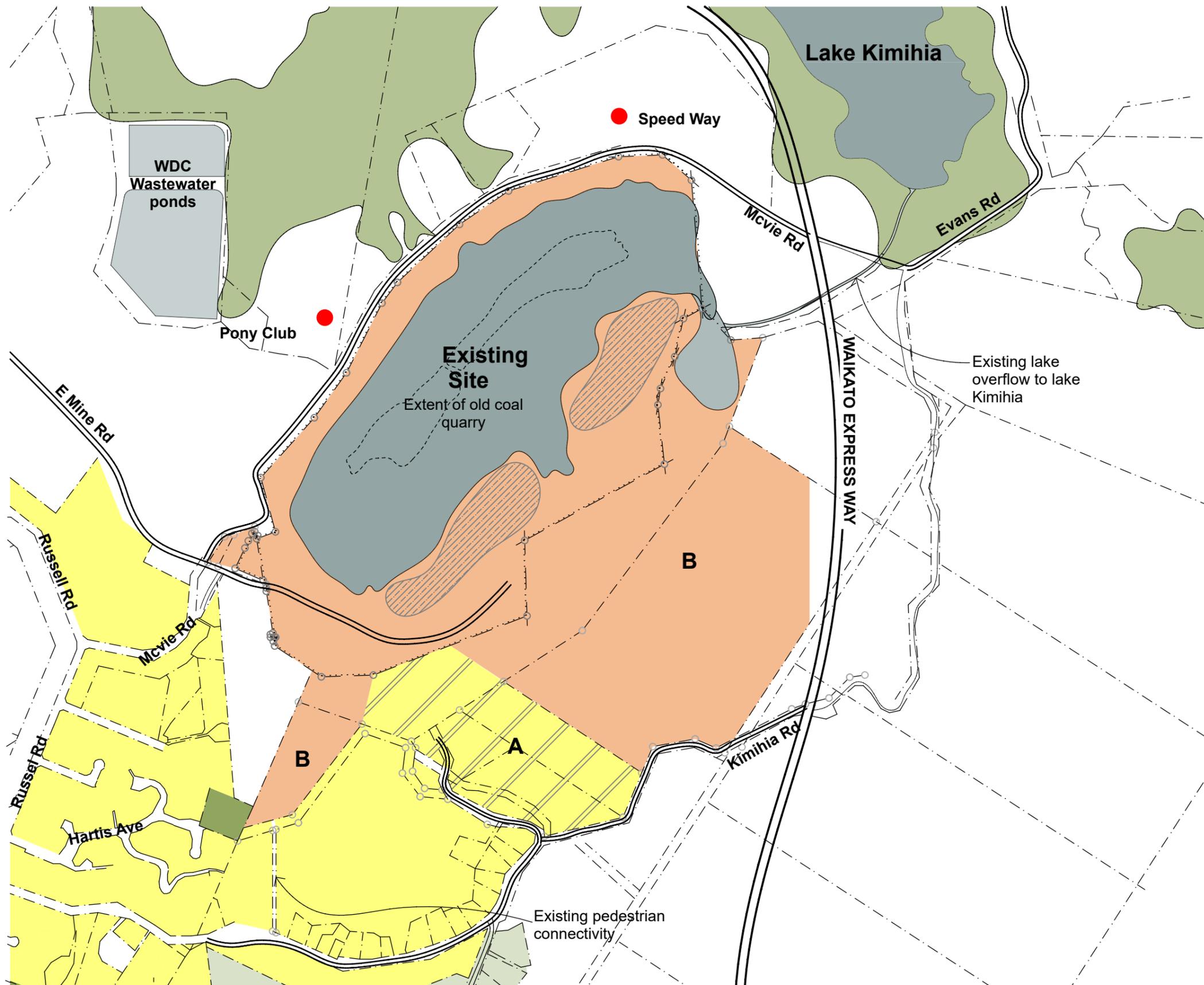
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ZONE LEGEND

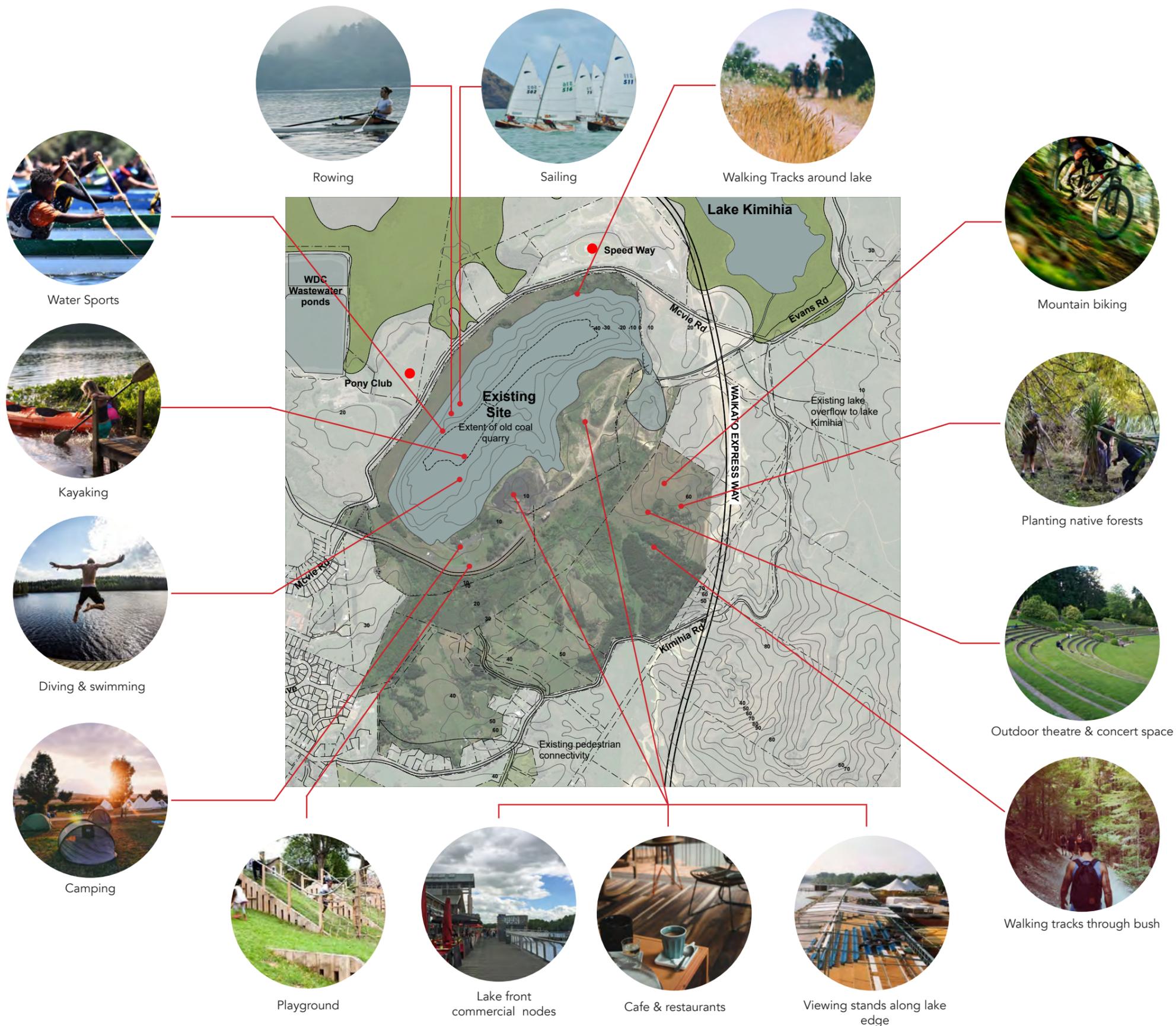
- Significant Natural Areas
- Reserve
- Rural
- Business Town Centre
- Residential
- Industrial
- Heavy Industrial
- Country Living
- Existing extent of lake (september 2018)
- Site subject to this submission



PROPOSED DISTRICT PLAN

ZONE LEGEND

- Significant Natural Areas
- Reserve
- Rural
- Business Town Centre
- Residential
- Industrial
- Heavy Industrial
- Country Living
- Proposed Residential
- Proposed Kimihia lakes recreation + events zone
- Commercial Nodes
- Bodies of water
- Existing extent of lake (september 2018)



APPENDIX 2

Huntly East Mine Management Plan

MANAGEMENT PLAN

HUNTLY EAST MINE

By: Solid Energy New Zealand (Subject to Deed of Company Arrangement)

Date: 15 January 2018

PURPOSE

This management plan is written to provide the future land owner with information about the coal mining operation that took place at the site, the potential hazards associated with the mining activities that may remain on the site, and some recommendations for managing the risks.

BACKGROUND

History

Huntly East Mine was an underground coal mine located approximately 90km south of Auckland. The site offices and portals were situated approximately three kilometres north-east of Huntly.

Huntly East Mine commenced operations in 1978 and was owned and operated by Solid Energy New Zealand Ltd (SENZ) under Coal Mining Licence CML 37 152 and Coal Mining Permits CMP 41840 and CMP 50660. The mine had three (3) drift entries, which descended underground from a disused open cast mining void. (Kimihi Opencast)

The Huntly East Mine produced coal from 1979 until 2015 achieving peak output of 465Kt coal in 2004. Production then continued at approximately 450Kt per year until production was first cut to 100Kt in September 2013 and then the final coal being produced in Oct 2015 with the announcement of closure.

Although the mine entrances were situated on the east side of Waikato



Figure 1 Huntly East Mine Surface Structures Post Closure



Figure 2 Aerial View Huntly East Mine Prior to Closure

River, by 2012 all the mining was west of the River, with roadways being 150m to 350m metres below the river and surrounding farm land. Coal was mined by remote controlled continuous miners and taken to the conveyor belt in shuttle cars and then out to the mine entrance. Coal continued to be transported to the main customer New Zealand Steel in Glenbrook via the Kimihia branch railway and the NIMT (North Island Main Trunk).

Huntly East employed many people during its production life, peaking in 2014 with over 200 direct employees and approximately 50 contractors.



Figure 3 Plan of Full Mine Layout on Last Day of Production 2015

MINE CLOSURE

Following the decision to close East Mine a closure plan was developed to ensure an appropriate sequence for closure that would meet all applicable safety, health and environmental regulations and that the site would be left in good order for future utilisation by new owners.

Conceptually it had been long envisaged that the old Kimihia Opencast area in which the majority of surface structures and the mine portals were situated would be allowed to flood and that this would result in a second Kimihia lake which would be connected via prepared drainage/stream system through to the existing Kimihia lake and then ultimately connecting to the Waikato River. The lake would be deep (47m) and of good quality, similar to the Lake Puketirini lake established by Solid Energy at the Huntly Weavers Opencast site located on the west side of the Waikato River in similar surface lithology.

The main hazard at East Mine is the potential for spontaneous combustion (the ignition of coal due to the natural reaction to oxygen in the air) of coal in the mine workings. This risk of this occurring is reduced to an almost negligible level once a mine is sealed and methane dilutes any oxygen to low levels. This risk is removed entirely once the mine workings are flooded.

For the East mine underground areas, the plan required a staged sealing and inertisation process, to ensure rapid depletion of oxygen to avoid any spontaneous combustion of the coal remaining in the mine. The workings will naturally fill with water over time.

Technical background information about sealing and underground mine gasses can be found in **Appendix 4**.

Summary of Method of Closure

The underground areas were progressively sealed off and inertised using nitrogen pumped into the voids behind stoppings (or seals).

Near the portals at the surface a permanent (rated) seal was constructed in each of the three mine entries. The mine seals were required to perform various functions throughout their lifecycle as follows:

- Short term (nominally 1 -2 years):
 - Prevent access,
 - Control the mine atmosphere (primarily oxygen ingress to prevent the development of spontaneous combustion in the workings),
 - Provide means for monitoring the sealed mine environment,
- Medium Term (nominally 2 – 5 years):
 - Maintain integrity while the mine workings fill with water, and surface lake fills
- Long Term (nominally +5 years)
 - Maintain integrity in a submerged environment including; of the overlying ground to prevent surface subsidence and localised instability,
 - Prevent the potential for the formation of cracks connecting the mine workings with the surface.

The surface portal bulkheads are the concrete structures that are visible on the surface. They are not the seals, which are actually situated approximately 40 metres further into the tunnels.

The void between the seal and the bulkhead in each of the drifts is filled with clay material and was then pumped with low density concrete to ensure that the void was completely filled. The arrangement is shown in **Figure 4**.

On the diagram below this rated seal is only the cross hatched area labelled "At Least Type E Rated Plug seal" The seals are rated to 365Kpa so in fact exceed Type D rating as specified in the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016 (see **Appendix 4**). All of the surrounding strata is solid rock and has been grouted. As such, leakage of oxygen into the seals is very unlikely.

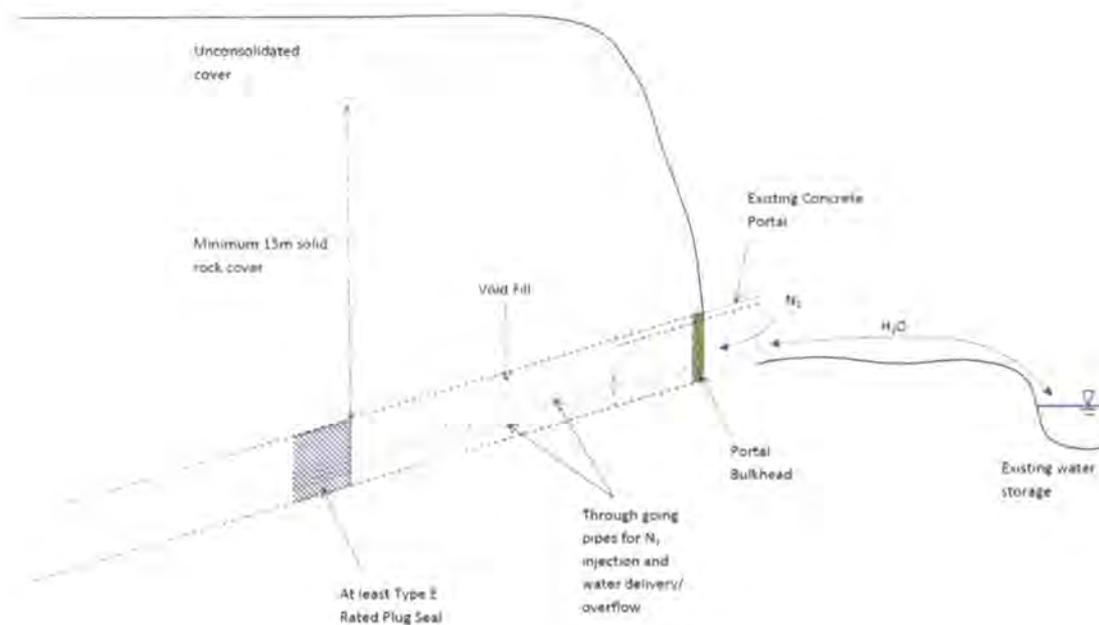


Figure 4 Cross Section of Seal Design

The only part of the "Seal" that remains visible on the surface is the three bulkheads.

It has been calculated that the sealed area behind the surface seals will flood completely in about 5 years through the inflow of water from within the mine. It is also calculated that the surface lake will take about 25 years to fill due to rainfall in the surface catchment. Due to these two independent flooding processes it was considered prudent to design the seals for a scenario which of a fully formed lake sitting outside of a 'yet to fill' mine. This is almost impossible to envisage but still formed the basis for design out of an abundance of caution. The seals are designed and constructed to withstand the full lake water head.

POST SOLID ENERGY – HANDOVER TO NEW OWNERS

Surface Terrain

Most buildings, the processing plant, and residual coal stockpiles have been removed from the site. A general tidy up has been carried out with some minor re-contouring of surface terrain to eliminate any unnecessary steep banks or holes to make easier safe movement of people walking or driving on the site. The more significant slopes are the old Kimihia Opencast high walls which were groomed for stability when East Mine was commenced and in some areas further shaped to reduce the risk of local weather related failures

In general the slopes are all stable and it is expected that the site landform will remain the same as the lake fills. Like any natural hilly terrain weather may cause some surface deterioration or minor slips. The post closure maintenance plan advises on simple visual inspections.





The Lake

The East Mine lake is the old Kimihia Opencast Mine. The area before the opencast was developed was part of Lake Kimihia. This is the same area of the land that East Mine previously used to store water prior to pumping out into the East Mine wetland. With the decommissioning of the East Mine, power was turned off and pumping was discontinued in August 2017. The new Kimihia Lake will continue to rise until it gets to the drainage level to start flowing in the pre constructed culverts under SH 1 into the existing Kimihia Lake (Figure 5). The existing Kimihia Lake drains to the Waikato River.

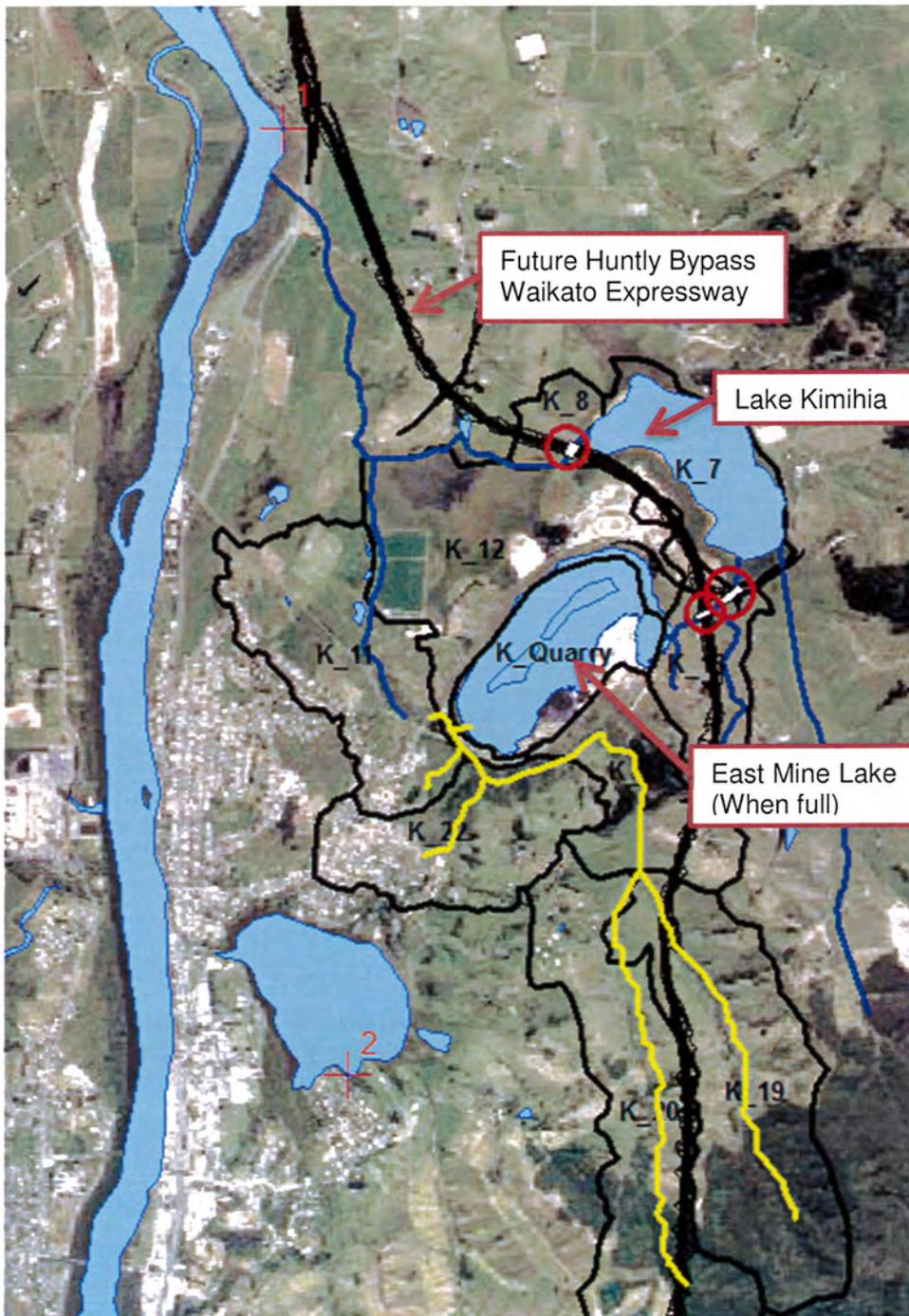


Figure 5 Regional Surface Water System Showing Culvert Locations

The current lake sits at a low level at this stage but will progressively rise as runoff fills the void.

The lake will eventually sit as shown in blue in Figure 6. Once the lake nears its eventual final level, it will be necessary to undertake some works to ensure an outlet channel is formed and flood waters are directed towards the downstream area.

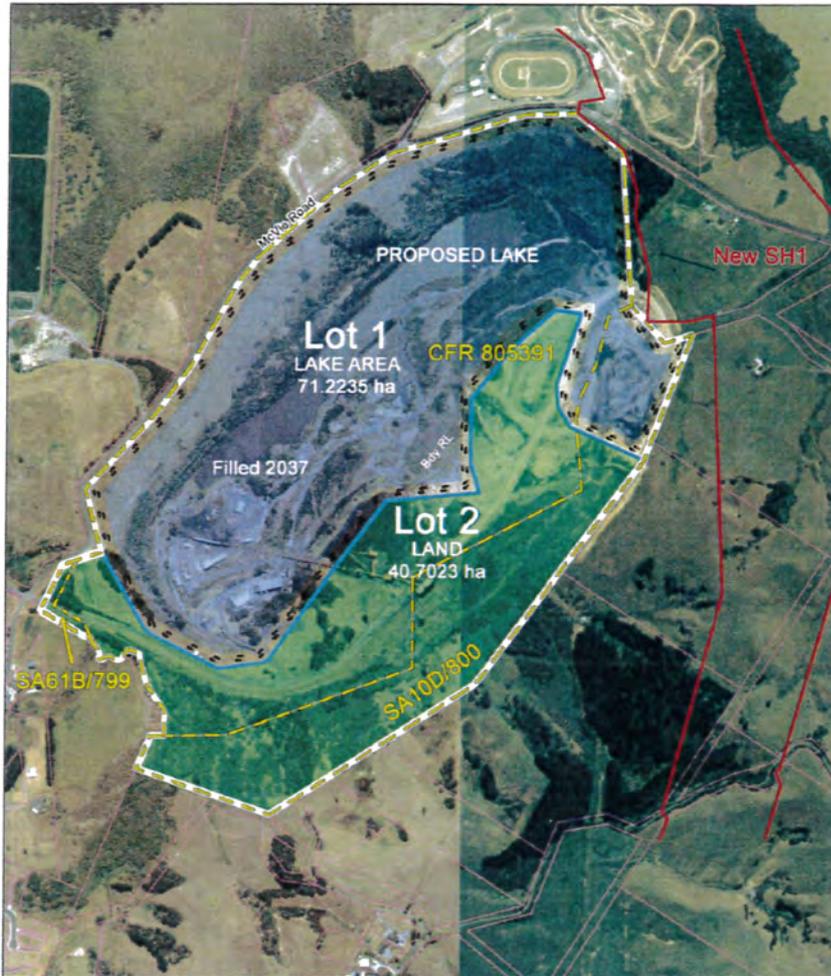


Figure 6 Extent of Final Lake

Depending on land use in the future, some protection for pedestrians approaching steep slope edges may be required during lake filling. The lake edge is envisaged to be planted with appropriate riparian plants at the time the lake is nearly filled.

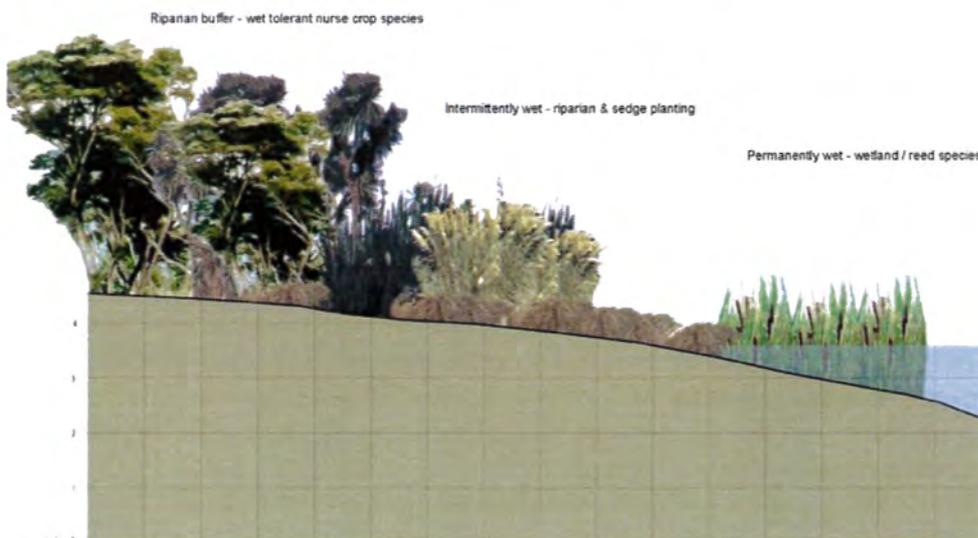


Figure 7 Concept for Eventual Vegetation at Lake Margin

Portals

The only visual mine related structures on the site will be the exposed final bulkheads on each of the three mine entry tunnels. These will be covered with water in the first few years of the lake filling process.

These are referred to as the Men and Material (M&M), Belt Haulage (BH) and Return bulkheads.

Fastened to or nearby to each bulkhead is an enclosure which contains gas sampling pipes shown with blue arrow. On or close to each Bulkhead structure there is a sign board indicating where the sample point for each tunnel is located.

The gas sampling pipes allow a sample to be taken from directly behind (inbye) of the seals.



M&M Bulkhead



BH Bulkhead



Return Bulkhead

MANAGEMENT PLAN

General Site Inspection

Because the site is a dynamic environment (lake filling), the safety risk to personnel using the site will change over time. Solid Energy recommends that the entire site is periodically inspected to ensure site security is maintained and any hazards (including unstable slopes) are identified and addressed promptly. This ensures that any site users are protected from the hazards at the site. A checklist is provided in **Appendix 1**.

Sealed Area Atmosphere Monitoring

Solid Energy recommends taking routine gas samples from each of the three mine portals to confirm that the sealed area remains low in oxygen and is not a spontaneous combustion risk. This is referred to as an "inert" state.

We recommend these tests are taken every two months until the portals are no longer accessible due to the rising lake level and the spontaneous combustion risk has been eliminated. This interval could be increased to say every 6 months after several cycles confirming a stable atmosphere is present.

All three of the exposed bulkheads have sample pipes which are labelled. These pipes run through the bulkhead and void fill and then through the rated seal into the sealed mine area. It is possible to use a small vacuum pump to suck a sample of the sealed area atmosphere into a sample bag which can then be analysed. A procedure for gas sampling is provided in **Appendix 2**.

Once the bulkheads are flooded by the rising lake or the area inside the mine floods, it will no longer be possible or necessary to sample the area as the tubes will be under water and/or the mine will be full of water with any spontaneous combustion risk eliminated.

Prior to the sampling procedure, Solid Energy recommends inspecting the portal bulkheads for any signs of gas escaping or structural deformation. A checklist is provided in **Appendix 3**.

The samples should be delivered to the NZ Mines Rescue Station in Huntly for analysis. Current Contact Information:

Mines Rescue Service
Rotowaro Rd, Huntly 3771
Phone: 07 828 9772

Actions: If methane is detected by gas detector, or gas can be heard hissing out from the seals or if cracks are found in the ground around the seals, advice should be sought from Mines Rescue or a local mining consultant such as Terra Firma. Contact information:

Lincoln Smith; Craig Smith

Terra Firma Mining Limited
PO Box 67,
Ngaruawahia 3742
+64 272 409 108
info@terrafirma.kiwi.nz <http://www.terrafirma.kiwi.nz/>

It is also advised to notify the Worksafe High Hazards Group. The current contact information:

Mark Pizey Chief Inspector - Extractives

High Hazards Unit

Level 2, 351 Lincoln Road, Addington, Christchurch 8024

+64 3 966 6630 +64 27 437 2636

hhu@worksafe.govt.nz www.worksafe.govt.nz

APPENDIX 1: GENERAL SITE CHECKLIST

Gates: Ensure they open and close freely, and the locks are present

Signage: Ensure warning signage remains in place and replace if necessary.

Fences: Boundary fence to be maintained in stock proof state (regardless of stock) to ensure no easy access points for people on foot.

Surface Roads/Walkways: Clear of obvious hazards.

High Wall Slopes: every three months (or earlier if noticed) inspect slopes for signs of cracking of the ground above the slope, or signs of mass movement of slopes down dip. If movement is observed seek advice from a geotechnical consultant.

Lake Water Edge: maintain any temporary fences that have been deemed to be required along with signage or any other barricades (e.g. bunds) across roads leading down into the water.

APPENDIX 2: GAS SAMPLING PROCEDURE

Obtain a suitable sample bag from Mines Rescue. Use a portable gas pump suitable for taking gas samples (consult Mines Rescue for suitable pump).



1. Prepare Sample Bag *Should be Fully Empty – Flat*
2. Unlock sample box
3. Connect bag to Sample Point snap fitting connection – the pipe with the red handle valve.
4. Open the red handle valve
5. Purge Line by clicking in open connection. Allow to vent for 5 minutes to fresh air
6. Close Valve and Disconnect open coupling
7. Connect bag coupling
8. Open valve
9. Allow bag to fill
10. When firm turn off valve
11. Disconnect sample bag.
12. Check valve is turned fully off
13. Close sample box lid

The sample bag should be sealed by folding and securing of the inlet hose and then transported to the Huntly Mines Rescue Station for analysis.

Solid Energy recommends testing the sample for oxygen, nitrogen, methane, CO₂ and CO content using a gas chromatograph. While the relative proportion of the gases may change over time, the sample results should confirm the gas behind the seals is non-explosive and that the oxygen content is at very low concentrations. Mines Rescue will identify if the results show any concern.

APPENDIX 3: PORTAL INSPECTION SHEET

To be undertaken at the time that samples are taken.

Visual Inspection

1. **Cracks** check for cracks on face of seals
2. **Surrounding land deformation**
 - a. Above portal Area – check for signs of cracking of the ground or mass movement of the ground above the portals
 - b. Around Concrete Structures – check for cracks that have appeared.

Audible

3. Listen for noise from bulkheads

Gas Testing

4. Use gas detector around all of structure and the perimeter areas of bulkheads – Testing for CH₄ leakage
5. If cracks appear on the face of the seals or in concrete structures they should be plastered over by a suitable contractor. TEST FOR GAS immediately around cracks.

APPENDIX 4: BACKGROUND TECHNICAL INFORMATION FOR COAL MINE SEALING

SEALING

Sealing – Inertisation

Inertisation is the exclusion of oxygen by means of an inertising agent. The inertising agent may be any gas or mixture of gases that will not support combustion. Inertisation may occur either as self-inertisation or as induced inertisation. It can be used as a proactive and/or reactive measure.

Self-inertisation is when the natural conditions in the goaf or abandoned workings cause the consumption of oxygen and replacement by nitrogen and methane. The early sealing of areas and allowing the natural inertisation process to occur has been used successfully for many years to minimise any occurrences of spontaneous combustion in worked out areas.

Induced inertisation employs the same basic principles as self-inertisation, except that the positive step is taken to actively control explosiveness level in the sealed area rather than relying on natural conditions to minimise it. This is achieved by injecting nitrogen into the sealed areas to achieve inertisation rapidly. Induced nitrogen inertisation changes the atmosphere into the “inert zone” of the Cowards chart instead of going through a “fuel rich” stage as in the case of induced inertisation. Note: the inert zone is the safest zone. In simple terms it is not explosive or easy to make explosive. See Coward’s chart – it requires addition of both fresh air and fuel to become explosive.

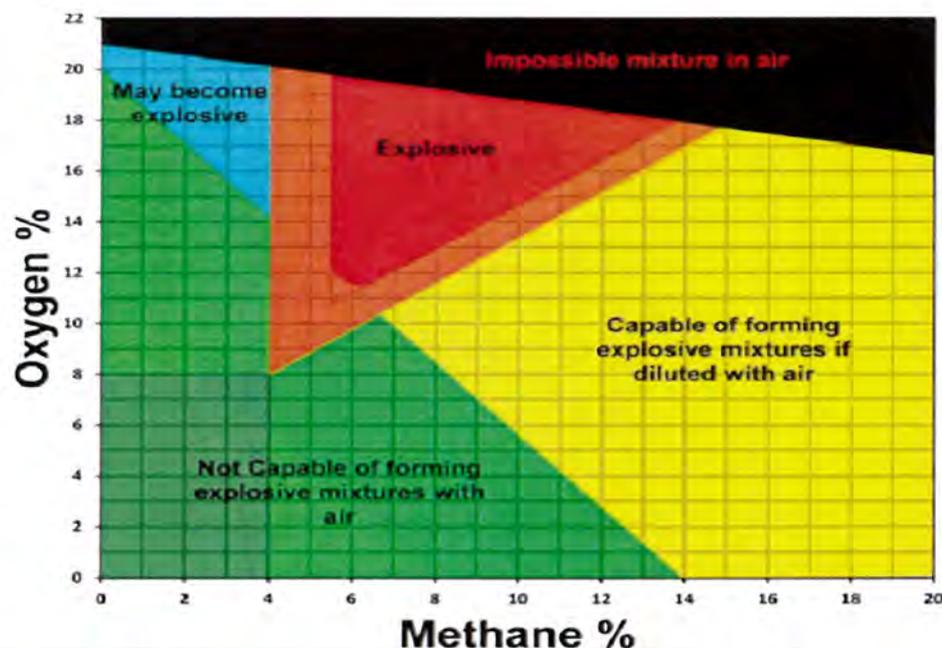


Figure 8 Coward's Chart

General Information - Seal Area Spontaneous Combustion Management

The most important gas to monitor once the sealed area has been inertised is oxygen. You must have oxygen for combustion and if the area is sealed the only source of oxygen into the sealed area is through leakage of the seals themselves or through the strata around the seals.

Detecting high levels of Methane is normal, as it is released from the coal, and in high concentrations is not flammable or explosive and in fact very high levels ensure that the sealed

area remains safe. You will also detect nitrogen (as it was injected) and as nitrogen will not burn and makes up 79% of normal air it will remain in the mine after oxygen is removed through natural oxidation. As seals get older and the methane coming out of the coal starts to reduce the percentage of nitrogen in the sealed area becomes higher

In a normal seal you may see some low quantities of carbon dioxide or carbon monoxide initially. These gases can be normal in small quantities.

In an ongoing mining situation the mine operator would monitor new seals for any changes in oxygen as the priority – rising trends of oxygen especially. In a situation where oxygen was rising it is likely that CO would also begin to rise. But remember that the CO is actually the result of the oxygen reacting with the coal (it is the start of a spontaneous combustion process) – CO cannot begin to rise without oxygen getting in.

What is also very important to note is that oxygen leakage is normally directly related to the type of seal constructed and the type and condition of surrounding strata. i.e., Rating dictates the quality of seals

Areas where seals are required to stay effective for many years must have high rated seals. To achieve a certified rating it is often required to treat the surround strata by injecting cements etc. to block off any potential leakage paths. The seal requirements are specified in the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016:

East Mine has the highest classification of seals.

Schedule 4 Ventilation control devices and design criteria

r 182(1)

Ventilation control device

- Ventilation ducting
- Brattice line or temporary stopping
- Separation stopping for a primary escapeway
- Stoppings, doors, overcast, or regulator installed as part of the main ventilation system
- Stoppings, doors, overcast, or regulator installed as part of the ventilation system for a panel
- Mine entry airlock
- Type B seal
- Type C seal
- Type D seal
- Type E seal

Design criteria

- Anti-static and fire-resistant
- Anti-static and fire-resistant
- Anti-static, fire-resistant, and of substantial construction that will ensure minimal leakage
- Capable of withstanding an overpressure of 35 kPa
- Capable of withstanding an overpressure of 14 kPa
- Capable of withstanding an overpressure of 70 kPa while it is open
- Capable of withstanding an overpressure of 35 kPa
- Capable of withstanding an overpressure of 140 kPa
- Capable of withstanding an overpressure of 345 kPa
- Capable of withstanding an overpressure of 70 kPa

Appendix 6: Zoning Map

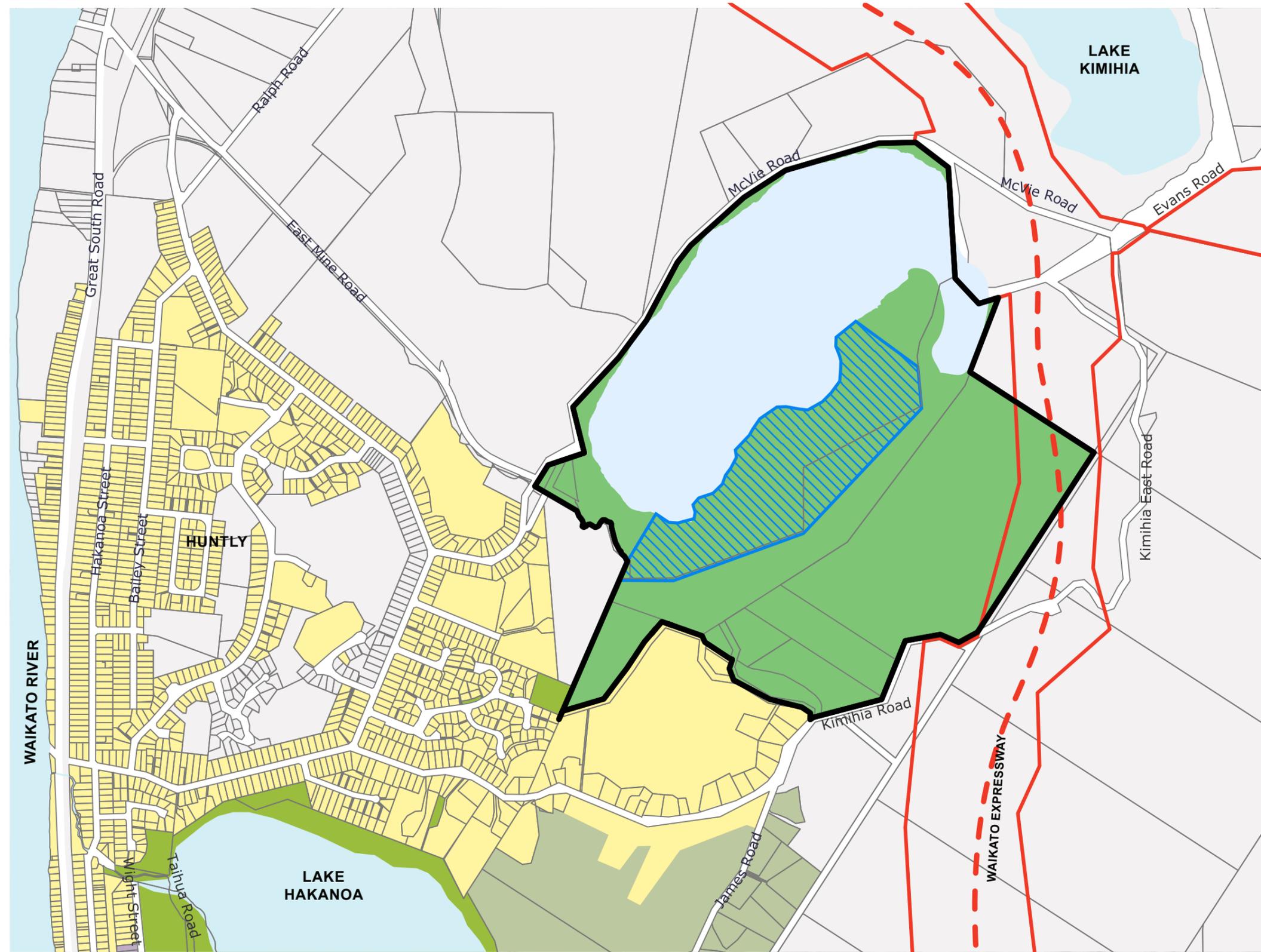
KIMIHIA LAKES DEVELOPMENT - ZONING PLAN

KIMIHIA LAKES DEVELOPMENT- ZONING LEGEND

-  KIMIHIA LAKES ZONE
-  LAKE BODY (ESTIMATED FINAL EXTENT)
-  DEVELOPMENT PRECINCT
-  WAIKATO EXPRESSWAY DESIGNATION

WAIKATO PROPOSED DISTRICT PLAN - ZONING LEGEND

-  Residential
-  Rangitahi Peninsula
-  Village
-  Country Living
-  Rural
-  Business
-  Business Town Centre
-  Business Tamahere
-  Industrial
-  Heavy Industrial
-  Reserve
-  Te Kowhai Airpark
-  Motorsport and Recreation
-  Road



Appendix 7: Economic Impact Assessment

Kimihia Lakes Project Economic Impact Assessment

Prepared for

ALLEN FABRICS LTD.

December 2020

Version control: Final Report
2 December, 2020

Kelvin Norgrove
Director
Strateg.Ease Ltd

Level 6 AIG Building
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Auckland Central 1010

Disclaimer

This report has been prepared for Allen Fabrics Ltd. (the client). Although every effort has been made to ensure the accuracy and integrity of information presented in this report, the author accepts no liability for any actions taken on the basis of the information or recommendations contained herein.

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Executive summary

This report has been commissioned Allen Fabrics Ltd. (AFL) to assess the economic effects of the Project as a component of the RMA Section 32AA Assessment required to support a zoning change being sought through the Waikato District Proposed District Plan (PDP) hearings process.

The proposed development is intended to be of local as well as district wide significance by providing a recreation and outdoor education asset for the Huntly community as well as attract residents and visitors originating from a wider catchment. The potential economic benefits of the Project will primarily arise from:

- Increased local employment and training opportunities for the local labour-force in a community that is relatively deprived with a high concentration of youth, unemployment, Māori, low income, single parent and rental tenure households; and
- Economic value added (GDP) through construction and operation of the Project's facilities and the resultant increased visitor spending on goods and services in Huntly and the wider district.

Based on the financial estimates in the Kimihia Lakes draft Business Plan 2020, the Project's economic impact in quantitative terms is assessed as:

1. Construction contribution to Waikato District's GDP: \$3.36m (or 11% of the district's 2019 baseline GDP of \$2,954m), generating 46 full-time and part-time jobs. Both jobs and the GDP impact would be limited to the duration of the construction period;
2. Tenant activities contribution to Waikato District's GDP: \$1.01-1.37m per annum (or 0.3-0.5% of the district's 2019 baseline GDP), generating 28-36 full-time and part-time jobs on a sustainable basis;
3. Multiplier (indirect and induced) economic impacts based on a Type II multiplier of 1.5 would generate an additional 50% value-added GDP contribution in the order of \$500,000-\$683,000. Taking total GDP impacts to \$1.5-\$2.0m per annum.

In terms of the Resource Management Act's (RMA) requirements, the economic effects of the Project on the core Huntly community and the secondary 'rest of Waikato district', are assessed to be 'low to moderately' positive. No significant negative effects are identified such as pressure on housing demand or the viability of the Huntly town centre. This finding reflects the modest scale of the revenue earning activities and facilities included in the Kimihia Lakes draft Business Plan (2020), while also noting the Project has been designed to provide work and training opportunities for the local labour-force, particularly youth, by establishing relationships with government agencies and iwi/Māori trusts to provide pathways to employment at the lake

site. This should support an outcome of a sizeable share of jobs being filled by existing local residents, a large share of who are currently unemployed or outside the labour-force.

The estimates of the Project's economic impact should be regarded as conservative given the potential for the scale and range of revenue earning facilities (and associated jobs) to increase in future beyond those in the Project's initial business plan. While the provision of free outdoor recreation and education activities will provide amenity and social benefits for the local community, significant economic value will really depend on commercial success. For the Project to ultimately achieve a scale that puts Huntly 'on the map' as a tourism destination will rely on facilities and visitor numbers expanding over time. For example, a doubling of the scale of the Project's 'tenant activities' would imply direct GDP impacts of \$2.02-2.73m per annum, taking it closer to 1% of the district's total baseline GDP (2019).

The District Plan's zoning policies and development controls will need to enable such growth to occur, recognising that the Kimihia Lake site has strong prospects to attract a high volume of 'paying day and overnight visitors' who have relatively convenient access to Huntly -i.e. people coming from the wider growth centres of Waikato District, Auckland, or Hamilton, many of whom may currently bypass the town.

1.0 Introduction

1.1 Purpose

Allen Fabrics Limited (AFL) purchased the former Huntly East mine site to develop the Kimihia Lakes Project (the Project). This Economic Impact Assessment Report has been commissioned by AFL to assess the economic effects of the Project as a component of the Section 32AA Assessment required to support a zoning change being sought through the Waikato District Proposed District Plan (PDP) hearings process.

The site located between McVie Road and the new Waikato Expressway, is approximately 159 hectares comprising an area that was previously the bed of Lake Kimihia. Most of the mine infrastructure has now been removed and the open cast pit is now refilling with stormwater and groundwater. AFL, through the newly formed Kimihia Lakes Community Charitable Trust (KLCCT), seek to undertake the development of the Project. A submission was made on the Proposed Waikato District Plan in October 2018 which sought the introduction of a Specific Zone called the Kimihia Lakes Recreation and Events Zone (now referred to as the Kimihia Lakes Zone¹). The Project aims to develop a recreation and outdoor education park including the rehabilitation and restoration of the site, the development of complementary activities including water-based recreation, accommodation, coalfields museum facilities, cultural interpretation and education enterprises, physical education skills training, and passive use of the site for other activities such as walking, cycling and picnicking.

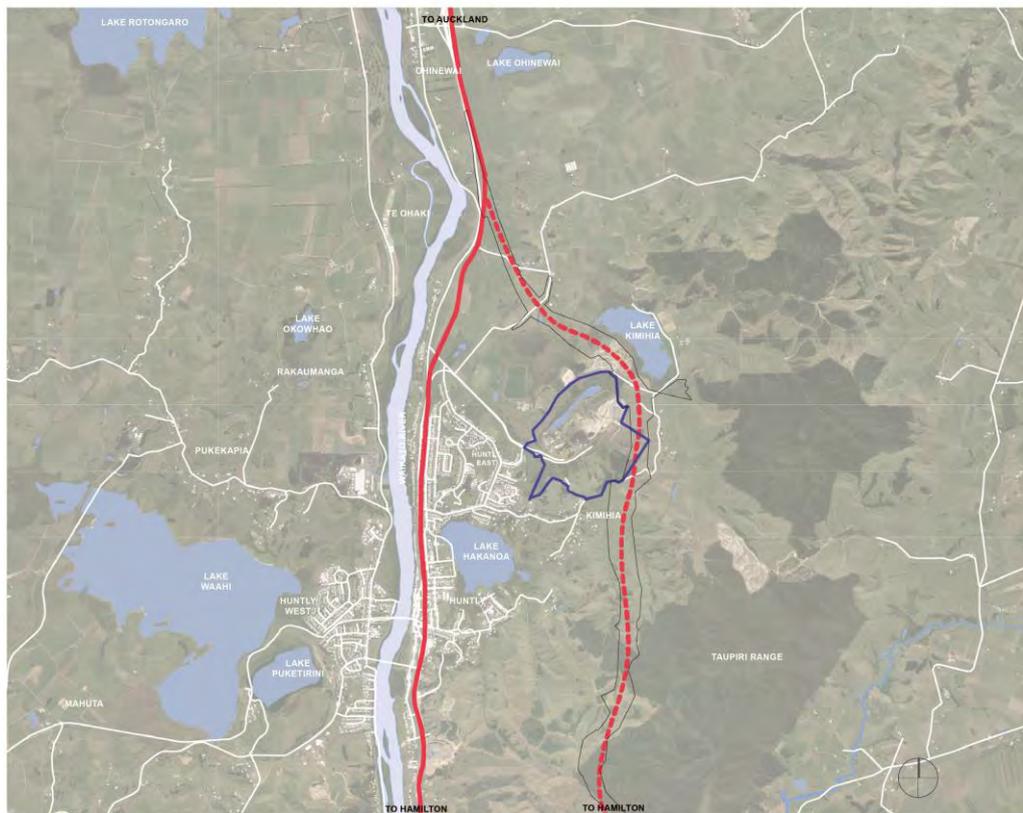
Boffa Miskell has recently completed an initial master planning process for the Project which captures the long-term vision for the development and provides an initial spatial arrangement for the range and scale of the intended activities on the site. The Masterplan will support the subsequent stages of the Waikato District Plan Review process. A draft Business Case (2020) for the Project has also been relied on as the basis of further details on the mix and expected scale of the proposed activities.

1.2 Site context

The site is located within a few kilometres north-east of Huntly Town Centre and is well located in relation to the Waikato Expressway and North Island main trunk railway (refer Map 1).

¹ This would be a Special Purpose Zone as per National Planning Standards guidance.

Map 1: Lake Kimihia redevelopment site



Source: Boffa Miskell Ltd.

The draft Kimihia Lakes Business Plan states the Project will be focused directly on primary and secondary schools, sports clubs, the local events and conference market and both overnight and day-tripper tourists from a catchment around the Auckland to Hamilton corridor.

The main metropolitan centres of Auckland and Hamilton have very good transport connectivity to Huntly and relatively large base populations compared to other surrounding local authority areas. The Waikato Expressway runs through Huntly, connecting it to Hamilton 32 kms to the south, and Auckland to the north which is just over an hour's drive away. The main trunk railway line running through the town is also expected to provide a connection for passengers in the short term which will provide an alternative transport mode for commuters as well as recreation/tourism visitors along the Hamilton-Auckland corridor.

1.3 Project objectives

The proposed reinstatement of a freshwater lake would add to the Huntly lake network which is a local and sub-regional recreational and scenic amenity 'asset' in its own right. The site will not be publicly owned, although it is governed by a charitable trust and will be publicly accessible. As such the 'new' lake will not be subject to the usual constraints of a council or central government owned reserve. It will be capable of activation to provide a significant range of recreation, education, and commercial tourism activities on one site, at a larger scale than is typical of other similar sized lakes in the North Island.

The proposed development and uses of the site have been designed with the following objectives in mind:

1. Restoration and enhancement of the natural environmental qualities of the lake and surrounds
2. Provide a publicly accessible and high amenity recreation facility for the Huntly community that contributes to the lake network in the district (e.g. allowing certain events to be spread across them)
3. Offer outdoor education and recreation experiences to primary and secondary school students from Huntly and rangatahi in the Waikato-Tainui rohe, as well as students in the wider catchment of Waikato District and urban centres of Hamilton and Auckland
4. Provide skills training opportunities for local youth on-site (e.g. through 'on the job' training in environmental restoration, hospitality, and operation of commercial recreation activities)
5. Generate new employment opportunities and income for the local workforce and attract visitors from outside the Hamilton-Waikato District to contribute to growth of the local economy
6. Put Huntly 'on the map' of a trail of tourism destinations along the Hamilton-Auckland corridor
7. Provide a complementary destination to various cultural tourism projects centred on the Waikato River²
8. Co-ordinate and co-operate activities with neighbouring facilities/activities including Huntly Speedway, Huntly Gun Club, Rotongaro-Huntly Pony Club, Huntly Half-Marathon, the close by Motor-cross Track, and the accessible by Expressway Hampton Downs Raceway, Meremere Dragstrip, Cambridge Avantidrome and Karapiro Rowing Centre.

1.4 Scope

This report provides a high level quantification/assessment of the expected economic benefits and costs of the Project based on the intended activities on the site, and includes:

² The opportunity to strengthen the cultural tourism offer in the Ngaruawahia-Rangiriri area is a key opportunity identified in Hamilton & Waikato Tourism's Tourism Opportunities Plan (June 2016).

1. Estimates of job creation;
2. Estimates of local and district wide economic injection; and
3. Assessment of the significance of economic effects in regards to the RMA.

Notes:

- i. The draft Project Business Case 2020 is relied on for 'starting points' on the initial mix of activities and associated estimates of revenue and employment to be accommodated on the site.
- ii. Indicative estimates of jobs and GDP impacts have been modelled based on the business case 'low' and 'high' utilisation scenarios (i.e. at 15% either side of the initial revenue estimate) using high level aggregated industry data for Waikato district.
- iii. The 2018 NZ Census has been relied on to provide a profile of Huntly's usually resident population in terms of the current age structure, ethnicity, employment status and household income levels. This profile provides a basis for assessing potential economic costs and benefits in terms of the magnitude or scale of such effects in relation to the existing 'baseline' community.

2.0 Huntly demographic profile

2.1 2018 NZ Census results

Huntly's usually resident population was 7,905 in the NZ Census 2018. While its population has grown at a relatively high annual rate of over 3% during 2013-18, by comparison the Waikato District grew at a higher average annual rate of 3.8% over the same period (to reach 75,618 residents). The following results from the 2018 Census indicate Huntly is a relatively deprived area with a high concentration of youth, unemployment, Māori, low income, single parent and rental tenure households.

Table 1: Huntly demographic indicators 2018 Census

Headline Indicator	Huntly ³	Waikato District	Observations
Number of occupied dwellings	2,616	25,116	Huntly accounts for 10.4% of all occupied dwellings, the same as its share of the district's population. Average household size is therefore the same
Population aged < 15yrs	26%	23.4%	One-quarter of the population (slightly greater % than the district as a whole) of very young, school-age, or early-teen children
Number of primary and secondary school students	1,516	10,855	Based on Ministry of Education enrollment data
Population > 15 - 29yrs	19.7%	17.5%	Nearly half the town's residents are under 29yrs of age. Do not tend to move away from Huntly for work or education
Population > 30 - 65yrs	40.5%	46.5%	Younger population cohorts than the district as a whole
Population > 65yrs	13.8%	12.6%	Older age groups similar to the district as a whole
Māori ethnicity	53.3%	26.4%	Highly concentration of Māori
Family Structure			
Single Parent Households	33.4%	15.7%	Double the rate of solo parenting in the district as a whole
Couple with dependent children	35.2%	45.4%	Reflects higher rate of solo parenting
Couple with no children (at home)	31.4%	38.9%	Lower rate reflects younger age

³ Huntly is defined to include the StatsNZ statistical areas of Huntly West and Huntly East.

			structure and/or shorter life expectancy (e.g. Māori have shorter life expectancy than NZ average)
Personal income (aged over 15 years)			
Income < \$20K	45.1%	33.5%	Higher share on low incomes
Income > \$20-50K	34.1%	31.3%	Similar
Income > \$50K	20.8%	35.2%	Lower share on high incomes
Median income	\$22,100	\$34,700	Median personal income is only two-thirds of that for the district as a whole
Employment status (share of population over 15 years old)			
Employed Full time	2,505 42.8%	30,771 53.2%	Significantly lower rate of full-time workers 'in the labour-force' compared to district as a whole
Unemployment	18.1%	7.6%	High unemployment rate (over double the district's as a whole)
Part time employment	11.1%	14.9%	Slightly lower rate of part-time workers
Labour-force participation rate	61.7%	72.4%	Significantly lower rate than district as a whole. 2,238 people of working age in Huntly 'not in the labour-force'
Housing tenure			
Home owned or partly owned	48.2%	70.5%	High level of private or social rental tenure
Qualifications			
High School and post-school qualifications of those in work (NZQA - level 2 and above)	67.6%	74%	Huntly has a higher rate of those with no qualification or only level 1
Proportion of workers in 'non managerial or professional' occupations	76.6%	57.8%	Significantly higher rate than district as a whole of people working in clerical/admin., sales, trades, machinery operators, drivers and labourers.

Source: Stats NZ 2018 Census data; Ministry of Education enrolment data July 2018.

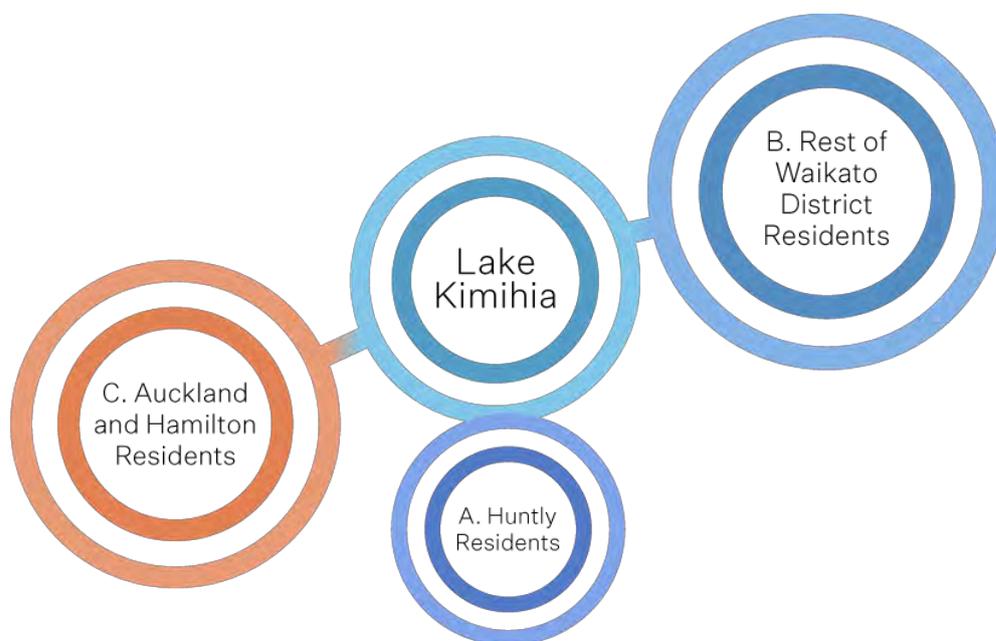
2.2 Visitor catchments

Allowing for growth to have occurred since 2018, Huntly provides a primary catchment of more than 8,500 residents (including at least 1,500 school students)⁴. A wider pool of residents in the rest of the Waikato

⁴ Huntly's population was estimated to be 8,470 as at June 2019 (StatsNZ population estimates accessed from <https://www.stats.govt.nz/topics/population>).

district and the main metropolitan centres of Hamilton and Auckland adds a large catchment from which to draw patronage for a visitor oriented destination in the town.

The primary source of domestic visitors (day trippers and overnight visits) can therefore be expected to come from the population pools in three main locations as illustrated below:



Resident population (2018):

- A. Huntly (at least 8,500),
- B. the rest of Waikato District (at least 67,700),
- C. Auckland and Hamilton (at least 1,571,700 and 141,600 respectively⁵).

⁵ Source: Stats NZ 2018 Census data.

3.0 Estimate of GDP and job impacts

3.1 Initial proposed activities

The draft Kimihia Lakes Business Case (2020) lists the following activities and building uses proposed to be accommodated at the site:

- i. Learning in the Outdoors Centre for School Groups
- ii. School, Group and Seasonal Tourist Accommodation
- iii. Campground
- iv. Hosting Sporting Events e.g. Waka Ama, Sailing Regattas, etc.
- v. Venue Hire for Conferences and Weddings
- vi. Exhibitions
- vii. Special Events
- viii. Aquatic Centre with Lessons, Equipment Rentals and Storage
- ix. Café and Catering Services

Whilst not necessarily definitive of the long-term or ultimate range of activities and facilities that may be accommodated on the site, the Business Case is considered to provide a sufficient basis for assessing the potential economic effects of the Project. Summary results of the economic analysis of the Project are provided below. Refer Attachment A for the detailed analysis.

3.2 Kimihia Lakes construction GDP and jobs estimates

The draft Business Case estimates construction of the Project will require investment of \$9m as shown in Table 2.

Table 2: Kimihia Lakes construction costs

Component	Cost \$000
Infrastructure (i.e. 3 waters, roading, electricity etc.)	3,184
KLCC Multi-Purpose Venue and Facilities	4,000
Accommodation Centre (Motel , Dormitories and Campground)	3,000
Total	10,184

Source: Draft Kimihia Lakes Business Case 2020 and Lysaght est. of infrastructure costs
Nov. 2020

Based on NZ wide estimates that the direct GDP contribution from the construction sector averages 33% of total construction costs⁶, a \$10.2m construction cost would contribute to Waikato district's GDP by \$3.361m, equivalent to an 0.11% increase on baseline 2019 GDP (\$2,954m). Based on the average productivity of workers in the construction sector in Waikato District (\$73,724), this would generate around 46 full-time and/or part-time jobs. Both jobs and the GDP impact would be limited to the duration of the construction period.

3.3 Kimihia Lakes activities GDP and jobs estimates

The Project is estimated to generate a direct GDP contribution to Waikato District in the order of \$1.01-1.37m per annum and sustain total full-time and part-time jobs in the order of 28-36. The summary results are shown in Table 3.

Table 3: Estimated jobs (full and part-time) on GDP basis of Kimihia Lakes tenancies

Tenancy	GDP est.1 (\$000) ¹	GDP est. (\$000) ¹	Job est. 1	Job est. 2
Learning in the outdoors programmes (schools and groups)	249	337	4	6
Commercial venue hire	70	94	1	1
Commercial accommodation	164	224	5	7
Aquatics and Activities Centre	208	281	3	4
Café and Catering services	317	429	10	14
Site management	160	160	4	4
Total	\$1,008	\$1,366	28	36

Source: Strateg.Ease based on Infometrics data

The direct GDP contribution relative to Waikato District's total GDP of \$2,954m (2019) would be relatively minor, at 0.03-0.05% of baseline. However, given the district has experienced annual growth in GDP in recent years at low or negative rates (e.g. -0.6% in 2018; 1.3% in 2017)⁷, the construction and operation of the Project would at least add a positive fraction to GDP growth rates in the short-term in the order of 0.15-0.16% (i.e. the combined effect on GDP of construction and operation of the Project).

⁶ Source: NZIER July 2013, Construction productivity: An evidence base for research and policy issues. Report to the Building & Construction Sector Productivity Partnership.

⁷ Refer Infometrics 2019 <https://ecoprofile.infometrics.co.nz/Waikato%20District/Gdp>

While the projected 28-36 permanent jobs would provide opportunities for the local labour-force to access skills training and work, they are also relatively minor. In 2018 the Huntly East area (which includes the town centre) accommodated a total 1,314 jobs, including 130 in 'accommodation and food services', 210 in 'retail trade', 90 in 'education and training' and 25 in 'arts and recreation services'⁸.

The total economic impact of the Project is the sum of direct, indirect and induced effects within the district. Tenant activities will purchase goods and services from other local businesses, causing flow-on effects, termed upstream 'indirect' effects, from the increased income and employment for the businesses providing them. Further effects are 'induced effects' – including tenant activities workers increasing household expenditure due to their increased income. Similarly, visitors to the site may also purchase goods and services from other businesses in Huntly.

Economic multiplier effects of tourism operations in small towns are typically a lot less than in cities. For example, a study by the Department of Conservation 2011⁹ of tourism operations in national parks and small towns such as Akaroa, Kaikoura and Ohakune found that Type 11 'value-added' multipliers (accounting for both indirect and induced effects) were around 1.4-1.6, compared to 2 in cities such as Christchurch.

In the context of the Project it would be reasonable to expect the total economic multiplier impact would be around 1.5; implying the direct GDP contribution of the tenant activities of \$1.01-1.37m would generate flow-on impacts of an additional 50% i.e. in the order of \$500,000-\$683,000. Taking the total on-going GDP impacts to \$1.5-\$2.0m per annum.

⁸ Refer: <https://www.arcgis.com/apps/webappviewer/index.html?id=cf4f20ed7c674478b136e2752127cc14>

⁹ Refer DOC 2011 Socio-economic effects of concession-based tourism in New Zealand's national parks; <https://www.doc.govt.nz/globalassets/documents/science-and-technical/sfc309entire.pdf>

4.0 Assessment of economic effects

4.1 Methodology

The existing resident and business community in Huntly is considered to be the core focus for assessing economic impacts of the Project. Residents and businesses in the wider Waikato district area are recognised as a second-tier community of interest (refer Table 4).

Table 4: Economic (and Social) Impact Assessment communities of interest

Core community	Huntly	<ul style="list-style-type: none">i. Residents (including workers, unemployed, and students)ii. Businesses and social and community service providers
Secondary community	Waikato District	<ul style="list-style-type: none">iii. Residents (including workers, unemployed, and students)i. Businesses and social and community service providers

The Project is expected to attract tourist visitors to its recreation and outdoor education facilities (e.g. students and domestic or international visitors) but they are regarded as peripheral to the above communities of interest, and are omitted for the purposes of considering economic (or social effects). As GDP is necessarily estimated at the aggregate level of Waikato district as a whole, it is an indicator of economic welfare gains for the population of both Huntly and the rest of the district, and also takes account of the economic contribution of visitors from outside the district.

The following themes are considered to be the most appropriate basis for assessing the economic impacts of a zoning change to meet the requirements of the Resource Management Act 1991 (refer Attachment B for further explanation):

1. **Economic effects:** relating to the potential impacts on existing businesses and business areas, and employment and training opportunities for the local labour-force,
2. **Effects on people's way of life and community cohesion:** relating to the potential impacts on how people live and work, and interact with one another, and their access to jobs, housing, and social and community facilities and services.

It is recognised that given the cross-overs between social, cultural and environmental effects care has to be taken to avoid double counting. For this reason potential effects of the Project on matters such as the quality of the natural environment, protection of cultural heritage sites, infrastructure requirements, traffic impacts, or risks associated with natural hazards, are omitted from consideration on the basis that they are expected to be addressed in other technical reports.

4.2 Evaluation of significance of economic effects

This section provides an evaluation of the significance of economic impacts based on the above assessment of effects for the defined Core and Secondary communities of interest (unless otherwise stated).

The impacts are rated based on criteria of type of impact (positive or negative) and magnitude of impact (as low, moderate or high), as illustrated in Table 5 and applied in Table 6.

Table 5: Evaluation methodology

Type of impact	Magnitude of impact		
	Low Small rate of change or dispersed spatially	Moderate Medium - Concentrated spatially	High Large-concentrated spatially
Positive – improvement in economic or social outcomes	Low positive	Moderate positive	High positive
Negative – – adverse economic or social outcomes	Low negative	Moderate negative	High negative

Only **moderate** to **high** impacts are considered to be potential significant effects in RMA terms. Where appropriate, mitigation measures should be proposed for managing any such negative effects.

Table 6: Summary of potential economic impacts

No. ref.	Impact	Community of interest	Duration	Scale	Magnitude of effect
<i>ECONOMIC - relating to potential impacts on existing businesses, labour-force and people's way of life and community cohesion.</i>					
1	Construction activity and in-flow of construction workers to Huntly creating demand for housing and goods and services	Core	1-2 years	Stage1 construction costs will be in the order of \$10.2m on a large site a few kilometres away from Huntly. Likely to be only around 46 FT/PT workers, many of whom would likely already live in Huntly or nearby. Impact will be relatively short duration. Current housing stock over 2,600 should mean demand from new workers moving into Huntly is manageable. Unlikely to generate adverse impacts on current rental levels or displace existing residents.	Low-positive
2	Construction activity provides employment for workforce in the wider area, creating demand for housing and goods and services	Secondary	1-2 years	Stage1 construction costs will be in the order of \$10.2m on a large site a few kilometres away from Huntly. Likely to be 46 FT/PT workers many of whom would likely already live in Huntly or nearby. Employment and GDP impact will be relatively short duration and dispersed across settlements.	Low positive
3	Tenant activities provide jobs and training for the local labour-force and those 'not currently in employment or training' (NEET's)	Core and Secondary	2-3 years and on-going	Projected 28-36 jobs (full-time and part-time) with opportunities to train local unemployed and school leavers; long duration. Established relationships with government agencies and iwi/Māori trusts should facilitate this to happen.	Moderate positive
4	Construction activity and tenant businesses generate a direct contribution to GDP of the Waikato District	Secondary	1-2 years and on-going	Estimated in the order of \$3.36m, equivalent to a 0.11% increase on baseline 2019 GDP from construction. Plus \$1.01-1.37m per annum from tenant activities, adding a direct and enduring 0.3-0.5% to annual GDP.	Low-moderate positive
5	Tenant activities source goods and services from industrial and commercial businesses (multiplier impact/upstream demand)	Core and Secondary	2-3 years and on-going	Based on moderate scale of tenant businesses, and proximity to Huntly, likely to boost demand for raw materials, food, equipment, transport and professional services, encouraging utilisation of spare capacity and growth in existing businesses (in industrial and commercial zones). Impacts beyond Huntly will be dispersed. Multiplier impacts on GDP estimated to be	Low positive

No. ref.	Impact	Community of interest	Duration	Scale	Magnitude of effect
				around \$500-680k pa on top of the direct contribution (so total \$1.5-2.0m).	
7	Tenant workforce as well as visitors to the site increase demand for goods and services elsewhere (multiplier impact/induced demand)	Core and Secondary	on-going	Likely to boost demand for retail goods and services, transport and accommodation, encouraging utilisation of spare capacity and growth in existing businesses (in industrial and commercial zones). Impacts beyond Huntly will be dispersed. Multiplier impacts on GDP estimated to be around \$500-680k pa on top of the direct contribution (so total \$1.5-2.0m).	Low positive
8	Tenant commercial activities divert retail and accommodation expenditure from Huntly town centre and reduce its viability	Core	on-going	Based on the initial mix of activities and total revenue in the order of \$2.7-3.7m, the diversion of local retail expenditure should be minimal. Likely specific to recreational/sporting goods and will be seasonal. Most revenue expected to come from visitors from a dispersed catchment beyond Huntly. Future growth in activities and revenue will rely on increased volume of 'non-local' visitors.	Low negative

5.0 Conclusions

5.1 Economic impacts

The Project has potential to make a 'low to moderate' positive contribution to the economic and social well-being of Huntly which is currently experiencing population growth but with a relatively high level of social deprivation and challenges. As well as providing pathway to employment opportunities for the existing labour-force and NEETs, it will increase demand for construction materials, transport services, wholesale food and goods and services from Huntly and the wider district. No significant negative economic effects are identified.

The total economic value generated by the Project for the Huntly economy will clearly depend on the extent to which that economy's labour-force and other 'resources' are accessed and utilised by the activities at the lake. For the Project to ultimately achieve a scale that puts Huntly 'on the map' as a tourism destination and attract many more day and overnight visitors to Huntly, the initial mix and scale of activities will need to expand. This will rely (in part) on the District Plan zoning policies and development controls enabling such growth to occur.

5.2 Alternative options to the zoning change

As an input to the RMA requirement to consider alternative options to the proposed zoning change, the main alternative options would be:

- i. Option 1: Establish the Project's facilities at existing lakes/reserves in Huntly owned by the Waikato District Council or Department of Conservation (e.g. Lake Hakanoa, Lake Puketirini).
- ii. Option 2: Retain the Proposed District Plan (PDP) zoning, predominantly Rural, with Residential Zoning in the south of the site.

The following points are made in relation to the disadvantages common to both options:

- While some of the Project's facilities (e.g. passive recreation, campground, events) could potentially be allowed under the PDP zoning or at existing lake reserves, the scale and range of the Project's other facilities (e.g. café, motel units, aquatics centre) would be either very unlikely to be allowed to establish or require complex resource consent processes.

- Currently adopted Reserve Management Plans tend to contain restrictive policies on the extent of commercial or built development in recreation reserves. For example, the HUNTLY DOMAIN AND LAKE HAKANOA RESERVE MANAGEMENT PLAN 2012¹⁰ includes:
 - Policy 1f): *Restrict further built development within the Domain that compromises the open space qualities of the Domain.*
 - Policy 2 e): *Manage the number of annual events within the Domain to enhance the exposure of the Domain whilst minimising the impact upon general use.*

¹⁰ Refer <https://www.waikatodistrict.govt.nz/your-council/plans-policies-and-bylaws/plans/reserve-management-plans/huntly-domain-and-lake-hakanoa-reserve-management-plan>

ATTACHMENTS

Attachment A: Technical basis for GDP and jobs estimates

The draft Project Business Case makes initial projections about revenue from activities based on various assumptions about individual capacity, visitor utilization rates and user charges/revenue. Total revenue from the mix of activities is estimated at \$3,183,000 per annum. The draft Business Case then estimates that there could be 23 FTE jobs associated with this revenue based on experience from the hospitality sector that labour costs average 35% of revenue and the average salary in the hospitality and tourism industry is \$50,000 per annum [i.e. total (\$3.18m x 35%)/50k]. The latter assumption has also been confirmed from Careers NZ¹¹. The draft Business Case also allows for the site management operation to require 3 FTEs on top of the tenant activities, implying a total base case of 26FTEs.

To allow for uncertainty in the utilisation rates a 15% lower and 15% higher revenue projection either side of the base case is shown in Table 1.

Table 1: Kimihia Lakes revenue projections (per annum)

Activity	Series 1 (low utilisation) \$000	Series 2 (high utilisation) \$000
Learning in the outdoors programmes (schools and groups)	668	904
Commercial venue hire	187	253
Commercial accommodation	440	601
Aquatics and Activities Centre	557	753
Café and Catering services	850	1,150
Site management ¹		
Total	\$2,702	\$3,661

Source: Draft Kimihia Lakes Business Case 2020

Notes: 1 site management direct costs estimated at \$160k but not shown in table as will be paid for out of 'tenant' rent already accounted for in their total revenue.

Applying the draft Business Case approach to estimate jobs, the lower scenario would generate 19FTEs and the higher scenario, 26FTEs. Or a total tally of 22 or 29 FTEs once allowing for the site management operation's 3 FTEs.

¹¹ <https://www.careers.govt.nz/job-hunting/whats-happening-in-the-job-market/salary-guide/>

In order to assess the economic impacts of the Project on a GDP basis the revenue projections have been adjusted based on industry sector data for the Waikato District, which is then used to derive employment estimates on a consistent basis.

The revenue estimates in Table 1 above have been adjusted down to 37.3% to derive GDP estimates, accounting for the need to exclude the likely costs of intermediate goods and services that are sourced from other industry sectors. The results in Table 2 show that the Project is estimated to make a direct contribution to Waikato district GDP of \$1.01-1.37m.

Table 2: Estimated GDP of Kimihia Lakes Project

Tenancy	GDP est.1 (\$000)¹	GDP est. (\$000)¹
Learning in the outdoors programmes (schools and groups)	249	337
Commercial venue hire	70	94
Commercial accommodation	164	224
Aquatics and Activities Centre	208	281
Café and Catering services	317	429
Site management	160	160
Total	\$1,008	\$1,366

Notes: 1 GDP estimate derived from Restaurant Association data for Waikato Region and Infometrics data for Waikato District (average ratio of GDP to total output/revenue is 37.3%). Site management operating costs are counted at 100% as intermediate inputs assumed to be zero.

In order to derive GDP based employment estimates the tenant activities have been assigned to the most relevant industry sector as shown in Table 3.

Table 3: Attribution of Kimihia Lakes tenant activities to industry sector

Tenancy	Industry sector
Learning in the outdoors programmes (schools and groups)	<i>Education and Training</i>
Commercial venue hire	<i>Arts and Recreation services</i>
Commercial accommodation	<i>Accommodation and Food Services</i>
Aquatics and Activities Centre	<i>Arts and Recreation services</i>
Café and Catering services	<i>Accommodation and Food Services</i>
Site management ¹	<i>Administration and Support Services</i>

Notes: 1 Site management now included in table as it is a separate activity in economic/GDP terms (i.e. as an on-site activity that is excluded from the GDP of the tenant activities).

The relevant sectoral average productivity levels are shown in Table 4¹².

Table 4: Waikato District GDP per employee (productivity) 2019

Industry sector ¹	GDP per employee ²	
	Waikato District (\$)	NZ
Construction	73,724	77,358
Education and Training	57,374	57,218
Administration and Support Services	43,322	47,633
Arts and Recreation services	71,128	85,072
Accommodation and Food Services	30,581	37,927

Source: Infometrics 2019

Notes: 1 Only sectors most relevant to the Kimihia Lakes tenancies are included
 2 Employees refer to full-time and part-time workers (i.e. not on an FTE basis). The variation in sector productivity levels essentially reflects differences in the extent to which different types of activities use intermediate goods and services as well as their capital intensity.

The draft Business Case 2020 estimates construction of the Project will require investment of \$10.18m as shown in Table 5.

Table 5: Kimihia Lakes construction costs

Component	Cost \$000
Infrastructure (i.e. 3 waters, roading, electricity etc.)	3,184
KLCC Multi-Purpose Venue and Facilities	4,000
Accommodation Centre (Motel , Dormitories and Campground)	3,000
Total	10,184

Source: Draft Kimihia Lakes Business Case 2020; Lysaght est. of infrastructure costs Nov. 2020

Based on NZ wide estimates that the direct GDP contribution from construction averages 33% of total construction costs¹³, the Project would contribute to Waikato district's GDP of \$2.97m, equivalent to 0.11% of baseline 2019 GDP (\$2,954m). Based on the average productivity of workers in the construction sector in Waikato District (\$73,724), this would generate 46 full-time/part-time jobs over the same period.

Applying the average productivity levels to the tenant GDP estimates indicates job numbers would be in the order of 28-36 (refer Table 6). Although these estimates are higher than the draft Business Case FTE

¹² Sourced from: <https://ecoprofile.infometrics.co.nz/Waikato%20District/Productivity>

¹³ Source: NZIER July 2013, Construction productivity: An evidence base for research and policy issues. Report to the Building & Construction Sector Productivity Partnership.

estimates, they really just reflect that the accommodation and food and venue sectors typically provide both full-time and part-time jobs.

Table 6: Estimated jobs (full and part-time) on GDP basis of Kimihia Lakes tenancies

Tenancy	GDP est.1 (\$000) ¹	GDP est. (\$000) ¹	GDP per employee (\$000)	Job est. 1	Job est. 2
Learning in the outdoors programmes (schools and groups)	249	337	57	4	6
Commercial venue hire	70	94	71	1	1
Commercial accommodation	164	224	31	5	7
Aquatics and Activities Centre	208	281	71	3	4
Café and Catering services	317	429	31	10	14
Site management	160	160	43	4	4
Total	\$1,008	\$1,366		28	36

Source: Strateg.Ease based on Infometrics data

Attachment B: Economic and social assessment approach

1.0 RMA statutory requirements

The purpose of the RMA is the sustainable management of natural and physical resources. Section 5 defines this as enabling people and communities to provide for their well-being while sustaining natural and physical resources to meet foreseeable needs, safeguarding life-supporting capacities of environmental media, and avoiding, remedying or mitigating adverse effects of activities on the environment. The Act defines environment broadly to include social, economic and cultural conditions.

Explicit economic considerations under the Act include section 5's references to enabling communities to provide for their economic well-being, and section 7(b)'s requirement to have regard to efficient use and development of natural and physical resources. Section 32 requires consideration of alternatives, benefits and costs before a proposed planning measure is put into effect, including amendments made in 2013, how a proposal would affect opportunities for employment and economic growth.

Section 32 Requirements for preparing and publishing evaluation reports:

- (1) An evaluation report required under this Act must—
 - (a) examine the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act; and
 - (b) examine whether the provisions in the proposal are the most appropriate way to achieve the objectives by—
 - (i) identifying other reasonably practicable options for achieving the objectives; and
 - (ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and
 - (iii) summarising the reasons for deciding on the provisions; and
 - (c) contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.
- (2) An assessment under subsection (1)(b)(ii) must—
 - (a) identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—
 - (i) economic growth that are anticipated to be provided or reduced; and
 - (ii) employment that are anticipated to be provided or reduced; and

- (b) if practicable, quantify the benefits and costs referred to in paragraph (a); and
- (c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.

32AA Requirements for undertaking and publishing further evaluations

- (1) A further evaluation required under this Act—
 - (a) is required only for any changes that have been made to, or are proposed for, the proposal since the evaluation report for the proposal was completed (the **changes**); and
 - (b) must be undertaken in accordance with [section 32\(1\) to \(4\)](#); and
 - (c) must, despite paragraph (b) and [section 32\(1\)\(c\)](#), be undertaken at a level of detail that corresponds to the scale and significance of the changes; and
 - (d) must—
 - (i) be published in an evaluation report that is made available for public inspection at the same time as the approved proposal (in the case of a national policy statement or a New Zealand coastal policy statement or a national planning standard), or the decision on the proposal, is notified; or
 - (ii) be referred to in the decision-making record in sufficient detail to demonstrate that the further evaluation was undertaken in accordance with this section.

The RMA focus is on external “spillover effects” that might arise. That includes external effects on natural and physical resources and also on the economic and social conditions within the environment.

Having regard to the above the following components of economic assessment are recommended as being appropriate and sufficient to satisfy the RMA requirements for a Plan Change.

2.0 Economic Impact Framework

Based on consideration of the above, as well as the other information sources that have been used to inform this report, the following themes are considered to be the most appropriate basis for assessing economic effects of the proposed zoning change to enable the Project:

1. Assessment of alternative options to the zoning change to input to the s32AA Assessment (the obvious option being, ‘retain existing zoning’),

2. Projections of employment and/or training positions on the Project site and their contribution to district GDP as indicators of the direct economic welfare effects on the Huntly and wider Waikato district labour-force/community,
3. Assessment of the significance of any negative or positive effects of the proposed development on the wider economic role and function of Huntly (including the town centre).

Appendix 8: Integrated Transport Assessment



Planning | Surveying | Engineering | Environmental

Integrated Transportation Assessment

Allen Fabrics Limited

239 East Mine Road, Huntly, New Zealand

DOCUMENT CONTROL

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1 Introduction

- 1.1.1 CKL has been engaged by Allen Fabrics Limited (AFL) to assess the effects of a proposed Plan Change to change the zoning of the former Huntly East coal mine. The site is located within the Waikato District. The Operative Waikato District Plan (ODP) is currently being reviewed with the Proposed Waikato District Plan (PDP) being notified in July 2018. The proposed Plan Change is part of the submission to the PDP.
- 1.1.2 At present, the site subject to this submission is included within the rural zone as stipulated in both the ODP and PDP. The southern portion of the overall site is included in the New Residential Zone under the ODP and the Residential zone in the PDP, however this is outside of the scope of the submission and not addressed in this assessment. It is proposed to change part of the rural zoning within the site to a specific Kimihia Lakes Zone to enable that part of the site to be developed as an outdoor recreation and education park. The exact details of the future development are yet to be confirmed however it is likely that the site will predominantly serve as a centre for outdoor education for school trips. It is also anticipated that it will provide an active amenity space for the local community.
- 1.1.3 Overall, five amendments to the rules of the PDP are proposed in order to ensure that the transportation effects of the Plan Change are suitably managed and that the anticipated future development of the site can comply with the PDP. With these amendments in place, it can be concluded that there are no traffic or transportation reasons to preclude approval for the proposed Plan Change.

2 Site Location

- 2.1.1 The approximately 159ha site is located at the end of East Mine Road to the northeast of the urban Huntly area as outlined in blue in Figure 1. The aerial image shows the Waikato Expressway (WEX) to the east of the site as indicated by the dashed red line, while the solid red line represents the main road through Huntly (Great South Road). This still retains an active State Highway 1 (SH1) designation, however, this is expected to revert back to Waikato District Council control once the revocation process is completed.

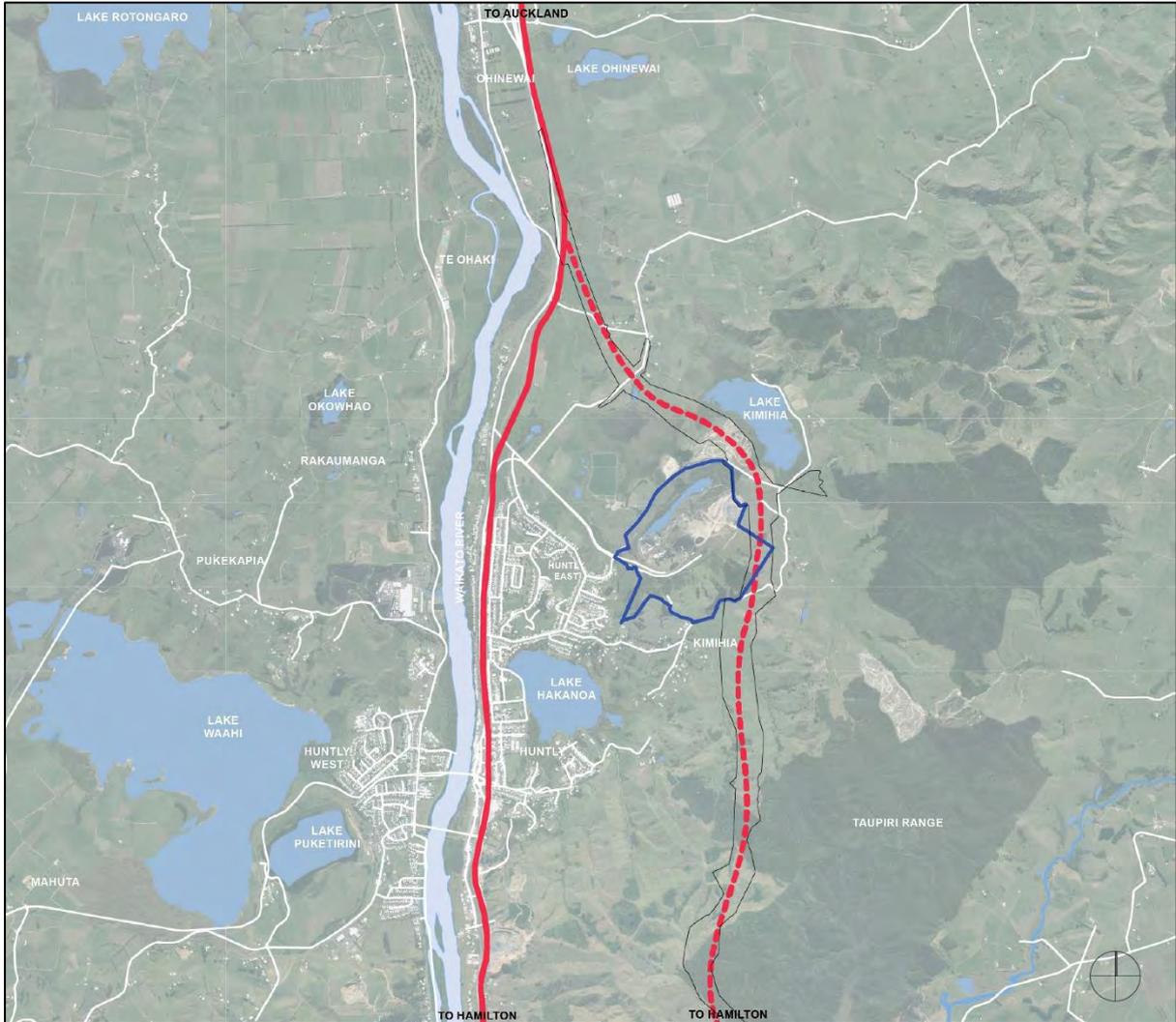


Figure 1: Site Location

2.1.2 Figure 2 below shows the area of the site which is proposed to be rezoned from Rural to Kimihia Lakes Zone under the PDP. This report only assesses the traffic and transportation effects of this proposed rezoning.

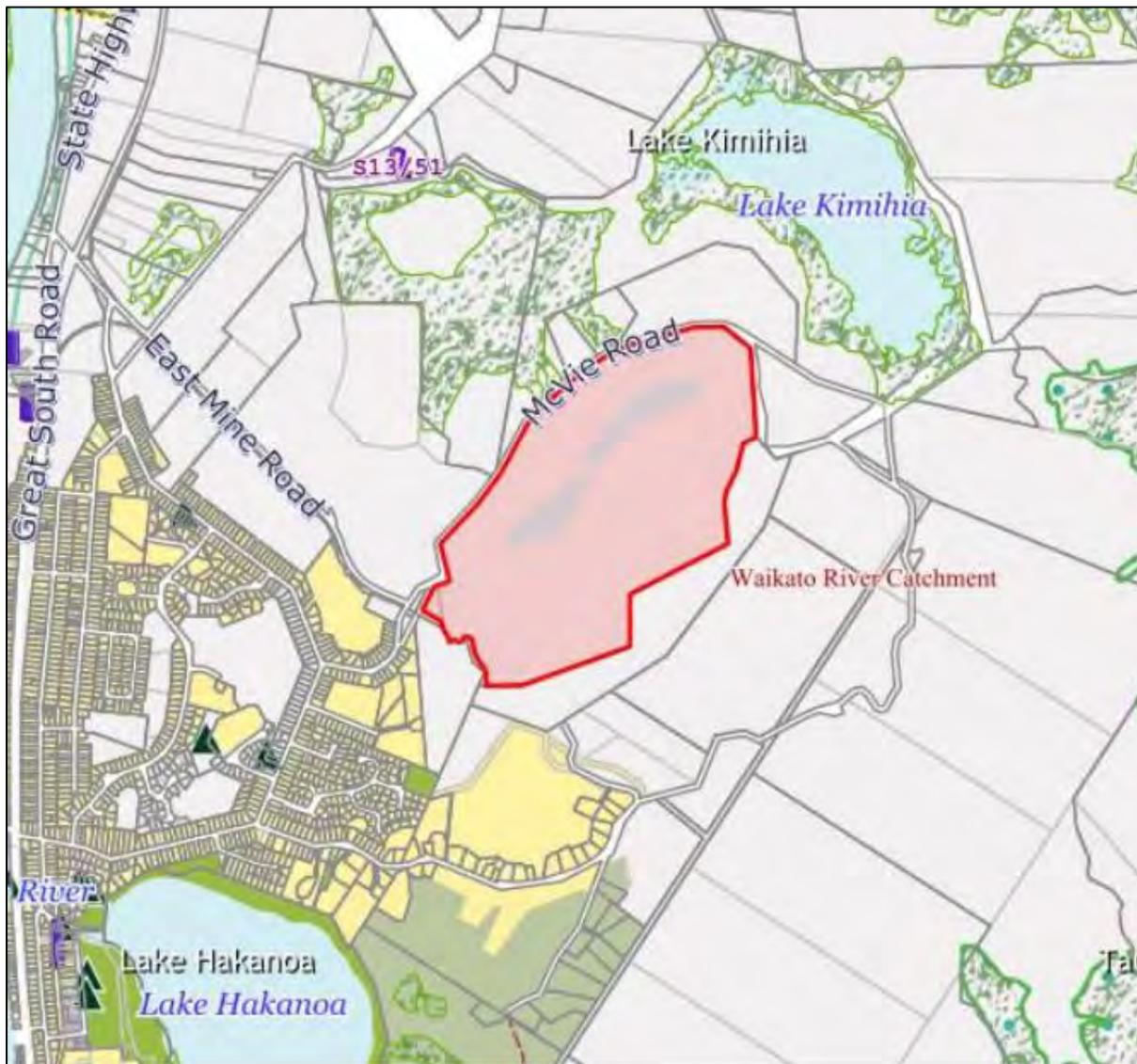


Figure 2: Area of Proposed Rezoning

2.1.3 The former mine is located within the Plan Change Area and this is currently being allowed to refill naturally to recreate a lake. It is expected that this lake will not be full for at least five years and will cover a large portion of the site. Mining activities no longer occur from the site.

2.1.4 A rail spur off the North Island Main Trunk Line provided access for rail vehicles to the mine to transport coal for Huntly Power Station. There is the potential for this to be developed in conjunction with Waikato District Council as a walking and cycle trail to Huntly town centre, however this is not proposed as part of the proposed rezoning as it requires land outside the control of both AFL and Council.

2.1.5 The surrounding area is predominantly rural in nature with the northern suburbs of Huntly to the south and west. The Huntly speedway is located just north of the site.

3 Existing Road Network

3.1 Physical Environment

3.1.1 East Mine Road runs east-west and provides the existing means of access to the site from Great South Road. At the time of writing this report, Great South Road is still part of the SH1 designation despite the fact that the Huntly Bypass section of WEX was completed in March 2020. It is expected that the SH1 designation will be changed to the bypass route in the near future. Regardless, the change in technical designation is not considered to have a practical effect on traffic volumes or patterns in the area over and above the changes that occurred following completion of WEX.

3.1.2 East Mine Road is a two-way, two-lane road with a posted speed limit of 100km/h. It is classified as a Local Road by both the ODP and PDP. The carriageway is approximately 10m wide with a painted dashed centreline. The public road reserve ends just east of the crossroads intersection with McVie Road and the entrance to the site is currently gated. Figure 3 shows East Mine Road looking west from the gates to the site.



Figure 3: East Mine Road Looking West

3.1.3 A level crossing with the North Island Main Truck Line is present on East Mine Road approximately 100m east of Great South Road. There are two tracks at the level crossing which includes lights, bells and half-arm barriers. Figure 4 below shows the existing level crossing looking west towards Great South Road.



Figure 4: East Mine Road Level Crossing Looking West

3.1.4 Great South Road is classified as a National Route by the ODP. With the completion of the Huntly bypass, and while not specifically stated in the PDP, it is anticipated that the hierarchical ranking of Great South Road will be reduced to Regional Arterial route once it is no longer part of the State Highway network. In the vicinity of East Mine Road, Great South Road is a two-way, two-lane road with 1m median separating the opposing traffic flows and 1.5m sealed shoulders on both sides of the carriageway. A right turn bay is provided at the intersection to East Mine Road and the posted speed limit is 70km/h. Figure 5 shows Great South Road when looking north from East Mine Road.



Figure 5: Great South Road Looking North

3.1.5 McVie Road is a two-way, two-lane local road that runs along the western and northern boundaries of the site. To the south of East Mine Road, it has a carriageway width of approximately 8m and forms a crossroads intersection with East Mine Road. The posted speed limit reduces to 50km/h on the southern side of East Mine Road in advance of the existing residential areas while the 100km/h speed limit still applies to the north. The northern arm of McVie Road provides access to the Huntly Speedway and has a carriageway width of around 7m.



Figure 6: McVie Road Looking South

3.2 Traffic Volumes

3.2.1 A survey was undertaken of the intersection between East Mine Road and Great South Road on Thursday 17 September 2020 from 7am to 9am and 4pm to 6pm. This was considered to represent a typical weekday and was during only a Level 1 status of the COVID-19 lockdown. The survey was also undertaken on Saturday 19 September 2020 from 11am to 3pm to capture the typical weekend peak traffic volumes.

3.2.2 Figure 7 to Figure 9 below show the peak hour traffic volumes through this intersection for the weekday morning, evening and weekend peak hours respectively. By way of summary,

East Mine Road has a peak hour volume of 65-75 vehicles per hour (vph) and Great South Road carries 340-400vph.

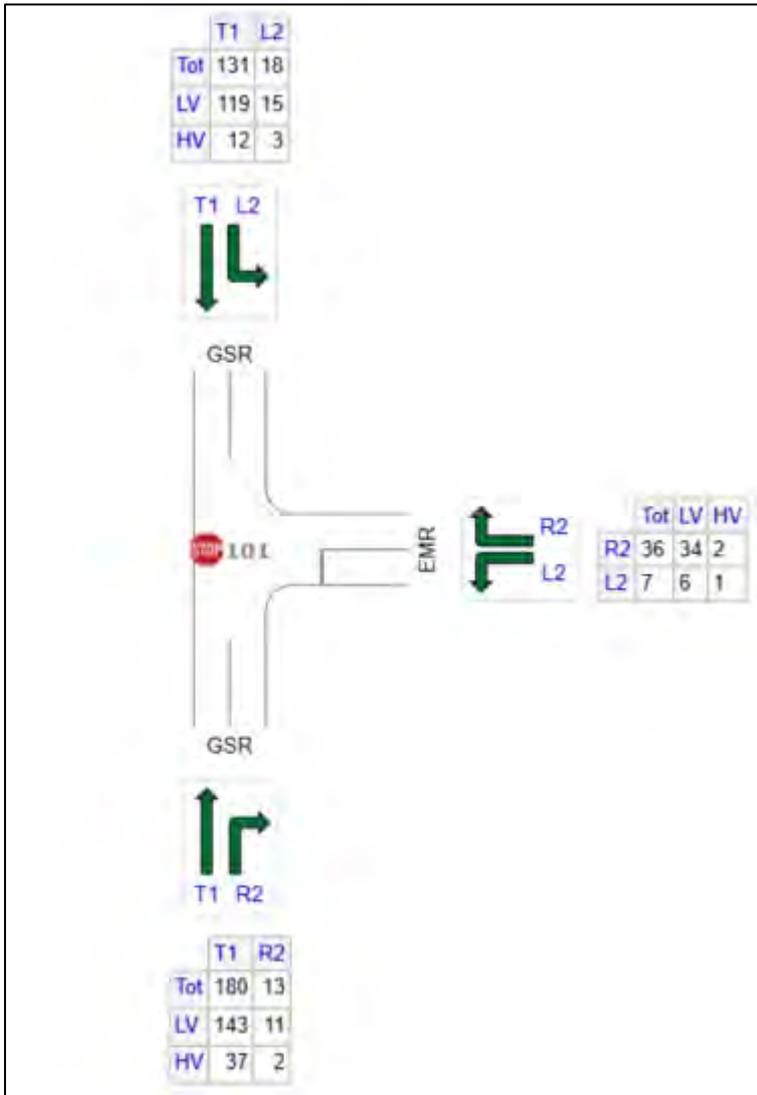


Figure 7: Surveyed Traffic Volumes - Weekday AM Peak Hour

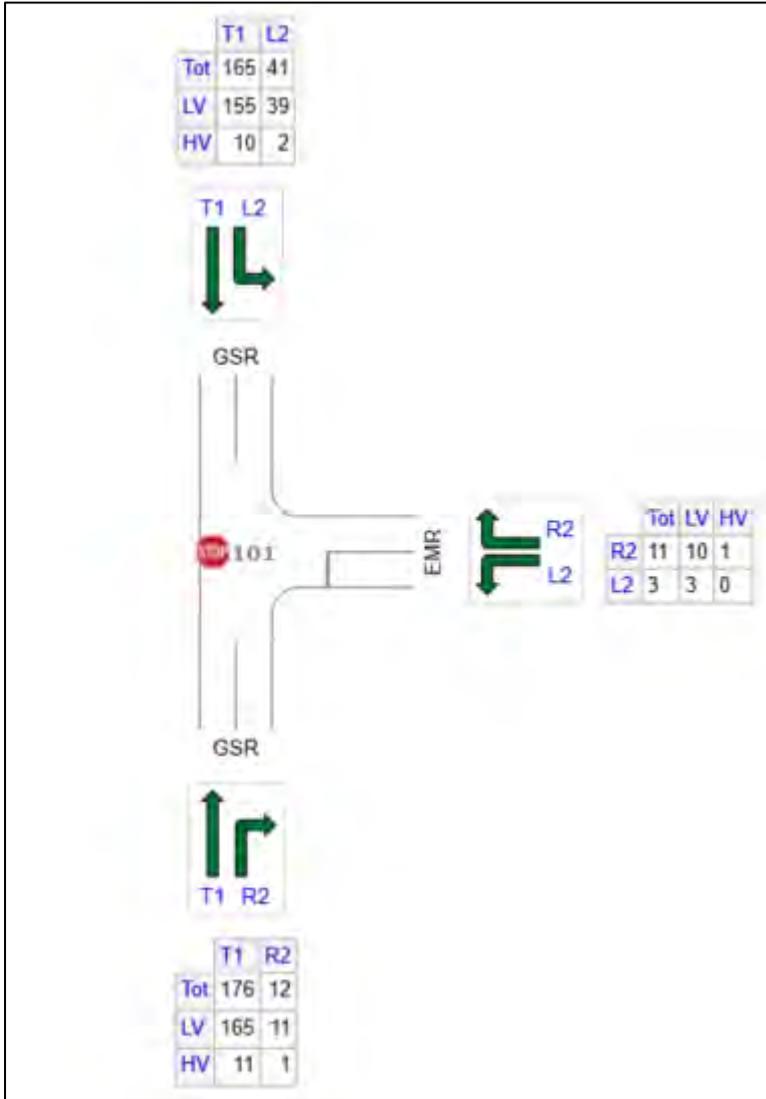


Figure 8: Surveyed Traffic Volumes - Weekday PM Peak Hour

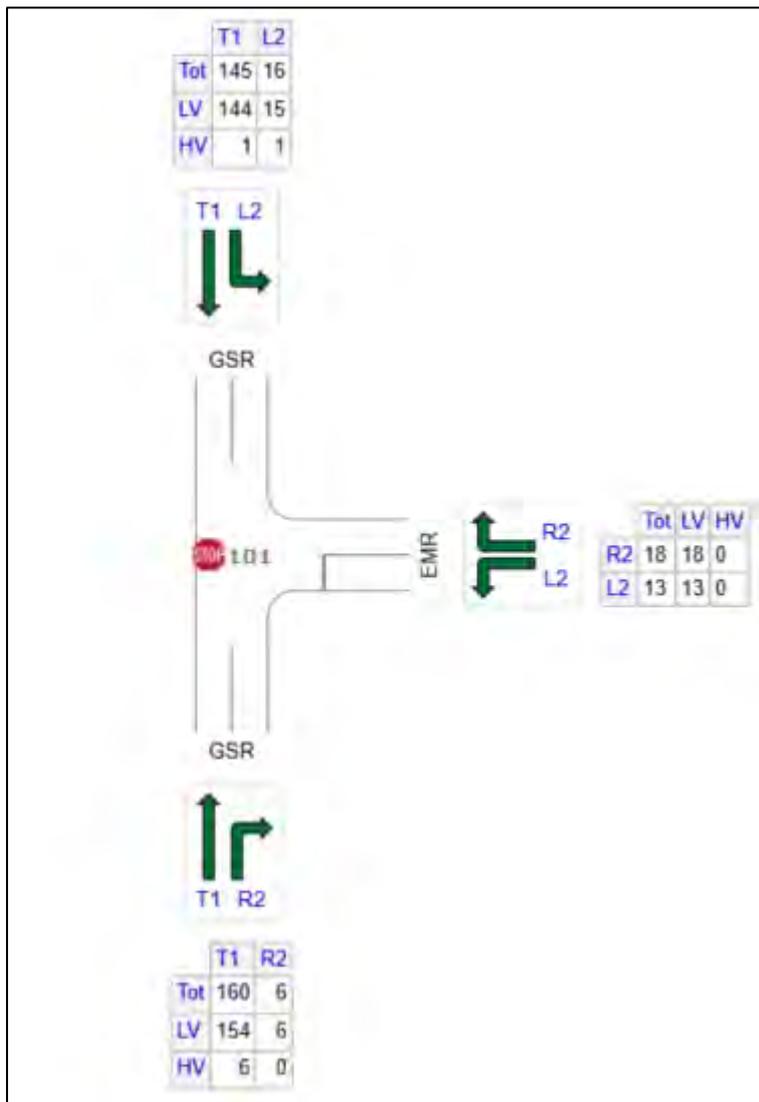


Figure 9: Surveyed Traffic Volumes - Saturday Peak Hour

3.2.3 Daily traffic volumes for East Mine Road have been sourced from the MobileRoads database. The latest counts are provided from January 2020 which is prior to any lockdown activity. East Mine Road is reported as carrying some 630 vehicles per day (vpd). The observed peak hour volumes represent 10%-12% of the daily traffic volumes. This is within the typical range that would normally be expected.

3.2.4 No daily traffic data is available for Great South Road post completion of the Huntly bypass and that is also not affected by any lockdown activities. Great South Road carried some

24,300vpd¹ and 1,900vph² prior to completion of the Huntly bypass. The current traffic volumes indicate that demand on this road has reduced significantly to around 35% of previous volumes. Similarly, it is reasonable to anticipate that the traffic volumes on East Mine Road have also decreased following closure of the mine.

3.3 Road Safety

3.3.1 A search was made of the NZTA's Crash Analysis System for all crashes that had been reported along East Mine Road over the last five-year period. This included a 50m radius around its intersection with Great South Road. The search found that only one crash had been reported within the study area and was located on East Mine Road approximately 1.2km from Great South Road.

3.3.2 This crash did not result in any injuries. The reason for the crash was unknown however no road factors were identified as being potential contributors. As such, no existing road safety issues or trends have been identified in the vicinity of the site.

4 Sustainable Travel Modes

4.1 Walking and Cycling

4.1.1 Currently there are no specific provisions for pedestrians or cyclists in the area around the proposed site. This is typical for a rural environment. There are footpaths on the southern section of McVie Road some 140m from the intersection with East Mine Road.

4.2 Public Transport

4.2.1 Currently there are no provisions for public transport within 600m of the site. Only school buses and interregional services currently service the Huntly area.

¹ AADT published by NZTA for 2018 (24,344 vpd)

² Hourly count data extracted from NZTA TMS Database for February 2020

5 Committed Environmental Changes

- 5.1.1 Huntly Train Station (located approximately 2.5km from the site) is proposed to be upgraded as part of the Te Huia passenger rail service between Hamilton and Auckland. The overall project was planned to be completed by February 2021 but has been recently delayed due required track work in Auckland. Updated timing announcements are due in December 2020.
- 5.1.2 The planned Huntly Station upgrade includes raised platforms, new shelters and a park and ride facility. When operational, the Te Huia service will provide an alternative transport option for those commuting between Huntly, Hamilton and Auckland.
- 5.1.3 It is understood that the potential footpath and cycle path network upgrade in Huntly is in the planning stages that that Waikato District Council will continue to develop their plans over coming months.
- 5.1.4 It is possible that an interchange with the Huntly bypass could be constructed just east of the site at the McVie Road overbridge. However, there are no current commitments or known construction timeframes for such an interchange to be constructed, although it is understood that discussions have been held with Waka Kotahi NZTA.

6 Development Proposals

- 6.1.1 Through the update to the Waikato District Plan, it is proposed to rezone the part of site that is currently included in the Rural zone to a specific zone referred to as the Kimihia Lakes Zone in order allow the site to be developed into an outdoor recreation and education park. The southern part of the site which is already included within the Residential zone in the PDP will remain unchanged.
- 6.1.2 Figure 10 below shows the proposed zoning extent of the Kimihia Lakes Zone which encompasses 159ha.

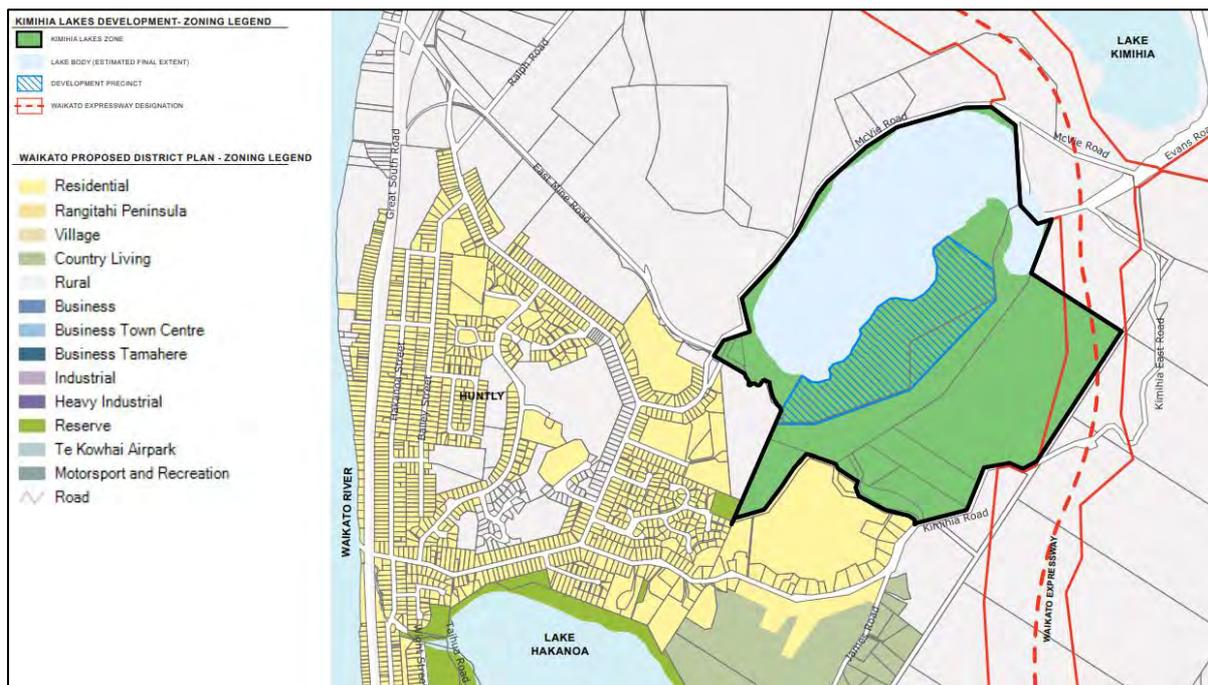


Figure 10: Proposed Zoning

6.1.3 As outlined in the Kimihia Lakes Development Masterplan, the primary vision of future development within the Plan Change area is the development of a multi-purpose park including the rehabilitation and restoration of the site, the inclusion of complementary activities including water-based recreation (swimming, kayaking, waka ama etc.), overnight camping (60 sites) and motel (6 units, assuming 2 x double beds) and bunkhouse style accommodation (4 x 25 dormitories), a coalfields museum, aquatic activity hub, multi-purpose community centre activity hub including a 60 - 80 seat cafe and informal use of the site for other activities such as walking, cycling and picnicking. To enable suitable future proofing, the Plan change also seeks to provide for the ongoing development of similar activities beyond what is currently outlined in the Kimihia Lakes Development Masterplan.

6.1.4 The site was formerly used for mining activities. Mining activities have now ceased, and the mine pit is now being allowed to flood to recreate a lake. It is expected that the lake will take at least five years to fill and will cover a large portion of the site. The lake will be a key feature and attraction of the proposed park.

6.1.5 Access to the site is via the existing extension of East Mine Road. No other connections are proposed or likely to be necessary to support future development within the Plan Change area.

7 Assessment of Effects

7.1 Traffic Effects

- 7.1.1 Initially, it was proposed for large scale type events to be held within the site which may have had crowds in excess of 5,000 people. It is no longer proposed for such events to be held within the site as a permitted activity, however smaller event may be held (for example waka ama) which could accommodate around 1,000 people at any one time. This assessment has focussed on the traffic effects that are likely to occur during typical operation of the site and has also considered the point at which network effects may be more than minor to identify whether a limit on the number of people on site is a necessary control mechanism to manage traffic effects.
- 7.1.2 The primary users of the park are expected to be schools on school camps and day trips. Most students are unable to drive themselves and as is most common with school trips would travel to the site by bus. It is also proposed to provide a shuttle service between the site and Huntly Train Station so that students can use a train service to travel to the site. Using vehicles with higher occupancies would reduce the overall number of trips generated onto the road network, thereby further reducing the change of the number of trips generated being above the capacity of the road network. It is also expected that the site will provide a key recreation amenity for the local community and may form a more regional attraction, particularly during weekends and school holidays.
- 7.1.3 Limited published traffic generation data is available for outdoor adventure park type activities. The Waka Kotahi NZTA Research Report 453 (RR453) *Trips and Parking Related to Land Use* and the New South Wales Roads and Maritime Authorities *Guide to Traffic Generating Developments* do not include any activities that would reflect the proposed activities within the Plan Change area. The Institute of Transportation Engineers (ITE) *Trip Generation Manual* includes trip rates for a Public Park (Land Use 411) which is considered to be the activity that best represents the proposed Plan Change.
- 7.1.4 The typical peak trip rates for the Public Park activity occur on a Saturday. The peak hour is reported as generating 0.1 trips/ha with 0.79 trips/ha generated over the course of the day. With the proposed Plan Change area covering 159ha, this equates to 16 trips being generated in the peak hour and 125 trips over the course of the day.

- 7.1.5 A conservative first principles trip generation has been based on the economic analysis of the proposed Plan Change prepared by Strateg.Ease, which estimates that up to 121,000 people may visit the site per year from 2038. Conservatively assuming that all visitors only visit the site during the weekends, this would equate to 1,163 people visiting the across the course of a day i.e. not all at the same time. Adopting the conversion rate of 10% between peak hours and daily traffic as measured for existing traffic volumes on Great South Road, this would equate to 116 people arriving or departing from the site in any one hour. While a higher vehicle occupancy is likely as the park is likely to attract larger groups of people rather than single people, a conservative vehicle occupancy would be two people per vehicle which equates to a peak hour traffic generation of 58vph. Adopting the same basis would give a 582vpd.
- 7.1.6 In addition, a first principles consideration of traffic generation has been undertaken based on an estimated potential 166 beds, motel units and campsites may be provided. Conservatively assuming that all rooms/campsites are booked, the occupants of a room/campsite drive themselves to the site and that all guests arrive within one hour, the site could generate up to 166 vehicles in the peak hour. This is highly conservative as some guests are likely to be bussed to the site, temporary accommodation facilities typically operate at about 80% occupancy and all guests are unlikely to all leave or depart within a single hour. The assessed daily trip generation is 282vpd based on the RR453 motel trip rate of 1.7 trips/bed.
- 7.1.7 Trips associated with the coalfields museum have been assessed based on published data from ITE for this activity. It is understood that the museum is likely to include outside exhibits and information boards and potentially also indoor exhibition space. It has been estimated that the museum has a gross floor area (GFA) of 500m². Based on the published trip rates, this equates from ITE of to some 0.71trips per hour /100m², 4vph would be expected. Using the same estimation of this representing 10% of the daily demand would lead to an assessment of 40vpd.
- 7.1.8 The community centre hub is expected to include a café. It is unlikely that a café on site would generate standalone trips due to its location and relationship to other development. However, for robustness, the RR453 restaurant trip rates of 0.6 trips per hour per seat and 3.7 trips per day per seat have been applied, resulting in traffic demands of 48vph and 296vpd.
- 7.1.9 Consideration has also been given to use of this space as a function venue for weddings etc. Under this use, it is reasonable to expect that the café is less likely to be open to other

customers. Assuming the capacity of the area is double the seated capacity of the café format, then some 160 people could be expected. Higher car occupancy or the use of group transport options such as buses or minivans is also a reasonable assumption. Overall it is assessed that the assumption of the café generating only external trips (i.e. no customers drawn from within the park users) is robust enough to cover traffic demands associated with a function.

7.1.10 School trips have also not been specifically considered in terms of traffic generation. Whilst they are the target market, the group travel characteristics of these types of users means that they are likely to generate less traffic than assuming individual / family use of the site. It is also expected that school groups will be staying overnight and will therefore be accounted for within the dormitory or camping accommodation. It should also be noted that no cross visitation has been assumed within the assessment of daily and peak hour traffic generation. This ensures that a robust assessment of potential traffic effects has been made. The assessed peak hour and daily traffic generation rates are presented in Table 1 below. An assessment of number of attendees per activity has also been provided for ease of comparison with other technical reports. This also allows for consideration of the number of people that can be accommodated on site at any one time based on the road network capacity.

Table 1: First Principles Conservative Traffic Generation Assessment

Activity	Peak hour (vph)	Daily (vpd)	People per day
Park	58	582	1,163
Accommodation (166 beds/camp sites)	166	282	244
Museum (500m ²)	4	40	80
Community centre hub / Café/restaurant (80 seats)	48 (cafe) 40 (function)	296 (café) 160 (function)	148 (café) 160 (function)
Total	276	1,200	1,635

7.1.11 Given the limited published trip generation data available and that trip rates for outdoor parks vary greatly depending on the types of activities on offer, amenities available or the price for entry, a reverse approach has been taken to determine the traffic effects of the proposed Plan Change where the road network has been analysed to determine its capacity and then a calculation has been made as to whether the available capacity of the road network would be greater than the feasible trip generation of the site.

- 7.1.12 It is acknowledged that Huntly International Speedway also gains access to the wider road network via the East Mine Road / Great South Road intersection. Approximately 14 events are held at the speedway during the summer racing season. These typically occur on weekend afternoon/evenings. With the Plan Change site predominantly catering for schools' outdoor education, it is unlikely that events at the speedway will coincide with peak activities at the subject site.
- 7.1.13 All traffic from the Plan Change area is most likely to use the intersection from East Mine Road onto Great South Road. This is the most direct route to the wider road network particularly those coming from outside of Huntly. It is possible that some staff may use Russell Road or McVie Road to travel to the site however this is likely to be a minority and would only relate to staff who live in the northern Huntly area. The assumption that all trips generated by the site would use the East Mine Road / Great South Road intersection is therefore conservative.
- 7.1.14 Analysis has been undertaken on this intersection to understand its performance in the 2030 future year which forecasts the expected traffic conditions ten years into the future. The Waka Kotahi NZTA Economic Evaluation Manual states that arterial roads in an urban setting have a default growth rate of 2% per annum. This has been applied to the through traffic volumes on Great South Road.
- 7.1.15 A SIDRA model has been developed of the intersection between Great South Road and East Mine Road. The existing traffic volumes on Great South Road have been factored up to the 2030 forecast year to create the base case scenario. Traffic volumes from East Mine Road have then been increased until one of three parameters has been reached as listed below:
- Any movement within any peak hour reaches Level of Service (LOS) E
 - The 95th percentile queue length on East Mine Road exceeds 100m
 - The queue length for the right turn into East Mine Road exceeds 70m.
- 7.1.16 LOS E is considered to be the point at which notable delays may form at the intersection and drivers may take shorter gaps when entering the main traffic stream resulting in an increased risk to road user safety. The 100m queuing criteria on East Mine Road ensures that the queuing is unlikely to extend across the level crossing. The 70m queuing criteria for the right turn into East Mine Road ensures that the queuing does not extend beyond the turning bay and affect northbound through traffic.

- 7.1.17 The traffic to East Mine Road has been distributed based on a first principles approach. Given that the recreational park is a trip attractor, most trips are likely to be inbound in the morning and outbound in the evening. With potential visitor accommodation within the site, there may be some traffic that travels in the opposing tidal direction. An 80%/20% split has been adopted where 80% of trips are inbound and 20% are outbound in the morning peak hour. This trend then reverses for the evening peak. A 50%/50% split was applied to the weekend peak as traffic patterns are typically not as tidal.
- 7.1.18 The site is situated to attract visitors both from Auckland and Hamilton. While Auckland has a larger population base, the site is closer to Hamilton and staff are more likely to live in the Huntly area. Therefore, traffic has been split 50%/50% to the north/south when turning into or out of East Mine Road.
- 7.1.19 From the modelling undertaken, it was found that the morning peak hour and evening peak hours performed at very similar levels and were both generally busier than the Saturday peak. The weekday evening peak was the first to reach one of the three threshold metrics with the LOS E for the right turn out of East Mine Road occurring once more than 870 total vehicle movements were added through the intersection.
- 7.1.20 The generation of 870 vehicles in a peak hour is approximately the equivalent of a 19,543ha Public Park. For context this is about 195 times larger than Lake Rotoroa and its surrounds in Hamilton or 118 times larger than Cornwall Park in Auckland. Given the location of the site away from major metropolitan areas, it is unlikely that the proposed rezoning would generate as many trips as Lake Rotoroa or Cornwall Park. With regard to the typical trip rates for a Public Park provided in item 7.1.4, a generation of 870 trips in a single hour is 58 times greater than what would be expected for a typical public park of this size. It is also over 3 times the expected traffic generation of 270vph the site based on the robust first principles traffic generation assessment undertaken.
- 7.1.21 For further context, 870 peak hour trips represent a similar level of traffic generation as half of all trips generated by the approximately 1,600 dwellings in Huntly East. This illustrates how unlikely it is that the proposed Plan Change would generate more trips than the road network can accommodate.
- 7.1.22 Figure 11 shows the modelled layout of the intersection and Table to Table summarise the modelling results for the three peak periods and provide a comparison between the 2030 base case scenario, the first principles approach to assessing traffic generation. The '870 scenario'

shows the tipping point of the Great South Road / East Mine Road intersection from the base case LOS D to the 'fail' case where LOS E is reached.

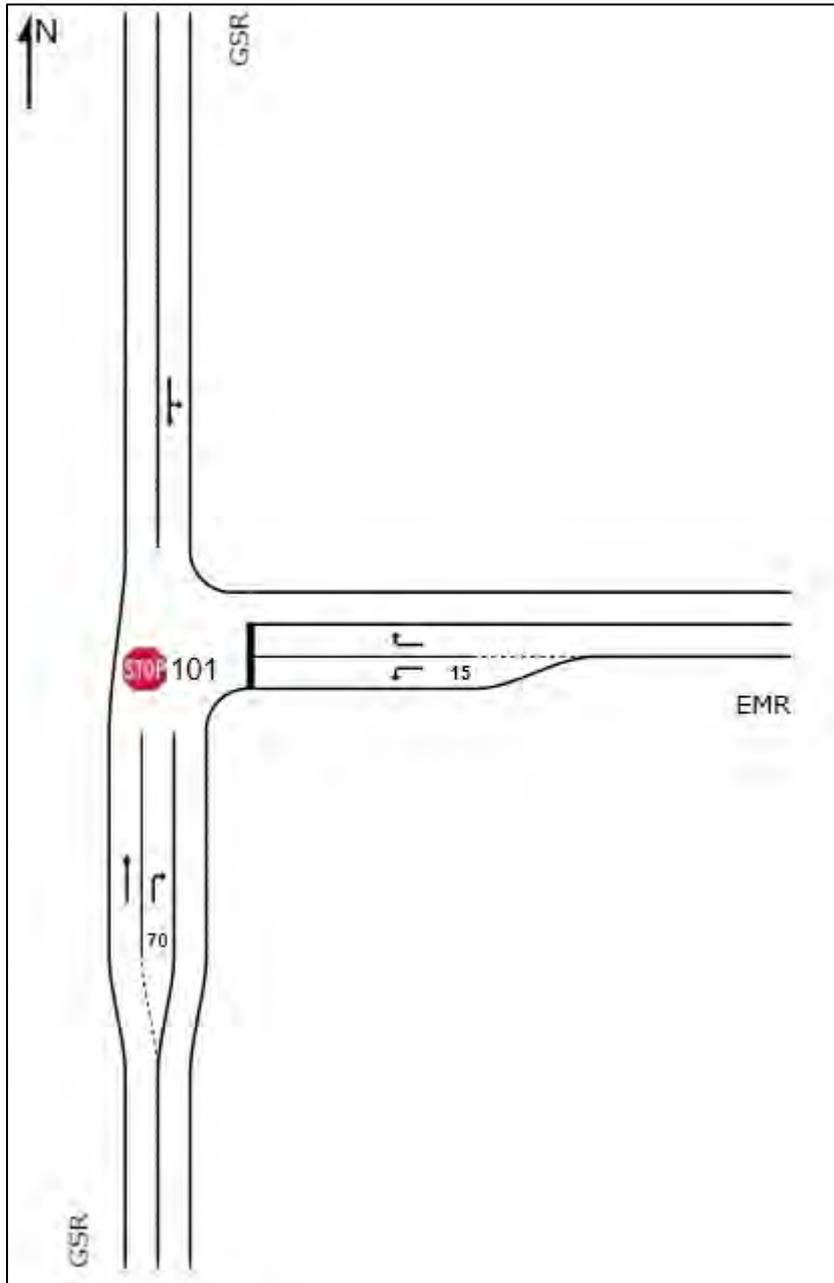


Figure 11: Modelled Intersection Layout

Table 2: Modelling Results – 2030 Weekday AM Peak

Approach	Movement	Base Scenario			First Principles Scenario			870 Scenario		
		Ave Delay (s)	LOS	95% Q (m)	Ave Delay (s)	LOS	95% Q (m)	Ave Delay (s)	LOS	95% Q (m)
Great South Road (south)	Through	0.0	A	0.0	0.0	A	0.0	0.0	A	0.0
	Right	7.1	A	0.3	7.8	A	3.8	11.6	B	23.1
East Mine Road (east)	Left	9.9	A	0.2	9.9	A	1.0	10.0	A	2.8
	Right	12.0	B	1.8	14.7	B	4.1	33.7	D	20.1
Great South Road (north)	Left	6.6	A	0.0	6.6	A	0.0	6.6	A	0.0
	Through	0.0	A	0.0	0.0	A	0.0	0.0	A	0.0
All Vehicles		1.6	NA	-	3.0	NA	-	8.9	NA	-

Table 3: Modelling Results –2030 Weekday PM Peak

Approach	Movement	Base Scenario			First Principles Scenario			870 Scenario		
		Ave Delay (s)	LOS	95% Q (m)	Ave Delay (s)	LOS	95% Q (m)	Ave Delay (s)	LOS	95% Q (m)
Great South Road (south)	Through	0.0	A	0.0	0.0	A	0.0	0.0	A	0.0
	Right	7.2	A	0.3	7.4	A	1.0	7.8	A	2.8
East Mine Road (east)	Left	9.3	A	0.1	9.4	A	2.9	9.7	A	10.9
	Right	12.5	B	0.6	14.2	B	7.8	34.9	D	84.8
Great South Road (north)	Left	6.4	A	0.0	6.5	A	0.0	6.4	A	0.0
	Through	0.0	A	0.0	0.0	A	0.0	0.0	A	0.0
All Vehicles		1.1	NA	-	3.0	NA	-	12.9	NA	-

Table 4: Modelling Results – 2030 Weekend Peak

Approach	Movement	Base Scenario			First Principles Scenario			870 Scenario		
		Ave Delay (s)	LOS	95% Q (m)	Ave Delay (s)	LOS	95% Q (m)	Ave Delay (s)	LOS	95% Q (m)
Great South Road (south)	Through	0.0	A	0.0	0.0	A	0.0	0.0	A	0.0
	Right	6.8	A	0.1	7.2	A	1.7	8.1	A	6.5
East Mine Road (east)	Left	9.2	A	0.3	9.2	A	2.0	9.4	A	6.3
	Right	10.9	B	0.8	12.5	B	4.4	23.5	C	29.0
Great South Road (north)	Left	6.5	A	0.0	6.5	A	0.0	6.5	A	0.0
	Through	0.0	A	0.0	0.0	A	0.0	0.0	A	0.0
All Vehicles		1.1	NA	-	2.8	NA	-	8.5	NA	-

7.1.23 The above results show that intersection performance of the conservative first principles scenario would be similar to the existing intersection performance. It is therefore assessed

that the road network is able to accommodate the traffic volumes associated with the proposed Plan Change.

7.1.24 Adding 870vph through the intersection, the queuing on East Mine Road extends up to 85m which is still two to three car lengths from the level crossing. The queue length for the right turn movement into East Mine Road is less than 30m and therefore well within the area of the right turn bay.

7.1.25 Rule 14.12.1.4 of the PDP includes maximum trip generation thresholds for various zones within the District. None of these currently apply to the proposed rezoning. Therefore, it is recommended to add a clause within this rule to ensure that future development is able to comply with this rule.

- There is a maximum 850 vehicle movements per hour and no more than 15% of these vehicle movements are heavy vehicle movements.

7.1.26 The 850 vehicle threshold has been adopted based on the analysis undertaken in this report and rounded down to the nearest 50vph. This provides some further buffer to ensure that the road network is able to accommodate the traffic volumes associated with the Plan Change. Day to day, it is expected that traffic volumes will be well below this threshold. The 15% limit for heavy vehicles is based on the existing limit for rural activities and ensures that the rule aligns in style with the rules that relate to other zones.

7.1.27 In terms of future development on site, the currently assessed peak hour traffic demand is 276vph. The network capacity threshold of 850vph allows for future development within the Kimihia Lakes Zone and identifies the point at which physical mitigation works are expected to be required. The activities proposed to be permitted within the new zone could theoretically treble in scale from a network capacity perspective, or could allow for additional activities that are aligned to the principles of the Kimihia Lakes Zone. This allows for future development within the Zone within known traffic demand parameter.

7.1.28 Similarly, consideration has been given to the number of people that be accommodated on site at any one time. Our assessment at Table 1 shows 1,635 people being on site over the course of a day. This assessment is robust and makes no allowance for cross visitation between activities such as park users also camping etc. or for the use of group transport options for school trips and such like. The relationship between the number of people on site and the assessed vehicles per day is 1.36 i.e. that is that average car occupancy across the day. Therefore, in the peak hour, based on an assessed traffic generation of 276vph, 375 people

would be expected to arrive. The 850vph threshold is the point after which some form of mitigation is likely to be required at the Great South Road / East Mine Road intersection. This is 3.08 times the assessed typical traffic generation, which itself is a robust assessment of traffic generation. Converting that to 'people demand' would give a value of 1,154 arriving in a single hour. As such, from a traffic perspective, it would seem reasonable to limit activities on site to no more than 1,100 attendees at any one time, under event type conditions unless active traffic management or journey management (e.g. remote park and ride or timed pre-booking of on-site parking) is provided. An addition to Rule 22.1.2 (P2) of the PDP is advised, as follows:

- “In the Kimihi Lakes Zone, any activity attracting more than 1,100 people in any given hour must provide a Traffic Management Plan (TMP) for approval by the Road Controlling Authority/ies. This TMP must include, but is not limited to:
 - proposed timing and scale of activities, including contact details for activity organiser
 - consideration of events at the Huntly Speedway
 - details of active traffic management at the Great South Road / East Mine Road intersection
 - details of journey management initiatives reducing traffic demand at the Great South Road / East Mine Road intersection
 - details of temporary on-site parking provision
 - details of how off-site parking is to be controlled to avoid parking occurring on the local road network. ”

7.1.29 This wording recognises the expected revocation of SH1 status for Great South Road and the change in Road Controlling authority from Waka Kotahi NZTA to Waikato District Council.

7.2 Access Effects

7.2.1 Access to the Plan Change site will be maintained via the existing connection to the East Mine Road / McVie +Road intersection. No other external roading connections are proposed for in the Plan Change area. Given this access has been used for mining activities, it is considered that it is suitably designed to accommodate the conversion of the site to recreational activities including potentially catering for buses.

7.2.2 Rule 14.12.1.1.(1)(e) of the PDP states that on a site with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy. Where the roads have the same classification, access is only to the road with the lower average daily traffic movements. It is noted that the site has frontage to McVie Road which carries less traffic than East Mine Road. In order to allow for the access to the site to be permissible activity, it is recommended to amend the wording of this rule with the additional text underlined as follows:

- “On a site with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy in Tables 14.12.5.5 and 14.12.5.6 (where the roads have the same classification, access is only to the road with the lower average daily traffic movements) except in the Kimihia Lakes Zone where this rule does not apply.”

7.2.3 Rule 14.12.1.1.(1)(b) states that all sites must have a vehicle crossing built to specific requirements. Given that access is already established via an extension to a public road, these standards are not considered to be appropriate for the Plan Change site. It is therefore recommended that this rule should not apply to the existing site access via East Mine Road. Allowing the rule to still apply to the site is considered appropriate should other vehicle crossings be proposed in the future. A proposed clause within this rule is as follows:

- Rule 14.12.1.1.(1)(b)(ii): Rule 14.12.1.1(1)(b) does not apply to the existing East Mine Road access serving the Kimihia Lakes Recreation and Events Zone.

7.2.4 The internal road network and vehicle manoeuvring areas are yet to be designed. These details would be assessed once a new facility or building is proposed for development to occur within the site. Any internal roads and car parking areas would remain in private ownership. The landowner will also be responsible for maintaining these roads and car parking areas to an appropriate standard.

7.2.5 While no plans are confirmed at this stage, it is understood that Waikato District Council is proposing to upgrade the pedestrian and cycle network in the Huntly area. There is opportunity to redevelop the rail spur as a shared path linking site to Huntly town centre. As such, any shared path would ultimately be vested with Waikato District Council and therefore consultation will be required at the resource consent stage to ensure that the path is of an appropriate design.

7.2.6 Rule 14.12.1.8 of the PDP relates to the design of off-road shared paths. It is recommended that an activity specific condition is added to this rule which states that no activity specific

conditions shall apply to the Kimihia Lakes Zone given these paths and other tracks would fall under the new 'recreation activity and facilities' definition proposed as part of this Plan Change. This will then allow any paths within the site to be designed based on the expected users of those paths which is considered to be appropriate as these will not be public paths but rather destination paths such as those within mountain biking parks.

- 7.2.7 No other changes to the PDP are considered to necessary to ensure that appropriate access is provided to and within the Plan Change area.

7.3 Parking Effects

- 7.3.1 The internal design of the site is yet to be confirmed. The PDP does not include specific parking rates for an outdoor education facility. The "Community facilities, conference facilities and places of assembly" activity is considered to be the activity that is closest to reflecting the Plan Change area. The required minimum parking rate for this activity as stated in the PDP is one space per 15sqm floor area or 1 space per 5 people the facility is designed to accommodate. Given the outdoor nature of the site, floor area will not be relevant to the parking demands and therefore the number of people the facility is expected to accommodate would be the relevant parameter to determine parking requirements.
- 7.3.2 At this stage, the number of people the facility will be designed to accommodate is unknown. It has been assessed through this ITA that the Great South Road / East Mine Road can accommodate some 850vph which is assessed as representing 1,100 people.
- 7.3.3 The PDP requirement of providing 1 space per 5 people that a community facility is designed to accommodate would result in up to 200 parking spaces being required for the site. The size of the site is considered to be large enough to provide a suitable number of parking spaces.
- 7.3.4 The original submission to the PDP included a proposed clause that stated at least 1,500 parking spaces should be provided within the site irrespective of activity type, intensity of development or the number of people likely to be in attendance. A provision of 1,500 parking spaces, using the 1 space per 5 occupants parking rate of the PDP, would be the equivalent of a community facility accommodating up to 7,500 people. For context, the population of Huntly is approximately 8,500 people. Providing 1,500 parking spaces is therefore considered excessive and it is therefore recommended to not include this rule in the PDP. However, it is acknowledged that activities on site may attract larger crowds on occasion subject to PDP Rule 22.1.2 (P2) and this assessment demonstrates that extensive parking can be accommodated on site temporarily and that an off-site parking effects is unlikely to occur.

7.3.5 The design of the internal parking layout will be undertaken at the resource consent stage of the future development. The dimensional design standards for parking spaces within the PDP are considered appropriate for the site and as such no changes or special amendments to Table 14.12.5.11 are considered necessary.

7.3.6 Overall, the parking rules of the PDP are considered to be able to be appropriately applicable to future development within the site.

7.4 Walking and Cycling

7.4.1 The site is within walking distance of the northern dwellings in Huntly. It is therefore possible that people may walk or cycle to the site to enjoy the outdoor park and lake. At present, there is limited infrastructure and connectivity between the site and the existing urban area.

7.4.2 There is potential for the existing rail spur to be converted into a shared path and it is understood that Council is investigating the option to upgrade the wider footpath and cycle path network. Any such changes would likely increase the amount of people visiting the site via walking or cycling who would otherwise have not made a trip. As such, the proposed Plan Change would increase usage of any upgrades to the footpath network and similarly and upgrades to the footpath infrastructure would increase patronage to the site.

7.4.3 The rail spur lies outside the control of both Council and Kimihia Lakes Community Trust and delivery of such a route would require the cooperation of a third party. As such, it is not considered appropriate to require this infrastructure as part of the rezoning. However, adequate walking and cycling connections to the site are required. As a minimum, it is recommended that the footpaths on McVie Road are extended to the site to connect with the on-site walking and cycle path network.

7.5 Road Safety

7.5.1 The proposed Plan Change is unlikely to generate high traffic volumes in excess of what was previously experienced on the surrounding road network when Great South Road was still the primary route between Auckland and Hamilton. No specific safety issues have been identified in the vicinity of the site and the traffic volumes generated by the future development are likely to be less than what was experienced prior to the completion of the Huntly bypass and when the mine was still operational. As such, the proposed Plan Change is considered to have a less than minor effect on road safety.

8 Consultation and Submissions

- 8.1.1 Through the submission process and subsequent correspondence, it is noted that Waka Kotahi NZTA raised concerns that the site could be seen from the Huntly bypass³. The concern related to the fact that the activity within the site may distract drivers on WEX.
- 8.1.2 A hill is located between the lake within the Plan Change area and the Huntly bypass. This means that the newly formed lake will not be readily visible from the bypass and therefore the main on-site activities which occur on and around the lake would not be visible to motorists and therefore would not be a distraction to motorists.
- 8.1.3 The internal design of the site is not yet confirmed however it is possible that some structures or passive recreation such as walking and biking may be visible from the bypass. It is not uncommon for building structures to be visible from major roads and it is noted that the new Taupiri interchange includes many structures and prominent advertising signs facing motorists. Any signage proposed within the subject site would be assessed in accordance with the Traffic Control Devices Manual to ensure that any potential for distraction is minimised. Such assessment would be undertaken at a resource consent stage and the inclusion or exclusion of signage is not considered to affect the primary recreational activities anticipated by the proposed zoning.
- 8.1.4 Waka Kotahi NZTA also responded to the PDP submission prepared by Allen Fabrics Limited. Waka Kotahi NZTA opposed the submission on the grounds that rules for special or temporary events are inappropriate for a permitted activity in this rule category. Consideration has been given to this as discussed in Section 7.1. A maximum hourly traffic generation threshold of 850vph with an associated people demand of 1,100 has been discussed and an amendment to PDP Rule 22.1.2 (P2) proposed whereby a TMP is required for any activity occurring on site that is expected to attract more than 1,100 people in any given hour.
- 8.1.5 It is proposed to add a section to Rule 14.12.1.4 to the PDP that states no more than 850 vehicle movements can be generated per hour from the site. It is unlikely that the site would generate traffic volumes to this extent, however, this ensures that the road network is able to accommodate the traffic volumes associated with the site.

³ Email from Mike Wood (Waka Kotahi NZTA) to Andrew Cumberpatch (Boffa Miskell), 4 September 2020

8.1.6 From further consultation, no other transportation related concerns were raised by Waka Kotahi NZTA.

9 Planning Framework

9.1 Objectives and Polices

9.1.1 An assessment has been made against the transportation objectives and policies outlined in section 6.5 of the Proposed District Plan. This assessment is summarised in Table 1 below.

Table 1: Proposed District Plan Transportation Objectives/Polices Assessment

Objective/Policy	Comment	Compliance
<p>6.5.1 Objective – Land Transport Network a) An integrated land transport network where: i) All transport modes are accessible, safe and efficient ii) Adverse effects from construction, maintenance and operation of the transport network are managed</p>	<p>The proposed Plan Change is considered to align with this objective given that it includes provision for pedestrians, cyclists, private vehicles. Many visitors are likely to arrive by bus thereby reducing reliance on individual car trips</p>	<p>Complies</p>
<p>6.5.2 Policy – Construction and Operation of the Land Transport Network a) Promote the construction and operation of an efficient, effective, integrated, safe, resilient and sustainable land transport network through: (i) Corridor, carriageway and intersection design which is appropriate to the road function as specified in the road hierarchy and in accordance with relevant guidelines; (ii) The appropriate design and location of sites accesses; (iii) Traffic signage, road marking, lighting, rest areas and parking as appropriate; (iv) Provision for pedestrians and cyclists that addresses accessibility, including off-road facilities and connections; (v) Corridor and carriageway design which is sufficient to enable provision of public transport; (vi) Provision for other infrastructure, including where suitable low impact design stormwater facilities; (vii) Provision for stock underpasses where suitable access is not readily available;</p>	<p>The proposed Plan Change is considered to align with this policy given that no changes are proposed to public road reserves and no public roads are proposed within the Plan Change area.</p>	<p>Complies</p>

<p>(viii) Discouraging the installation of new at grade road and pedestrian rail level crossings: A. Controlling the location of buildings and other visual obstructions within the sightline areas of rail level crossings; and B. Railway crossing design in accordance with the requirements of the rail operator.</p>		
<p>6.5.3 Policy – Road hierarchy and function Provide a hierarchy of roads for different functions and modes of land transport while recognising the nature of the surrounding land use within the district.</p>	<p>The Plan Change respects the road hierarchy by not providing direct property access to the state highway network</p>	<p>Complies</p>
<p>6.5.4 Policy – Road standards Ensure that the construction and operation of roads is consistent with their function in the road hierarchy.</p>	<p>The construction of internal roads and vehicle manoeuvring areas are expected to be consistent with their function</p>	<p>Complies</p>
<p>6.5.5 Policy - Road safety Ensure that structures, lighting, signage and vegetation are located and designed so as to not compromise the safe and efficient operation of the land transport network, or obscure RAPID numbers.</p>	<p>Lighting, signage etc are expected to be designed to the appropriate standards thereby not compromising the safe or efficient operation of the land transport network</p>	<p>Complies</p>
<p>6.5.6 Policy – Network utility location Encourage the location of network utility infrastructure within transport corridors where the function, safety and efficiency of the transport network will not be compromised.</p>	<p>No new public roads proposed however utility connections can be provided in an appropriate manner</p>	<p>Complies</p>
<p>6.5.7 Policy – Vehicle access Control the location of new vehicle accesses to sites adjacent to other accesses and rail level crossings to improve the safety and efficiency of the land transport network.</p>	<p>No new vehicle crossing to the public road network are proposed.</p>	<p>Complies</p>

9.1.2 Overall, the proposed Plan Change is considered to align with the objectives and policies of the PDP. No changes to these policies are proposed as part of the Plan Change.

9.2 Rules

9.2.1 Table 2 below summarises the proposed Plan against the transportation criteria from Section 14.12 of the notified version of the PDP noting rules where a change is proposed as discussed in this report.

Table 2: Proposed District Plan Compliance

Rule	Requirement	Proposed	Compliance
14.12.1.1 Vehicle Access for All Activities			
1a	The site has a vehicle access to a formed road that is maintained by a road controlling authority	Site has access to East Mine Road	Complies
1b	The site has a vehicle access that is constructed to comply with the relevant requirements of Table 14.12.5.1, Figure 14.12.5.2, Table 14.12.5.3 and Figure 14.12.5.4	Access road is extension of public road and therefore compliance with these figures is unlikely.	Rule amended
1c	No new vehicle access shall be created from Newell Road (south of Birchwood Lane)	Newell Road not near site	N/A
1d	No access, access leg or right-of-way shall run parallel to any road within 30m of the road	No parallel access roads expected	Compliance achievable
1e	On a site with legal access to two roads, the activity only accesses the road with the lower classification in the road hierarchy in Tables 14.12.5.5 and 14.12.5.6 (where the roads have the same classification, access is only to the road with the lower average daily traffic movements)	The following is recommended to be added to this rule to ensure compliance is achieved: “...except in the Kimihia Lakes Zone where this rule does not apply.”	Rule amended
1f	New vehicle accesses/entrances are not to be constructed to any site from the following roads	No listed roads are near site	N/A
1g	No new vehicle access shall be created within 30 metres of a railway level crossing	No nearby level crossing	Compliance achievable
14.12.1.2 On-Site Parking and Loading			
1a	The parking requirements in Table 14.12.5.7 and 14.12.5.11,	Community facilities, conference facilities and places of assembly is activity that is likely to best reflect on-site development	Compliance achievable
1b	On-site bicycle space requirements in Table 14.12.5.10,	Parking spaces expected to meet design standards	Compliance achievable
1c	Any on-site car parking spaces for non-residential activities within the Residential Zones must be set back at least 3m from the road boundary of the site and screened by planting or fencing	Plan Change area is not related to residential zone	N/A
1d	On-site car parking spaces and loading bays are to be provided in accordance with the requirements of Table 14.12.5.7, Figure 14.12.5.8 and Table 14.12.5.11 and be located on the same site as the activity for which they are required;	Parking spaces expected to meet design standards	Compliance achievable
1e	On-site car parking spaces and loading bays are formed	Parking spaces expected to meet requirements	Compliance achievable
1f	On-site car parking spaces and loading bays are to be permanently marked if five or more parking spaces are required;	Parking spaces expected to meet requirements	Compliance achievable

1g	On-site car parking spaces and loading bays are not to be located on any shared access or residential court;	Parking spaces expected to meet requirements	Compliance achievable
1h	Vehicles occupying any on-site car parking or loading spaces must have ready access to the road (or relevant access or right of way) at all times, without needing to move any other vehicle occupying other on-site car parking or loading spaces;	Parking spaces expected to meet requirements	Compliance achievable
1i	On-site car parking spaces and loading bays are not required on sites with sole frontages to the following	No listed roads are near site	N/A
14.12.1.3 On-Site Manoeuvring and Queuing			
1a	On-site manoeuvring space shall be provided to ensure that no vehicle is required to reverse onto a road	Future development expected to comply	Compliance achievable
1b	A 90 percentile car, as defined in Figure 14.12.5.8, can enter and exit all parking spaces without making more than one reverse movement, excluding spaces required for a dwelling	Future development expected to comply	Compliance achievable
1c	On-site manoeuvring space for any heavy vehicle shall comply with the tracking curve (relevant for the type of activities to be carried out on the site and trucks to be used),	Future development expected to comply	Compliance achievable
1d	On-site manoeuvring space shall be formed	Future development expected to comply	Compliance achievable
1e	On-site queuing space shall be provided in accordance with Table 14.12.5.12 for vehicles entering and exiting any on-site car parking, loading or manoeuvring space	Future development expected to comply	Compliance achievable
1f	On-site manoeuvring and queuing spaces are not required on sites with vehicle accesses/entrances to the following:	No listed roads are near site	N/A
14.12.1.4 Traffic Generation			
1a	Within the Residential, Village or Country Living Zones there is a maximum of 100 vehicle movements per day, and no more than 15% of these vehicle movements are heavy vehicle movements;	Plan change not related to these zones	N/A
1b	Within the Rangitahi Peninsula Zone	Site not in this zone	N/A
1c	Within the Business Zone Tamahere, Business Zone or Business Town Centre Zone	Site not in these zones	N/A
1d	Within the Rural Zone	Site no longer proposed to be within this zone	N/A
1e	Within the Industrial Zone and Heavy Industrial Zone (excluding the Huntly Power Station and Huntly Quarry)	Site not in this zone	N/A
1f	From the Huntly Power Station	Site not in this zone	N/A
1g	From the Huntly Quarry	Site not in this zone	N/A

1h	Within Precincts A and B of the Te Kowhai Airpark Zone	Site not in this zone	N/A
1i	Within Precincts C and D of the Te Kowhai Airpark Zone	Site not in this zone	N/A
2	Within the Kimihia Lakes Zone there is a maximum of 850 vehicle movements per hour and no more than 15% of these vehicle movements are heavy vehicle movements	Specific rule added to achieve compliance	Clause added
14.12.1.5 Operation, maintenance and minor upgrading of existing public roads			
1a	The works occur within the road or unformed road	No public works proposed outside road reserve	Compliance achievable
1b	Works within the road must be: i) Incidental to, and serve a supportive function for, the existing public road; or ii) Required for the safety of road users; or iii) Required for the safety of adjacent landowners or occupiers;	Upgrade works will be support future development	Compliance achievable
1c	Lighting shall be designed and located to comply with the Australia New Zealand Roadway Lighting Standard 1158, (series) – Lighting for Roads and Public Spaces: 2005	Lighting expected to comply with these standards	Compliance achievable
1d	Any earthworks must comply with Rule 14.3.1.3	Earthworks expected to comply	Compliance achievable
14.12.1.6 New Public Roads			
1a	The public road is located within road or unformed road	No public road within the site	N/A
1b	The public road is not located within an Identified Area	No public road within the site	N/A
1c	The design requirements of Table 14.12.5.14 or 14.12.5.15, based on their function within the Road Hierarchy as set out in Table 14.12.5.5	No public road within the site	N/A
1d	Within road or unformed road located within the Tamahere Country Living Zone	Site is not in this zone	N/A
1e	Within road or unformed road located within the Rangitahi Peninsula Zone, the relevant access and road requirements of the Rangitahi Structure Plan take priority over the conditions in Table 14.12.5.14 or 14.12.5.15 in the event of any conflict	Site is not in this zone	N/A
1f	Within road or unformed road located within the Te Kauwhata Structure Plan area	Site is not in this zone	N/A
1g	Any earthworks must comply with Rule 14.3.1.3	Earthworks expected to comply	Compliance achievable
14.12.1.7. Access and New Roads – Te Kowhai Airpark Zone			
1a	Airpark roads which are to be vested in Council must comply with the following conditions: The design requirements of Table 14.12.5.14 or 14.12.5.15, based on their function within the Road Hierarchy as set out in Table 14.12.5.5,	Site is not in this zone	N/A

2	Road alignment and the taxiway network within the Te Kowhai Airpark Zone shall be in accordance with Appendix 9 – The Te Kowhai Airpark Framework Plan	Site is not in this zone	N/A
3	The western boundary of the Te Kowhai Airpark Zone shall provide for future connectivity options (vehicular and / or pedestrian) in accordance with the location identified in Appendix 9 – The Te Kowhai Airpark Framework Plan.	Site is not in this zone	N/A
4	Any earthworks must comply with Rule 14.3.1.3.	Site is not in this zone	N/A
14.12.1.8 Off-Road Pedestrian and Cycle Facilities			
i	Have a minimum 2.0m width	Off-road paths expected to comply with this standard	Compliance achievable
ii	Are formed	Off-road paths expected to comply with this standard	Compliance achievable
iii	Comply with the relevant setback standards for the applicable zone	Off-road paths expected to comply with this standard	Compliance achievable
iv	Any earthworks must comply with Rule 14.3.1.3	Earthworks expected to comply	Compliance achievable
v	Are not located within an Identified Area.	Off-road paths expected to comply with this standard	Compliance achievable
2	No activity specific conditions shall apply to the Kimihia Lakes Zone	Specific rule added to achieve compliance	Clause added
14.12.1.9 Stock Underpasses			
1a	Any earthworks must comply with Rule 14.3.1.3	No stock underpasses proposed	N/A
1b	Are not located within an Identified Area	No stock underpasses proposed	N/A

9.2.2 Overall, it is proposed to amend one rule of the PDP and to add two other clauses to ensure that future development is able to comply with the PDP and that the traffic effects can be managed appropriately.

9.2.3 In addition, it is proposed to amend Rule 22.1.2 (P2) such that any activity on site attracting more than 1,100 people in any given hour is subject to preparing and gaining approval for a Traffic Management Plan as discussed in Section 7.1.

10 Conclusions and Recommendations

10.1.1 It is proposed to rezone the former East Huntly mine to allow for the development of an outdoor recreation park. The key feature of the park will be a lake which is created through the flooding of the former mine. Based on the assessment undertaken, it is assessed that:

- Based on a conservative first principles approach, the Plan Change area may generate some 270vph. Further assessment has found that the surrounding road network can accommodate up to 870vph. It is unlikely that the site will generate this many vehicle movements and therefore the road network is assessed as being able to accommodate the trips generated by future development.
- Previously it was proposed to allow for large scale events to occur within the site. It is no longer for such events to be a permitted activity within the site. Any activities where more than 1,100 people are expected to be on site in any given hour will require a TMP to be approved by the relevant Road Controlling Authority/ies.
- Access to the site will be provided via the existing connection to East Mine Road. This access is assessed as being appropriate for future development given that it used to cater for large trucks associated with the former mining activities.
- The site is considered to be large enough to provide sufficient parking spaces in accordance with the PDP standards.

10.1.2 As part of the proposed Plan Change, the following changes are recommended as part of the PDP:

- Rule 14.12.1.1.1b should be amended to allow the site to be developed without having to provide a vehicle crossing that complies with the PDP standards given that the site access is an extension to the public road.
- Rule 14.12.1.1.1e is recommended to add the following text to the end of the existing rule as written: "...except in the Kimihi Lakes Recreation and Events Zone where this rule does not apply."
- A new section to Rule 14.12.1.4 should be added to ensure a maximum trip generation threshold applies to the proposed zoning. This would read as follows: "Within the Kimihi Lakes Recreation and Events Zone there is a maximum of 850 vehicle movements per hour and no more than 15% of these vehicle movements are heavy vehicle movements"

- A new section to Rule 14.12.1.8 is recommended to ensure that any paths within the site do not have to comply with any activity specific rules.
- A new section to Rule 22.1.2 (P2) is proposed to require a Traffic Management Plan to be prepared and approved by the relevant Road Controlling Authority/ies for any activity on site expected to attract more than 1,100 people in any one hour.

10.1.3 With the above recommendations in place, it is considered that the proposed Plan Change would result less than minor transportation effects. It is concluded that there are no traffic or transportation reasons why the Plan Change could not be approved.

CKL

Appendix 9: Three Waters Assessment



LYSAGHT

ALLEN FABRICS LIMITED
REZONING – THREE WATERS ASSESSMENT REPORT
KIMIHIA LAKES DEVELOPMENT
EAST MINE ROAD, HUNTLY
REVISION 3

Client Allen Fabrics Limited
Project Kimihia Lakes Development
LCL Ref 204616
Report Type Three Waters Assessment Report
Report Date 15/02/2021

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1.0 EXECUTIVE SUMMARY

Lysaght Consultants Ltd (“Lysaght”) was engaged by Allen Fabrics Limited (“AFL”) to provide an assessment of the three waters reticulation serviceability of the proposed development at Kimihia Lakes, to support an application for the rezoning of the land. The proposed development is to be undertaken at the site of the old Huntly East Mine and is to be a multi-use destination on the bank of a newly filled lake (the old open cast mine).

Lysaght analysed the historic servicing of the Huntly East Mine and the servicing needs of the proposed development, and presented conclusions for stormwater, wastewater, and water supply, as follows:

1.1 STORMWATER

The proposed site layout is relatively sparse, leaving considerable land area available for the construction of low impact stormwater treatment infrastructure within the development. Low impact stormwater treatment will deliver the environmental outcomes sought by the Waikato River Authority’s Vision and Strategy for the Waikato River and the Waikato-Tainui Environmental Plan. Specifically, a network of vegetated swales are recommended for the conveyance of runoff to a centralised constructed wetland, prior to discharge to the newly filled lake. Further, rainwater re-use tanks are proposed for use with all significant buildings, to provide a supplementary non-potable water supply, and to lessen the runoff volume into the wetland and lake.

1.2 WASTEWATER

The developed site is expected to discharge approximately 48m³/day when all of its facilities are fully occupied, compared to the approximate 10m³/day that the Huntly East Mine is estimated to have discharged at its peak staffing rate. AFL has indicated an interest in discharging wastewater to land using on site effluent treatment infrastructure, but the soils are typically stiff clays and not well suited to wastewater disposal. Therefore, only a portion of the total discharge could be sent to land without a prohibitively large land area being required. An analysis of the capacity of the existing council wastewater network and treatment plant was undertaken, as well as a review of the proposed upgrades to the system (according to Mott McDonald and Stantec’s Mid-Waikato Water and Wastewater Servicing Strategy, June 2020). That analysis concluded that the increased discharge can be accommodated by both the existing and future upgraded council systems.

1.3 WATER SUPPLY

The developed site is expected to require approximately 44m³/day of potable water supply when all of its facilities are fully occupied, compared to the approximate 106m³/day of demand at the Huntly East Mine. As for the wastewater above, an analysis of the capacity of the existing council water network and treatment plant was undertaken, as well as a review of the proposed upgrades to the system (according to Mott McDonald and Stantec’s Mid-Waikato Water and Wastewater Servicing Strategy, June 2020). That analysis concluded that the water demand can be accommodated by both the existing and future upgraded council systems, and that sufficient head is available at the site to meet the level of service requirements in Waikato Local Authority Shared Services’ Regional Infrastructure Technical Specification for both potable and fire-fighting water supply.

1.4 RECOMMENDATIONS

On the basis of Lysaght's analysis, it is recommended that:

1. The re-zoning application to the Proposed Waikato District Plan for the Kimihia Lakes Zone is granted.
2. The three waters servicing options and concepts described in this report are further developed to identify preferred options for implementation.

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2.0 INTRODUCTION

2.1 BACKGROUND

Lysaght Consultants Ltd (“Lysaght”) was engaged by Allen Fabrics Limited (“AFL”) to provide an assessment of the three waters reticulation serviceability of the proposed development at Kimihia Lakes, to support an application for the rezoning of the land.

AFL proposes to redevelop the site previously occupied by the Huntly East Mine, by allowing the now disused open cast mine to refill, and by establishing a multi-purpose recreation, education and natural park facility. The site, subject to this rezoning proposal is approximately 164 hectares in size, with a variety of topography and land coverings within it (native and exotic vegetation, farmland, and the remnants of the Huntly East mining operations).

The development of the site is likely to occur in yet to be determined stages. This assessment has been carried in terms of the fully developed site, which is the worst case scenario in terms of impact on three waters infrastructure. It is not anticipated that the staging of the development will present any increased effects beyond those considered in this report”.

State Highway 1 passes by the site to the east, suburban Huntly lies west of the site, with the Huntly speedway and wastewater treatment plant in close proximity to the north. Rural and rural residential properties bound the site to the south.

TABLE 2.1: SITE DESCRIPTION

SITE LOCATION	239 East Mine Road Lot 1 DP 307535
SLOPE AND TOPOGRAPHY	Topography varies widely across the site. The primary feature is the central depression formed by open cast mining operations, which is to become the new lake. The land of immediate interest to the development lies on the southern bank of the future lake, and generally slopes toward the lake (between RL 10m and RL 15m).
EXISTING STRUCTURES	Minor structures and buildings left over from the Huntly East Mine remain on the site, however most have been removed entirely. A network of underground mine tunnels and structures remain beneath the surface, which will fill with water as the lake water level rises. An electrical sub-station is located on the main access road into the site, and will remain in place.
PROPOSED DEVELOPMENT	A multi-purpose recreation, education and natural park facility. The site will feature a community centre, an aquatic activity hub, a museum, accommodation and outdoor recreation facilities, and cultural discovery experiences.
SURROUNDING PROPERTIES	State Highway 1 to the east, suburban Huntly to the west, the Huntly speedway and wastewater treatment plant to the north, rural and rural residential properties to the south.

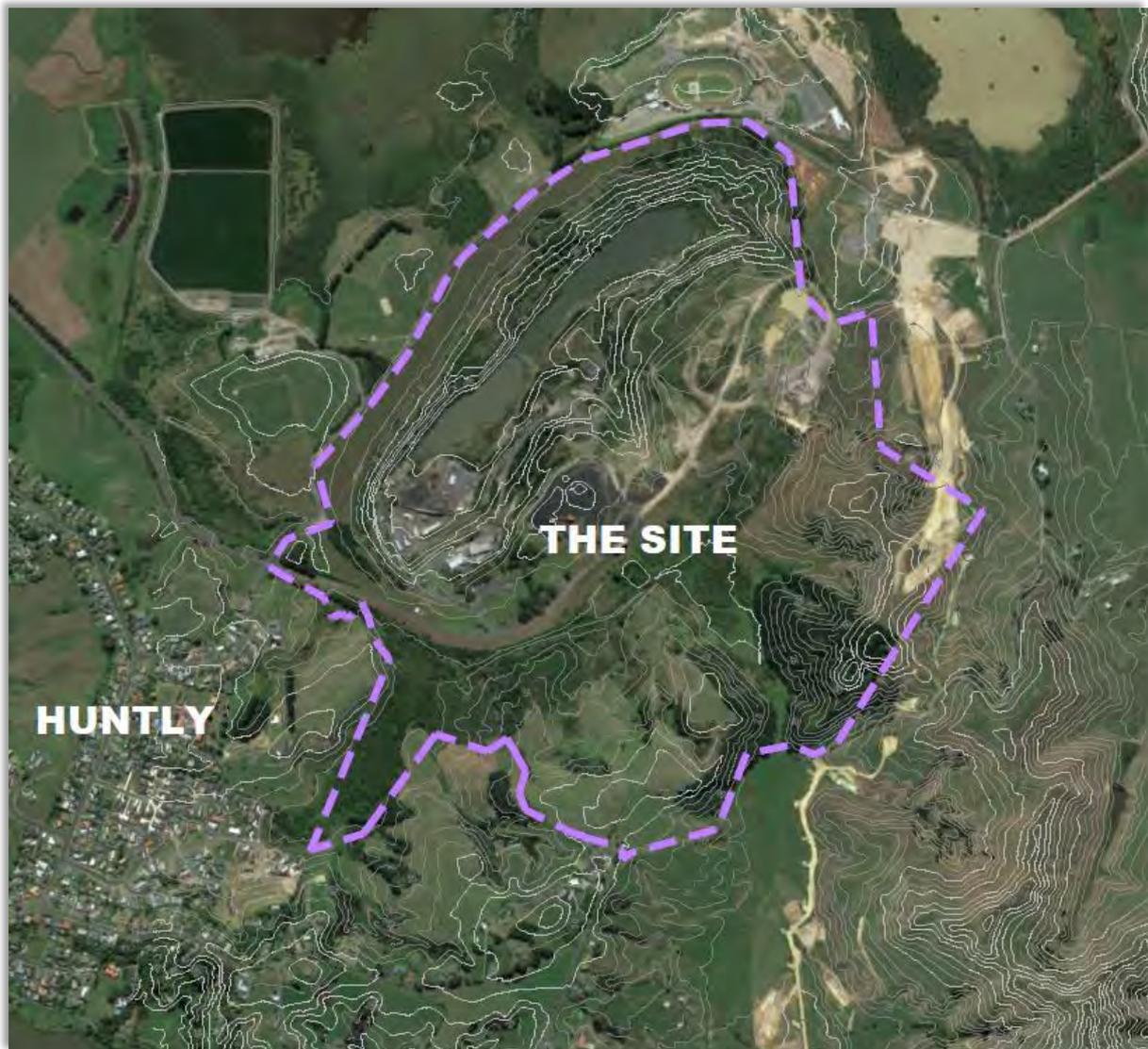


Figure 1: Existing site boundaries, contours and aerial.

2.2 PURPOSE

The purpose of this report is to analyse the servicing needs of the proposal for stormwater, wastewater, and water supply, as follows:

2.2.1 STORMWATER

- Analyse the amount of additional runoff generated by the proposed land use, and the effects of that additional runoff on the receiving environment.
- Determine the broad extent of stormwater treatment required to ensure that all runoff from the proposed land use is sufficiently clean to drain into the new lake without compromising water quality.
- Discuss stormwater treatment options and demonstrate their feasibility within the conceptual footprint of the proposed site layout.

2.2.2 WASTEWATER

- Determine the volume of wastewater anticipated to be generated by the proposed land use, along with the historical volume from the Huntly East Mine.
- Explore the capacity of the existing Huntly wastewater network and the wastewater treatment station and provide commentary on the existing and future capacity available to receive the sewage from the proposed development.
- Discuss on-site effluent treatment and disposal options and provide commentary on their feasibility within the conceptual footprint of the proposed site layout.

2.2.3 WATER

- Determine the peak demand flow rate and daily volumetric demand of the proposed land use, along with the historical demand of the Huntly East Mine.
- Explore the capacity of the existing Huntly water network, and water take/treatment plant to provide water for the proposed development.
- Discuss on-site water collection options and provide commentary on their feasibility within the conceptual footprint of the proposed layout.

2.3 ENVIRONMENTAL DESIGN PRINCIPLES

Sustainable environmental practice is at the heart of the proposed development, and is stated first among the project design principles in the Boffa Miskell Masterplan. Therefore, this report discusses and recommends options and technologies that are in keeping with that design principle wherever practical. These environmental practices are in keeping with the principles of the Waikato River Authority's Vision and Strategy for the Waikato River, and the Waikato-Tainui Environmental Plan.

2.4 REFERENCE DOCUMENTS

The following documents were referenced in the preparation of this report:

- Boffa Miskell's Masterplan ("Masterplan"), Kimihia Lakes Development, 17 July 2020
- Waikato Local Authority Shared Services ("LASS") Regional Infrastructure Technical Specification ("RITS")
- Tonkin and Taylor's Site Appraisal and Preliminary Assessment Report, October 2019
- Waikato River Authority's Vision and Strategy for the Waikato River
- Waikato-Tainui Environmental Plan, August 2013
- HCC's Three Waters Management Practice Note, HCC 05: Rainwater Reuse and Detention System ("HCC 05")
- AS/NZS1547-2012, On-site Domestic Wastewater Management
- Auckland Regional Council's ("ARC") Technical Publication 10 ("TP10"), Stormwater Management Devices: Design Guidelines Manual (2003)
- Mott McDonald and Stantec's Mid-Waikato Water and Wastewater Servicing Strategy ("MWSS"), June 2020
- "Small and Decentralized Wastewater Management Systems" by Crites and Tchobanoglous ("Tchobanoglous") (1998)
- "Section 64: Determinations of Equivalent Tenements Guidelines" by the Australian Water Directorate ("ET Guidelines") (2017).

4.0 THE PROPOSAL

4.1 PROPOSED ACTIVITIES AT THE HUB

As shown in the Masterplan (a screenshot of which is presented in figure 2 below), the site hub (referred to as the 'Development Precinct' in the rezoning proposal) is to be developed into a multi-use lakeside destination, featuring:

- A Coalfields museum to commemorate the site's history as a coal mine,
- A community centre hub, including a café, conference rooms and teaching spaces,
- A boat ramp with trailer parking and an aquatic equipment hire centre,
- An accommodation facility, featuring camping sites, dormitories, and motel units,
- Outdoor education spaces,
- Playgrounds, beaches, walking tracks, playgrounds, etc.

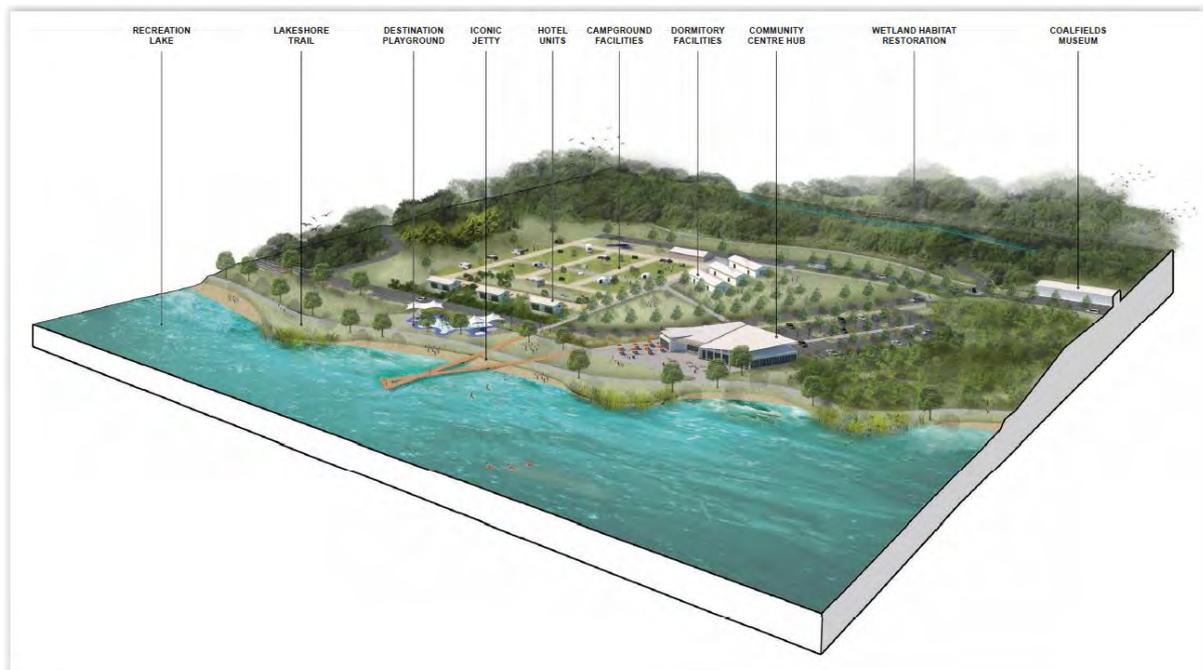


Figure 2: Concept artist's impression of the hub area (Sourced from Boffa Miskell's Kimihia Lakes Development Masterplan, Revision 1, 17/07/2020).

4.2 WIDER DEVELOPMENT

Outside of the hub described above, the greater site is to feature a number of proposed land uses:

- Farmland for drystock grazing and forestry,
- A mountain biking zone within an existing wooded forestry block,
- A plant nursery,
- Native and exotic vegetation, including forestry, habitat and slope stabilisation,
- A residential development precinct (not considered as part of this rezoning application).

With the exception of the residential development (not considered in detail here), these activities are expected to have limited need for three waters consideration at this stage, however they are discussed at a high level in the subsequent sections of this report.

5.0 HISTORIC LAND USE

5.1 HUNTLY EAST MINE

Since the 1880's, the site has been home to mining operations of various types and methodologies. In terms of this three waters assessment, the most relevant land use to consider is the most recent, the operation of the Huntly East Mine. The mine used underground coal shafts, with many of the coal extraction facilities being in the base of the old open cast mine, on the banks of the lowered lake.

5.2 THREE WATERS SERVICING OF THE MINE

Lysaght met with Hank Ollington, a former Solid Energy employee with extensive knowledge of how the mine operated. Mr. Ollington provided details of the three waters servicing of the mine, as follows:

4.2.1 STORMWATER

- Runoff was drained from buildings and hardstand areas directly into the lake itself, both by pipe and overland.
- No stormwater treatment was known to be provided prior to discharging into the lake.

4.2.2 WASTEWATER

- Wastewater from the mine was drained by gravity to a centralised pumping station, which pumped into the Huntly municipal system at an unknown location.
- Based on Lysaght's review of the existing Huntly infrastructure, the most logical connection point for the rising main from the site would appear to be in McVie Road or East Mine Road, but the exact connection point could not be identified.
- The above ground office and ablution facilities above ground featured approximately 22 showers and at least 6 toilets.
- Mr. Ollington suggested that staff working in the underground mineshafts would make their ablutions beneath ground without returning to the surface facilities.

4.2.3 WATER

- Water was supplied to the mine via a 150mm fabric wrapped steel pipeline from Kimihia Road, south of the site.
- On site, it was demonstrated that the pressure available within the existing connection was considerable.
- Mr. Ollington recalled that on one occasion the water reservoir in Tawa Street was drained entirely through a leak in the mine connection line.

5.3 STAFFING NUMBERS

An exact peak staffing number for the mine has been difficult to ascertain, however it is understood that as many as 300 staff worked at the mine simultaneously. In assessing the three waters servicing of the mine, a conservative figure of 200 simultaneous staff on site was used (using a lower figure

underestimates the historic servicing needs of the mine and therefore overestimates the additional needs of the future development when compared against the mine)

6.0 STORMWATER TREATMENT AND DISPOSAL

6.1 SCOPE OF STORMWATER ANALYSIS

This report considers the stormwater runoff discharged from the proposed rezoned land uses to the lake, but not the greater stormwater catchment or the runoff attenuation function of the lake (discussed in Tonkin and Taylor's Site Appraisal and Preliminary Assessment Report, October 2019). It is understood that the lake will receive runoff from the upstream catchment and discharge it via a weir to the west at a rate less than or equal to that of the pre-development scenario. It is therefore assumed that the effect of the proposed rezoning of the land will have negligible downstream effects in terms of volumetric runoff rates.

The focus of this report is instead to analyse the runoff from the rezoned land in terms of treatment and runoff quality. Stormwater discharge quality is of paramount importance to the proposal, as the lake must be swimmable and usable for recreational activities, and the discharge from the lake ultimately enters the Waikato River.

6.2 HISTORIC STORMWATER TREATMENT AND DISPOSAL – HUNTLY EAST MINE

The stormwater discharge from the mine site was not analysed in detail, as the receiving environment into which the proposed development will discharge will be materially different than what the mine discharged into. However, it is worth noting that no stormwater treatment infrastructure is understood to be in place at the mining facility, and historical photography suggests that runoff from the mine drift in the lakebed was allowed to enter the drained lake untreated. Therefore, by providing treatment infrastructure, the developed site will discharge considerably cleaner runoff into the lake than the mine did.

6.3 CHARACTER OF THE RUNOFF FROM THE DEVELOPMENT

Hardstand areas within the developed site will be standard roofs and sealed road and carparks, meaning that low impact stormwater treatment infrastructure will be appropriate for the removal of regular contaminants (suspended solids, phosphorus, nitrogen, metals). Therefore, TP10 has been used in analysing the following treatment options. Considered as a whole, the impervious surfaces proposed for the development will occupy a very low percentage of the site, meaning that both the increase in runoff volume and the increase in contaminants are likely to be relatively low.

6.4 TREATMENT INFRASTRUCTURE OPTIONS

As per Section 4 of TP10, several low impact design infrastructure types are available for use in the treatment of stormwater runoff, many of which are appropriate to this site. Historic soil testing supplied for the site and surrounds suggest that the site is underlain by stiff clays, meaning that infiltration technologies are not applicable here.

5.4.1 VEGETATED SWALES

Given the relatively sparse style of development (large open areas amongst the buildings and hardstand areas), small scale infrastructure could be applied to small sub-catchments within the development. For example, vegetated swales and raingardens could be placed throughout the site to

collect and treat runoff from all hardstand areas, in a manner similar to that shown in the figure below. This method would require little in the way of traditional piped infrastructure, but would require an increased investment in ongoing maintenance (silt removal, weeding, general landscaping).



Figure 3: Diagrammatic representation of how vegetated swales might be located within the site.



Figure 4: Diagrammatic representation of how a centralized constructed wetland might be located within the site.

5.4.2 CENTRALISED CONSTRUCTED WETLAND

A centralised formed wetland could also provide the necessary treatment to runoff from the hardstand areas. Traditionally, runoff from the roofs and pavements would be collected in downpipes and catchpits and reticulated underground to the wetland, which would then discharge into the lake. Expensive underground infrastructure is necessary under this option, but the ongoing maintenance requirements would be less than that of the swale/raingarden option. The figure ABOVE depicts how this system might be sited within the proposed development (sized in accordance with TP10 at 2% of the contributing catchment, or 1,500m²). Note that the location of the wetland shown is conceptual in nature only. Alternative options elsewhere within the site can be explored at a later date.

5.4.3 HYBRID SOLUTION – TREATMENT TRAIN

The use of both swales and a centralised wetland would provide a further improved quality of stormwater discharge and lessen the initial investment in underground infrastructure. Runoff from hardstand areas would be conveyed to the wetland in open swales, where a degree of initial treatment would occur. The wetland itself could be reduced in size from that used in the option above, but the ongoing maintenance of this option would be the most demanding of the three options presented here. It is understood that the site is to remain in private ownership, and therefore the ongoing maintenance of the infrastructure would remain the obligation of the landowner. The figure below indicates how this system might fit conceptually within the site.



Figure 5: Diagrammatic representation of how a hybrid “treatment train” option might be located within the site.

6.6 RAINWATER RE-USE

Sustainability and guardianship of the site's environmental resources are central concepts to the development, and therefore rainwater re-use is proposed for use wherever possible. Each significant building is to be provided with a rainwater re-use tank, to be designed and constructed in accordance with HCC 05, albeit without the need for detention volume to be provided, given that the lake will provide the necessary volumetric mitigation. The tanks will reduce the volume of water discharged into the treatment system, and should be factored into the detailed design of the system accordingly.

6.7 AT-SOURCE STORMWATER TREATMENT

In addition to the treatment methodologies discussed above, all catchpits (if used) are to be installed with gross pollutant traps (eg. Stormwater360's Enviropod filter), and all roof downpipes are to be fitted with gross pollutant grates, to prevent pollutants (leaves, debris, etc.) from reaching the downstream treatment devices and compromising their functionality. Where possible, rain gardens may also be applicable in carparking areas, to remove pollutants from runoff prior to releasing it into the vegetated swales discussed above.

6.8 CONCLUSIONS – STORMWATER

As discussed in section 5.1 above, the lake itself is to act as a stormwater attenuation device, ensuring that the runoff discharged from the contributing catchment will be no greater in volume or peak flow rate than that of the pre-development scenario. The specifics of that functionality are not explored in detail as part of this report.

The stormwater reticulation and treatment analysis above confirms that several stormwater treatment options are available and appropriate for the development, and that the site is laid out favourably to accommodate them. Low impact stormwater treatment infrastructure is recommended for the site, which will deliver the environmental outcomes sought by the Waikato River Authority's Vision and Strategy for the Waikato River and the Waikato-Tainui Environmental Plan. Specifically, for optimum runoff quality and a lessened initial investment in underground infrastructure, it is recommended that a treatment train of vegetated swales and a central constructed wetland be pursued, despite the increased need for ongoing maintenance (by the private landowner, as the land is to remain in private ownership). Traditional underground piped infrastructure is also practically feasible when used in conjunction with a wetland, but would require an increased initial investment.

7.0 WASTEWATER TREATMENT AND DISPOSAL

7.1 SCOPE OF WASTEWATER ANALYSIS

The following section analyses the expected wastewater discharge rate from the developed site, compares that against the historic discharge made from the Huntly East Mine, and provides commentary on potential options for wastewater discharge methodologies.

7.2 HISTORIC WASTEWATER DISPOSAL – HUNTLY EAST MINE

As per section 4.1 of this report, wastewater from the mine was drained to a central pump station and pumped into the Huntly municipal system at an unknown location. The ablution facilities were known to include approximately 22 showers and at least 6 toilets. Using an assumed peak staffing rate of 200 simultaneous workers, discharge rates and volumes from the mine were derived as per the table below.

TABLE 6.2: HUNTLY EAST MINE WASTEWATER DISCHARGE RATE ANALYSIS

PARAMETER	VALUE
No. OF SIMULTANEOUS STAFF	200
DAILY DISCHARGE RATE PER PERSON	50 L/d (derived from tables 4-2 – 4-4 of “Small and Decentralized Wastewater Management Systems” by Crites and Tchobanoglous)
TOTAL DAILY DISCHARGE	10,000 L/d (ADWF)

7.3 HUNTLY MUNICIPAL SYSTEM – CAPACITY ANALYSIS

The Mid-Waikato Water and Wastewater Servicing Strategy (“MWSS”) summarises the existing capacity of the Huntly wastewater system and analyses the projected future growth for the catchment. Section 1.3.5 of that report states that the primary challenges for the system are:

- Network issues (inflow and infiltration, poor condition),
- Overtopping of oxidation ponds,
- Flooding from the Waikato River,
- Effluent quality compliance,
- Poor maintenance access,
- Unreliable facilities,
- Sludge build-up at the treatment plant,
- Discharge consent expiry in 2029.

In terms of current Huntly Wastewater Treatment Plant (“WWTP”) capacity:

- Table 4-2 of Technical Memo 1 in the MWSS notes that the WWTP has a discharge consent for 11,500m³/day (ADWF),
- 2014 inflow data is presented in section 5.2.1 of Technical Memo 1 in the MWSS, stating that the wastewater treatment plant received an Average Dry Weather Flow (ADWF) of 1,816m³/day, and a Peak Wet Weather Flow of 10,000m³/day.
- Section 4.2 of Technical Memo 2 in the MWSS states that the WWTP is designed for an ADWF of 2,100m³/day.

The central premise of the MWSS report is however to recommend that the wastewater reticulation, treatment, and discharge network of the Mid-Waikato region be upgraded to allow for forecast growth beyond 2050. The recommended option includes the 2025 construction of a new centralised WWTP at Huntly with a capacity of 13,500m³/day to service both Huntly and Ohinewai. If that recommendation were to be followed, it is likely that the new WWTP will be in place prior to the full completion of the Lake Kimihia development.

7.4 EXPECTED DISCHARGE FROM THE COMPLETED DEVELOPMENT

Based on the Boffa Miskell master planning documentation, the maximum expected simultaneous occupancy of the site is as per the table below. The associated discharge figures are also presented, derived using a combination of the RITS and Tchobanoglous. As per the table, the total peak discharge from the facility is expected to be in the order of 48m³/day (ADWF).

TABLE 6.4: KIMIHIA LAKES WASTEWATER DISCHARGE RATE ANALYSIS

FACILITY	OCCUPANCY	RATE/HEAD	TOTAL DISCHARGE
Community Centre Hub - Staff	18	38 L/d	684 L/d
Community Centre Hub - Guests	130	34 L/d	4,420 L/d
Coal Mining Museum	80	19 L/d	1,5200 L/d
Accommodation – Staff	9	38 L/d	342 L/d
Accommodation – Guests	65	150 L/d	9,750 L/d
Accommodation – Camp Guests	160	110 L/d	17,600 L/d
Accommodation – Motel Guests	20	190 L/d	3,800 L/d
Contingency/Miscellaneous	N/A	10,000 L/d	10,000 L/d
TOTAL	602		48,116 L/d

7.5 SITE LEVELS ANALYSIS

The precise location of the old Huntly East Mine wastewater connection is not currently known, but it is assumed to be in either McVie Road or East Mine Road, and likely near the intersection between the two. The approximate ground level at the intersection is RL 11m, and the approximate ground level within the hub area varies between RL 8m and RL12m. Therefore, a new pump station and rising main will be required to enable a connection to the council network.

7.6 ON SITE EFFLUENT TREATMENT AND DISPOSAL

An alternative to discharging into the Huntly system is to treat and dispose of the wastewater on site. A review has been undertaken of historic soils testing at the site and in surrounding properties, as follows:

- Soils and Site Assessment, Phoenix Consulting Engineers and Kirk Roberts Consulting Engineers, Ref. 160629, September 2016: This investigation was done nearby in Tawa Road, and confirmed that the soils were clays, with poor percolation rates.
- On-site Wastewater Management Assessment, Septic Solutions, July 2016. This investigation was also undertaken in Tawa Road and observed clayey soils. The report characterised the soils as Category 5 or 6 (as defined in AS/NZS1547-2012, and recommended the use of secondary treatment and dripper irrigation.
- Geotechnical Assessment for Proposed Subdivision, J H Wilson Consulting Engineer, April 2004. This assessment was undertaken in nearby Kimihia Road, and again noted stiff clays and a poor percolation rate, and recommended secondary treatment and dripper irrigation.

Using the above theoretical peak discharge rate of 48,116 L/d, and an assumed soil category of five (as per AS/NZS1547-2012), the total area of the required drip irrigation system would be in the order of 16,000m², assuming that secondary treatment would be provided for. In addition to that, a 100% reserve area must be allowed for at the site, meaning a total of 32,000m² must theoretically be set aside for on-site wastewater disposal should traditional disposal methods from AS/NZS1547-2012 be used. Alternative specialist designs may be available requiring less land area, but they have not been considered as part of this analysis.

It is understood that the landowner/developer is interested in exploring the use of wastewater generated at the site to fertilise plant nurseries or other similar green facilities. The qualitative assessment of such a use for the wastewater discharge is beyond the scope of this report. However,

the quantitative analysis above suggests that only a portion of the wastewater generated at the site would be required to irrigate an area equivalent to the proposed plant nursery, which is shown occupying a 6,000m² area in the Masterplan. For example, wastewater from the campground facility (or a part thereof) could be reticulated through a secondary treatment device, and into a drip irrigation field in the plant nursery, while the rest of the site would drain to the Huntly public system.

Beyond the central hub, other small facilities are proposed (for example, the mountain biking park), where ablution facilities may be provided. In those small isolated instances, on site effluent treatment and disposal will be feasible within a smaller land application footprint, and likely preferable to reticulating wastewater back to the central hub pump station.

7.7 CONCLUSIONS – WASTEWATER

Once fully developed, the site is expected to discharge approximately 48m³/day (ADWF). A portion of that may be disposed to land using secondary on-site effluent treatment and disposal, potentially to provide nutrients to plant nurseries or other similar green facilities. The table below summarises the expected discharges from the site, and the historic discharge from the Huntly East Mine site.

TABLE 6.7: SUMMARY OF WASTEWATER DISCHARGES

SCENARIO	TOTAL WASTEWATER DISCHARGE	DISCHARGE TO HUNTLY COUNCIL SYSTEM	OSET DISCHARGE TO GROUND
HUNTLY EAST MINE	10m ³ /day	10m ³ /day	-
DEVELOPED SITE	48m ³ /day	38m ³ /day	10m ³ /day
DIFFERENCE	38m ³ /day	28m ³ /day	10m ³ /day

*All stated discharge rates are Average Dry Weather Flow (ADWF)

The discharge into the Huntly council system will require a pump station to be constructed within the site due to the vertical difference between the most logical connection point in McVie Road/East Mine Road and the development area.

A review has been carried out of the capacity of the existing Huntly WWTP, and of the planned upgraded Huntly WWTP. That review suggests that the existing WWTP has a design capacity of 2,100m³/day, and that in 2014 it received an average inflow of 1,816m³/day. Therefore, the modest increase of discharge from the site of approximately 26m³/day is not expected to compromise the design capacity of the WWTP. The review also confirmed that the existing network and WWTP are subject to a range of operational and network issues in terms of quality and reliability. Those issues are not expected to be exacerbated by the development of the site, or the modest increase in discharge rate. A new treatment plant is planned for construction in Huntly within the next 10 years, which will see a significant increase in the treatment capacity of the network, which will further increase the network's capacity to receive the wastewater from the development. Further, it is important to note that the discharge estimates above are very conservative, and unlikely to be realised on any given day, let alone for a sustained period of time. Therefore, it is considered that the proposal can be adequately serviced by both the present day council network, and the upgraded network once complete.



Figure 6: Diagrammatic representation of the proposed wastewater reticulation might fit within the site.

As per the table above, a portion of run-off is to be sent to green facilities if possible. A review of available geological information has been carried out, and confirmed that the site soils can generally be characterised as soil types five or six (as per AS/NZS1547-2012), which informs the conceptual dripper field sizing carried out. Detailed site investigations and specific design must be undertaken at a later date.

8.0 WATER SUPPLY

8.1 SCOPE OF WATER SUPPLY ANALYSIS

This section of the report analyses the anticipated water demand rates at the developed site, compares that against the historic demand of the Huntly East Mine, and provides commentary on potential options for water supply technologies.

8.2 HISTORIC WATER DEMAND – HUNTLY EAST MINE

An historic metered water tax invoice has been provided by the current landowners Murray and Jennifer Allen. On that, invoice, 6-monthly approximate water usage figures are provided from March 2016 (25,900m³), and September 2015 (12,950m³) are included. For the purposes of this analysis, the average of those two figures has been used, 19,425m³ per six months, which equates to approximately 106m³/day.

8.3 HUNTLY MUNICIPAL SYSTEM – CAPACITY ANALYSIS

The Mid-Waikato Water and Wastewater Servicing Strategy (“MWSS”) summarises the existing capacity of the Huntly water supply system and analyses the projected future growth for the catchment. Section 1.3.5 of that report describes the system as follows:

- Water is extracted from the Waikato River
- The Huntly Water Treatment Plant (“WTP”) is a conventional treatment process, using PAC dosing, coagulation/flocculation, clarification, filtration, UV disinfection, pH correction, chlorination and fluoridation.
- Discharge of residuals, supernatant, and sludge is made to holding tanks, the Waikato River, and the wastewater system respectively.
- Consent for the water take and residual discharge expires in 2046.
- Beyond 2035, the demand from Huntly and Ngaruawahia is expected to exceed the consented maximum water take.

Section 5.1.5 of Technical Memo 1 of the MWSS discusses the capacity of the Huntly WTP and is summarised in the table below.

TABLE 7.3: HUNTLY WATER TREATMENT PLANT CAPACITY SUMMARY

PARAMETER	VALUE
CURRENT TREATMENT CAPACITY	8 ML/d
CURRENT HUNTLY DEMAND	4 ML/d
CURRENT CENTRAL WAIKATO ALLOCATION	2 ML/d (Only 1 ML/d typically used)
SPARE CAPACITY	2 ML/d

The MWSS also recommends upgrades to the existing network and treatment facilities to allow for future growth in the area. The preferred option is for a new treatment plant to be constructed in 2025 in Te Kauwhata to service Te Kauwhata, Rangiriri, and Ohinewai, and to be subsequently upgraded in 2040. Until 2025, the Huntly WTP will continue to serve its present catchment, and to serve Ohinewai (anticipated to grow significantly as part of the Sleepyhead development). Once the new Te Kauwhata WTP is complete, Ohinewai will be served from there instead. Under this scheme, the capacity of the Huntly WTP is forecast to be sufficient until at least 2060.

8.4 RAINWATER RE-USE

As per section 5.5, rainwater re-use is proposed within the development wherever possible. Each significant building is to be provided with a rainwater re-use tank, to be designed and constructed in accordance with HCC 05 (without the need for detention volume to be provided), thus reducing the use of potable water from the public water supply system.

8.5 EXPECTED DEMAND OF THE COMPLETED DEVELOPMENT

Based on the Masterplan, the relevant parameters for deriving the development’s water supply demand as per the table below. The associated demand figures are also presented (Derived using the ET guidelines). As per the table, the total maximum peak demand at the facility is expected to be in the order of 43.5m³/day.

TABLE 7.5: KIMIHIYA LAKES WATER DEMAND RATE ANALYSIS

FACILITY	PARAMETER	ET	TOTAL DEMAND
Community Centre Hub (Assume 700m ² of active restaurant/café)	700m ²	0.01/m ²	4,410 L/d
Coal Mining Museum	8 public toilets	0.4/toilet	2,020 L/d
Accommodation – Dorm Beds	75	0.15/bed	7,090 L/d
Accommodation – Camp Sites	60	0.5/site	18,900 L/d
Accommodation – Motel Rooms	6	0.3/room	1,130 L/d
Contingency/Miscellaneous	N/A	N/A	10,000 L/d
TOTAL			43,550 L/d

8.6 EXISTING CONNECTION AND AVAILABLE PRESSURE

An accurate measurement on the water pressure available within the site hasn't been undertaken. The site levels and the nearby water reservoir in Tawa Street would however suggest that a suitable level of service can be delivered. The water reservoir is at an elevation of approximately RL 58m, while the site is at approximate RL 10m. Therefore, the pressure available at the site is considered to be sufficient to provide the level of service required by the RITS for potable and fire fighting water supplies.

As per section 3.2 of this report, the existing site connection to the network is in Kimihia Road, near the existing reservoir. A 150mm steel pipeline connection runs along a meandering and undulating route through the southern portion of the site and terminates approximately at the end of East Mine Road. It is understood through discussions with Solid Energy staff member Mr. Ollington, and email communication with WaterCare Waikato Senior Operations Engineer Ross Dillon that the connection line has been known to be prone to damage and leakage, and is therefore likely to be in poor condition, while current property owner Murray Allen has stated that the pipe is in good condition. It is therefore recommended that a condition survey of the main be carried out. In the event that the pipework is in poor condition, the main should be replaced with either a new PE main on a similar alignment, or with a new connection to the existing main in McVie Road.

8.7 CONCLUSIONS – WATER SUPPLY

Based on the above analysis, the Huntly water supply network has the necessary capacity and the available pressure to provide for the proposed development.

The development is likely to require approximately 43.5m³ per day from the Huntly council network when all facilities are operating at full capacity, compared to the approximate 106m³ per day that the Huntly East Mine drew from the system.

TABLE 7.7: SUMMARY OF WATER DEMAND

SCENARIO	TOTAL WATER DEMAND	POTABLE WATER FROM HUNTLY WATER SUPPLY	NON-POTABLE WATER FROM RE-USE TANKS
HUNTLY EAST MINE	106m ³ /day	106m ³ /day	-
DEVELOPED SITE	43.5m ³ /day	40.5m ³ /day	3m ³ /day*
DIFFERENCE	-62.5m ³ /day	-65.5m ³ /day	3m ³ /day*

*Assumed rate of use

The existing Huntly water treatment plant theoretically has 2,000m³/day of spare capacity, while the proposed upgrade in 2025 will provide a considerable increase in capacity for water treatment to the network. The network in the immediate vicinity of the site is well equipped to deliver the necessary pressure and flow rate to service the site, thanks primarily to the water reservoir in Kimihia Road, which is elevated as much as 50m higher than the site. Two potential connection locations are available, at either the existing location in Kimihia Road, or at the intersection between McVie and East Mine Roads. Therefore, the both the present day Huntly council network, and the future upgraded network is considered capable of providing the necessary supply of potable and fire-fighting water to the site.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Options for the provision of three waters servicing have been identified and analysed (refer to the previous sections of this report with respect to Stormwater, Wastewater, and Water, and to the Executive Summary for a detailed summary of those servicing options), demonstrating the viability of the site for the intended purpose. On this basis, it is recommended that:

3. The re-zoning application to the Proposed Waikato District Plan for the Kimihia Lakes Zone is granted.
4. The three waters servicing options and concepts described in this report are further developed to identify preferred options for implementation.



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Appendix 10: Preliminary Site Investigation

PRELIMINARY SITE
INVESTIGATION
HUNTLY EAST MINE
AND FARM

PREPARED FOR:
KIMIHIA LAKES
COMMUNITY CHARITABLE
TRUST

SEPTEMBER 2020

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PSI REPORT: Huntly East Mine and Farm	
Prepared by: GUY SOWRY	Date:
	24.0.08.2020.
DIRECTOR	
CSI	
CONTAMINATED SITE INVESTIGATION	

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0.0 Executive Summary

Purpose	Undertake a PSI for 239 East Mine Road, 96 Tawa Road, 0 Kimihia Road and 191 Kimihia Road, Huntly.
Current and Proposed Site Status	Lake and surrounds, vacant land; pastoral land; bush and wetland. Fill the mine pit with water to create a lake with the immediate surrounds to become a recreation facility with accommodation and the pastoral land to become industrial, recreational and rural residential landuses.
History	Opencast coal mine from 1950 to 1974 with at least three motor vehicle workshops and a possible service station. Underground mine with a coal yard, railway yard and line, motor vehicle workshop and service station from 1978 to 2015. Pastoral land from at least 1941 to the present.
Geology Hydrogeology Hydrology	The soil at the site is clay or silt clay. A shallow groundwater system may be present beneath the site. A lake, streams and wetlands are located on site
Site Investigation	<p>Walkover Undertaken by Guy Sowry on 26 August 2020. No current HAIL noted and no significant area of ground staining noted on the areas of historic workshop or service station activities.</p> <p>Potential HAIL and Potential Ground Contaminants</p> <ul style="list-style-type: none"> ▪ E5 - coal yard. PAH's, boron and arsenic; ▪ E7 - mining industries. PAH's, boron and arsenic; ▪ F4 - motor vehicle workshop. PAH's and metals; ▪ F7 - service station. PAH's; ▪ E1 - asbestos disposal. Asbestos; and ▪ H - adjacent HAIL. Lead form a gun club. <p>Conceptual Site Model A medium risk to human health from potential contaminants associated with the coal yard and historical workshops and medium risk to the environment from potential contaminants associated with the historical pit workshop and gun club. A low risk to human health from mining, service station, asbestos disposal and gun club as either or all of: limited contact; restricted access and use; covered with vegetation; and some of these areas will be inundated by the lake.</p>
Risk Assessment	A LOW risk to development and maintenance workers as PAH's more than likely degraded or at concentrations below NES SGV's and metal concentrations considered to be below NES industrial SGV's. A LOW risk to the environment as lead was not elevated during water quality sampling by WRC staff in 2018. Therefore, it is highly unlikely that there will be a risk to human health or the environment if the site is developed into the intended landuses.
Recommendations	1. That no further contaminated land investigations are required.
<i>This sheet is intended to provide a summary only of the assessment study of the site. This sheet does not provide a definitive scientific analysis.</i>	

1.0 INTRODUCTION

- 1.1 Contaminated Site Investigations (CSI) has been appointed by Kimihia Lakes Community Charitable Trust (KLCCT) to undertake a Preliminary Site Investigation (PSI) of 239 East Mine Road, 96 Tawa Road, 0 Kimihia Road and parts of 191 Kimihia Road, Huntly (hereafter referred to as the Site). A PSI was requested by Waikato District Council (WDC) as the following Hazardous Activity or Industry (HAIL) has occurred at the site:
- E7 – mining industries.
- 1.2 The aim of the PSI is to provide KLCT with an evaluation of ground conditions to determine if any HAIL has occurred at the site and if yes:
- the potential risk to human health; and
 - the potential risk to the environment.
- 1.3 The PSI has been completed in general accordance with: the Resource Management Act 1991 (RMA) and the Resource Management Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011(NES).
- 1.4 This report is based on a review of aerial photos, oblique photos, business directories, consultation and a site walkover. The report has been prepared by Guy Sowry in accordance with the NES and in particular the Ministry for the Environment (MfE) *Contaminated Land Management Guidelines (CLMG) No 1 - Reporting on Contaminated Land*.
- 1.5 As per the NES User Guide Suitably Qualified and Experienced Practitioner requirements Guy Sowry holds a postgraduate diploma in 'Environmental Health Science' and over 20 years experience investigating and reporting on contaminated land.
- 1.6 The following limitation should be noted:
- the investigation is only a preliminary investigation with no soil samples. Should a risk to human health be proven a detailed site investigation shall be required.
- 1.7 Attention is drawn to the report conditions shown in Appendix A.

2.0 CURRENT SITE LAND STATUS

2.1 Site Identification

- 2.1.1 The site is situated on the northeastern outskirts of Huntly township as shown in Figure 1.
- 2.1.2 The site is comprised of five separate sites with the details of each site provided for in Table 1: Site Details.

Table 1: Site Details

ADDRESS	VRN	LEGAL DESCRIPTION	SIZE
239 East Mine Road	04401/236/11	Lot 1 DPS 20619 Sec 3 SO 482553	89.6 ha
96 Tawa Road	04401/230/00	Allot 746 Taupiri Parish	21.8 ha
0 Kimihia Road	04401/232/00	Allot 857 Taupiri Parish Blk X11 Rangiriri SD	24.1 ha
191 Kimihia Road	04401/227/00	Allot 23A Sec 463 Taupiri Parish	5.1 ha
		Pt Allot 777 Taupiri Parish	2.1 ha
		Lot 21 DP 347582	3.2 ha
		Pt Allot 515 Taupiri Parish	0.7 ha
		Pt Lot 20 DP 347582	0.7 ha
		Allot 740 Taupiri Parish	3.8 ha

- 2.1.3 All of the sub sites are irregular in shape with the total size of the site considered to be approximately 102 ha comprised of: 43 ha - 239 East Mine Road; 21.8 ha 96 Tawa Road; 22 ha - 0 Kimihia Road; and 16.5 ha - 191 Kimihia Road.
- 2.1.4 All of the sub sites are zoned in the Operative District Plan as 'Rural' with the exception of the southern part of 191 Kimihia Road which, is zoned 'Residential'.

2.2 Site Description

239 East Mine Road

- 2.2.1 The 239 East Mine Road site (the Colliery) is the coal mine, colliery and surrounding land as documented in Figure 2. The site does not include the electrical substation in the south as this is leased by WEL Energy.
- 2.2.2 The site is comprised of the lake and pit, pastoral land in the west and parts of the north, with the remainder of the site a mix of vacant grassed or vegetated land. East Mine Road enters the site in the south western corner. The only structures present with the exception of farm fences, are a corrugated iron shed (ex weighbridge station building) at the termination of East Mine Road and a number of smaller sheds in the same area.

- 2.2.3 The western boundary is fenced with a post, wire and batten farm fence with McVie Road immediately beyond. Further beyond is pastoral land and the Huntly Recycle and Refuse Transfer Station. The northern boundary of the site is fenced with a post, wire and batten farm fence with McVie Road immediately beyond. Further beyond is the Huntly Speedway and the Waikato Expressway Huntly Section Project Office. The eastern boundary is either fenced with a post, wire and batten farm fence or open to the site. Immediately beyond is vacant heavily vegetated land except in the northeast, which are contractors yards associated with Waikato Expressway Huntly Section. The southern boundary is either fenced with a post, wire and batten farm fence or open to the site. Immediately beyond in the central south and southwest is pastoral land with residential properties further beyond. Immediately beyond in the central south and southeast is the site.
- 2.2.4 The topography of the site is a mixture of: a steep slope down to the coal pit floor; flat land in the south and central east; and undulating land in the north.

96 Tawa Road

- 2.2.5 The 96 Tawa Road site (Tawa Site) is located to the east and south of the Mine Site and is a mix of vacant land, pastoral land and historical mine workings. A number of dirt roads are also present. Refer Figure 3.
- 2.2.6 Heavily vegetated vacant land is present in the south, central south and central north. Pastoral land with sparse vegetation is present in the centre. A small lake surrounded by vacant vegetated land is present in the north. With the exception of post, wire and batten farm fences the only other structures present are a corrugated iron shed in the centre and a wooden circle in the central east. A dirt road is present along parts of the western boundary and dirt roads crisscross the central north with one of these dissecting the site.
- 2.2.7 The site is open to the site in the west, central and southeast and south. In the north the site is fenced with a post, wire and batten farm fence with a contractors yards associated with Waikato Expressway Huntly Section immediately beyond. In the northeast the site is fenced with a post, wire and batten farm fence with pastoral land immediately beyond.
- 2.2.8 The topography of the site is undulating.

0 Kimihia Road

- 2.2.7 The 0 Kimihia Road site (Kimihia East Site) is located to the east of the Mine Site and is a mixture of pastoral land and vegetation/bush as documented in Figure 4. The site excludes the northeastern corner which, is the Waikato Expressway Huntly Section.
- 2.2.8 Pastoral land with pockets of vegetation is present in both the south and north. The centre of the site is heavily vegetated. A small amount of pastoral land is also present. Apart from a small shed in the central west no other structures are present other than post, wire and batten farm fences and concrete water troughs.

- 2.2.9 The site is open to the site in the west and southwest. The northern boundary is fenced with a post, wire and batten farm fence with pastoral land immediately beyond. The eastern boundary is fenced with a post, wire and batten farm fence. Immediately beyond is pastoral land with the Waikato Expressway Huntly Section further beyond. The central southern boundary is fenced with a post, wire and batten farm fence. Immediately beyond is Kimihia Road.
- 2.2.10 The topography of the site is undulating.

191 Kimihia Road

- 2.2.11 The 191 Kimihia Road site (*Kimihia West Site*) is located to the south of the Mine Site and west of Kimihia East Site and is a mixture of pastoral land and vegetation/bush as documented in Figure 5.
- 2.2.12 The site is pastoral land with pockets of bush east of Tawa Road, pastoral in the centre immediately west of Tawa Road and bush in the west with pockets of pastoral. No structures are present other than post, wire and batten farm fences.
- 2.2.13 The northern boundary is fenced with a post, wire and batten farm fence with the site beyond. The western boundary is open to the Kimihia East site. The western section of the southern boundary is fenced with a post, wire and batten farm fence with Kimihia Road immediately beyond. The central section of the southern boundary is fenced with a post, wire and batten farm fence with Tawa Road immediately beyond except for a small area which is pastoral in the central north. The eastern section of the southern boundary is fenced with a post, wire and batten farm fence with bush land immediately beyond. The eastern boundary is fenced with a post, wire and batten farm fence with bush immediately beyond.
- 2.2.14 The topography of the site is undulating.

2.3 Surrounding Environment

- 2.3.1 The site is situated in an area typified by industrial, recreational, residential, educational, pastoral and bush reserve.
- 2.3.2 Immediately to the north and north east of the site is the Fulton Hogan depot associated with the ongoing construction and maintenance of the Waikato Expressway. Further north beyond McVie Road is associated office accommodation. Also to the north beyond McVie Road is the Huntly Speedway. West of McVie Road is the Rotongaro-Huntly Pony Club, bush reserve, pastoral land and WDC Waste Transfer Station
- 2.3.3 To south west of the site are residential properties and Kimihia Primary School. To the south is rural residential properties and pastoral land. To the east is Kimihia Road with pastoral land beyond.

2.4 Proposed Development

- 2.4.1 The intention is to fill the historical mine pit with water to create New Kimihia Lake with the surrounds a community hub and thereby providing Huntly and New Zealand a world class recreational and educational facility.
- 2.4.2 The flat land in the central south and east of the Colliery Site and part of the Tawa Site is to include a boat ramp, trailer park and car park etc; an aquatic hire centre; a community central hub comprising a café and an education centre; short term accommodation comprising a hotel, dormitories and a camping ground; a destination playground; a coal field museum; and recreational reserve also comprising beaches and grassland etc. Refer Figure Six.
- 2.4.3 The farm land (Tawa Site, Kimihia East and Kimihia West) is to remain predominately as pastoral land but will also include: a wetland restoration area; a mountain bike zone; a sustainable energy solar farm; a plant nursery which will include commercial sales; and a mountain bike track. Refer Figure Six.

3.0 HISTORICAL REVIEW

3.1 Aerial Photos

3.1.1 Reproductions of aerial photos are included in this report as SK01 (1943) to SK10 (2008) and are located in Appendix B.

3.1.2 Colliery

3.1.2.1 The 1941 reproduction (SK01) shows the majority of the site as a lake. A small part is pastoral land with no structures present.

3.1.2.2 The 1963 reproduction (SK02) shows the majority of the site as an open cast mine with numerous structures visible within the mine workings. The remainder of the site is either vacant exposed land or vacant vegetated land. A series of buildings are present in the southeast outside of the workings. Roads are present throughout the site with the entrance in the south west. A stream is present in the southwest and central south.

3.1.2.3 The 1966 reproduction (SK03) shows similar conditions to the 1963 reproduction. A strip of vegetation is present in the west and north of the pit.

3.1.2.4 The 1969 reproduction (SK04) is considered to show very similar conditions to the 1963 and 1966 reproductions.

3.1.2.5 The 1973 reproduction (SK05) shows similar conditions to the 1969 reproduction. A small amount of water ponding is visible in the pit in the south and north. The strip of vegetation to the west and north of the pit appears to have increased in size.

3.1.2.6 The 1979 reproduction (SK06) shows similar conditions to the previous reproduction. The building's in the southeast have been removed and replaced with at least two structures and a new conveyor descending into the pit workings in the west. Railway lines/yards appear to be and present in the southwest associated with the conveyor. A number of new buildings are present in the central southwest on the margins of the pit workings. Roads are present around these structures. Water ponding is present along the entire bottom of the pit.

3.1.2.7 The 1984 reproduction (SK07) shows that the overall workings of the pit have decreased in size, as excavations are no longer present in the north east and east. Water ponding is present in the centre of the pit. Railway lines and yards with open rail cars are clearly present in the southwest. One line terminates in the northeast. The land to the north and west of the pit appears to be pastoral.

3.1.2.8 The 1991 reproduction (SK08) shows similar conditions to the 1984 reproduction. Water ponding is present over the entire floor of the pit commencing to the north of the working pit. A small area of excavation is present in the northeast.

- 3.1.2.9 The 1995 reproduction (SK09) shows similar conditions to the 1984 reproduction. Water ponding is present over the entire floor of the pit. The number of structures visible in the working pit around the conveyor has increased.
- 3.1.2.10 The 2008 reproduction (SK10) shows similar conditions to the 1984 reproduction. Coal is clearly visible at the bottom of the pit around the conveyor and at the top of the pit around the conveyor.
- 3.1.2.11 The 2016 reproduction (SK11) shows similar conditions to the 2004 reproduction. Water ponding is also visible in the northeast.
- 3.1.2.12 The 2019 reproduction (SK12) shows all buildings removed from the site except for a building in the central east. However, all the concrete pads associated with the buildings and other mining activities remain. The railway line in the south and east of the site has also been removed. Coal remains are still visible in the east of the site. The water level in the pit has risen and in the smaller pit in the northeast. The amount of vegetation around the pit in the west, north and east has increased. Bare land is present in the east and north east. The amount of vegetation to the south of the road in the south has also increased.

3.1.3 Tawa Site

- 3.1.3.1 The 1941 reproduction (SK01) shows the site as pastoral land except for the southwestern corner, which is heavily vegetated. A road is visible along the northern boundary except where it dissects the central north. In this area adjacent to Lake Kimihia is a dwelling and garage. Slightly to the south are probable farm sheds. To the south of the road, in the south and centre are probable farm sheds. A series of building's are present in the central north, along the road, with the footprint resembling a dwelling, garage and sheds. The majority of the southern, eastern and northern boundaries appear to be fenced.
- 3.1.3.2 The 1963 reproduction (SK02) shows the site as a mixture of mining, excavations, residential, pastoral, and vacant vegetated land. A road is visible along the northern boundary except where it dissects the central north. A road is also present in the west where it dissects the site; north to south. In the central north is a conveyor and buildings to the south and further east next to the road. Also present in this area is a grove of trees. Excavations are present in the southwest and northwest. A residential village comprising seven dwellings with curtilage is present in the centre. A shed is present immediately to the west of the village and a small circular object is present to the south immediately adjacent to the southern boundary. Pastoral land is present immediately to the east, south and west of this village, in the north and in the west and southwest with the remainder of the site vacant vegetated land. At least three sheds are visible in the small strip of pastoral land in the north.

- 3.1.3.3 The 1966 reproduction (SK03) shows similar conditions to the 1963 reproduction. The grove of trees in the central north has increased in size. A small pond is visible in the south west adjacent to both boundaries.
- 3.1.3.4 The 1969 reproduction (SK04) is considered to show very similar conditions to the 1963 and 1966 reproductions.
- 3.1.3.5 The 1973 reproduction (SK05) shows similar conditions to the 1969 reproduction. Most of the pastoral land is vegetated. The excavation in the northeast appears to be no longer present and the excavation in the southwest has decreased in size. At least two buildings are present in the central north adjacent to the road.
- 3.1.3.6 The 1979 reproduction (SK06) shows with the majority of the site as vacant bare or vegetated land except for the village, the conveyor and associated railway line and roads. All of the building's in the central north have been removed. However, some small structures are present in the central north. The excavation in the southwest appears to have ceased as vegetation is present. A small area of bare land is visible in the centre, west of the village.
- 3.1.3.7 The 1984 reproduction (SK07) only shows the central and northern parts of the site, which documents similar condition to the 1979 reproduction. The road terminates at the eastern end of the village. Pastoral land is now present in the north. The circular object to the south of the village is clearly visible.
- 3.1.3.8 The 1991 reproduction (SK08) shows similar conditions to the 1979 and 1988 reproduction. The central north and northern parts of the site are now planted with rows of trees. The central west and west is pastoral land except for the land around watercourses which, is heavily vegetated.
- 3.1.3.9 The 1995 reproduction (SK08) shows the conveyor in the north, three residential properties, pines trees to the central north and north and vacant land to the west except for the vegetation associated with the watercourses.
- 3.1.3.10 The 2008 reproduction (SK10) shows the conveyor in the north, pines trees to the central north and north, pastoral land in the central south and vacant land to the west except for the vegetation associated with the watercourses. A small structure is present in the central south. The circular structure in this area is still present.
- 3.1.3.11 The 2016 reproduction (SK11) shows the conveyor in the north has been removed with only the concrete pad and railway line remaining. The remainder of the site documents similar conditions to the 2008 reproduction.

3.1.4 Kimihia East

- 3.1.4.1 The 1941 reproduction (SK01) shows the site as predominantly pastoral land or vegetated vacant land. A road dissects the site roughly in the centre from north to south. West of this road is pastoral land including a dwelling in the central north. East of this road is vacant vegetated land. All boundaries appear to be fenced except in the southeast.
- 3.1.4.2 The 1963 reproduction (SK02) shows the site as predominately vacant land. Pastoral land is present in the north. Excavations are present in the southwest and potentially in the central north adjacent to the boundary.
- 3.1.4.3 The 1966 reproduction (SK03) shows similar conditions to the 1963 reproduction. The grove of trees in the central north has increased in size. The northern and eastern boundaries appear to be fenced.
- 3.1.4.4 The 1969 reproduction (SK04) is considered to show very similar conditions to the 1963 and 1966 reproductions.
- 3.1.4.5 The 1973 reproduction (SK05) shows similar conditions to the 1969 reproduction. Most of the pastoral land is vegetated. Excavations appear to be no longer present in the northeast and the excavation in the southwest has decreased in size. The dwelling in the central north is no longer present.
- 3.1.4.6 The 1979 reproduction (SK06) shows very similar conditions to the 1973 reproduction.
- 3.1.4.7 The 1984 reproduction (SK07) shows similar conditions to the 1979 reproduction however, it only covers the western side of the site.
- 3.1.4.8 The 1991 reproduction (SK08) shows the site as pastoral land in the north, pastoral punctuated with trees/bush in the centre and pastoral surrounding the area of bare land in the south. The road in the centre is still present. A small structure is visible in the central south within the area of excavations. No other structures are visible. The northern and western boundaries appear to be fenced.
- 3.1.4.9 The 1995 reproduction (SK09) shows similar conditions to the 1991 reproduction. The excavations in the south is now pastoral and the structure has been removed.
- 3.1.4.10 The 2008 reproduction (SK10) shows similar conditions to the 1995 reproduction. The amount of vegetation in the centre and central south has increased in area and density.

3.1.5 Kimihia West

- 3.1.5.1 The 1941 reproduction (SK01) shows the site as pastoral land with vegetation a number of structures and roads. Pastoral land is present over the majority of the site with a grove of trees in the north, bush and trees in the centre surrounding a residential site, scrub in the northeast, vegetation within the gullies and around a pond in the west. The residential site contains at least two building's. A least two structure are present in the north to the south of the grove of trees. At least two small structures are present in the southeast adjacent to Kimihia Road. At least three small structures are present in the south. A small structure is present in the west. All boundaries appear to be fenced except in the southeast.
- 3.1.5.2 The 1963 reproduction (SK02) shows similar conditions to the 1941 reproduction. A road dissects the site roughly in the centre from north to south. Building's and curtilage straddle this road in the north. Excavations are present in the northeast with a road running south to the central road. The structures in the southeast and west are no longer present.
- 3.1.5.3 The 1966 reproduction (SK03) shows similar conditions to the 1963 reproduction.
- 3.1.5.4 The 1967 reproduction (SK04) shows similar conditions to the 1966 reproductions except the majority of buildings in the north to the east of the central road, have been removed.
- 3.1.5.5 The 1974 reproduction (SK05) shows similar conditions to the 1967 reproduction. All buildings and structures are no longer present. The excavation area has increased in size.
- 3.1.5.6 The 1979 reproduction (SK06) shows similar conditions to the 1974 reproduction.
- 3.1.5.7 The 1991 reproduction (SK08) shows the site as predominately pastoral. Pockets of trees are present in the centre both sides of the road. Excavations in the centre and northeast. Vegetation is present around the excavations in the northeast. Bush is present in the west around the pond. No structures are present.
- 3.1.5.8 The 1995 reproduction (SK09) shows similar conditions to the 1991 reproduction. The excavation areas in the centre and southeast are now pastoral or in the process of becoming pastoral.
- 3.1.5.9 The 2008 reproduction (SK10) shows similar conditions to the 1995 reproduction.

3.2 Aerial Oblique Photos

- 3.2.1 Reproductions of aerial oblique photos are included in this report as SK13 (1954) to SK19 (1970) and are located in Appendix C.
- 3.2.2 The 1954 reproduction (SK13) shows part of the site looking towards the east. Lake Kimihia and the opencast mine is in the foreground, buildings and the village is in the midground, with the pastoral farm, vegetation and excavations in the background.
- 3.2.3 The 1958 reproduction (SK14) shows part of the site looking towards the south. The pit is present in the foreground. The buildings in the mid ground to the east include the conveyor and two probable workshops. A series of buildings and then the village is visible further to the south. In the distance appears to be a series of building, which resemble a typical New Zealand school of this era. The buildings to the north and west are clearly residential dwellings. The land in the south and west is pastoral with vegetation present adjacent to natural watercourses. The photo clearly documents the hilly nature of the site.
- 3.2.4 The 1959 reproduction (SK15) shows most of the site looking towards the north. In the foreground to the west is pastoral land and vegetation present adjacent to natural watercourses. In the central foreground is an area of excavation which, includes a building. Also visible is the probable school and residential dwellings. In the midground is a dwelling, village and then a series of building including the probable workshops and conveyor. In the background is the main pit with several buildings and structures visible. In the midground to the east is a building and yard. In the midground to the east is pastoral land and an area of excavation.
- 3.2.5 The 1959 reproduction (SK16) shows most of the site looking towards the southwest. In the foreground to the east is the pit. Structures are visible adjacent to the road and trucks are visible on the roads. In the foreground to the west is ponded water and within the water appears to be a barge with a pipe to Kimihia Lake. In the midground within the pit are a number of small structures. In the midground to the east on the rim of the pit is a number of buildings including the two probable workshops clearly showing the doors into these building's and the conveyor. Railway lines and railway carts are visible either side of the conveyor. In the background is the entry/exit road, pastoral land, a number of buildings and wetlands.
- 3.2.6 The 1964 reproduction (SK17) shows most of the site looking towards the southwest. In the foreground to the east is the pit. In the foreground to the west is ponded water. In the midground within the pit are a number of small structures. In the midground to the east is a number of small buildings adjacent to the roads. Further back to the east, on the rim of the pit, is a number of building's including the two probable workshops, a probable refuelling facility and the conveyor. Railway lines and railway carts are visible either side of the conveyor. East beyond the railway line are a number of building's which, are considered to be administration buildings. East beyond a road and watercourse is the residential village and further east is a residential dwelling. In the background is the entry/exit road, pastoral land, a number of buildings and wetlands.

- 3.2.7 The 1966 reproduction (SK18) shows most of the site looking towards the northwest. In the foreground immediately beyond the road is pastoral land, bush and an area of excavation. The school and residential dwellings are present on the left adjacent to a road that runs through the site. Beyond the central excavations is a building, then the village, then a series of buildings associated with the mine. In the background is the main pit. East of the excavation is bushland and further to the east is pastoral land. To the west is pastoral land and wetlands.
- 3.2.8 The 1970 reproduction (SK19) shows the site looking towards the southeast. In the foreground is the pit with buildings on the rim in the midground. Beyond is a road, then the village, a building and then an area of excavations surrounded by bush. Beyond the mine in the east is a number of small buildings either side of the road and then pastoral land. Beyond the mine and entrance to the mine site is wetlands and pastoral land.

3.3 The First 100 Years, Kimihia School, 1897 to 1997, Photos and Images

- 3.3.1 Reproduction of photos and images and their captions are taken from *The First 100 Years, Kimihia School, 1897 to 1997* are included in this report as SK20 to SK and are located in Appendix D.
- 3.3.2 The reproduction SK20 shows Kimihia School looking to the northeast.
- 3.3.3 The reproduction SK21 is a memory map of the area drawn by Mr. Arthur Holland showing the major features of the area in the years between 1930 and 1945. Of particular interest is the location of Taupiri /Holland Mine, which would place the above ground workings of the mine currently on the wall of the historic coal pit in the north.
- 3.3.4 The reproduction SK22 is a 1991 photo showing the historical location of Kimihia School looking to the south. In the background appears to be a quarry.
- 3.3.5 The reproduction SK23 is a 1895 photo of The Taupiri Reserve Mine (Holland's Mine) looking to the west.
- 3.3.6 The reproduction SK24 is a 1950's photo of the mine taken from the rim. The opencast pit is in the centre. The workshop is located on the left and the conveyor and associated bins are located on the right.
- 3.3.7 The reproduction SK25 is a photo of the main workshop located immediately adjacent to the conveyor.
- 3.3.8 The reproduction SK26 is a photo of workshop number 2 located on the rim.
- 3.3.9 The reproduction SK27 is a photo of the 120 B electric excavator.
- 3.3.10 The reproduction SK28 is a 1996 photo of Kimihia mine.

4.0 CONSULTATIONS AND LITERATURE REVIEW

4.2 Waikato District Council

4.1.1 Consultation was not undertaken with WDC as it was considered that they would not hold any significant additional information to that provided by WRC.

4.2 Waikato Regional Council

4.2.1 The following information was requested from the WRC:

- Selected Land Use Status (SLUR);
- consents and or permits issued to the site;
- pollution incidents at the site; and
- immediately adjacent SLUR sites and any reports for these sites.

4.2.2 The Colliery and Tawa Road sites are both included on WRC SLUR as presented in Table 2: WRC SLUR.

Table 2: WRC SLUR

SITE ID/NAME	LUI02391 Solid Energy Huntly East Coal Mine
STATUS	Current record.
CLASSIFICATION	Verified HAIL – no sampling
HAIL	E7 Mining industries B4 Power substation A17 Storage tanks for fuel and other chemicals

4.2.3 WRC also advised that they hold no contaminated land management reports for this site. There is no record of any pollution incidents having occurred.

4.2.4 The site is currently not consented by WRC however, the site was recently consented by WRC as documented in Table 3: Recent WRC Consents.

Table 3: WRC Consents

AUTHORISATION	DATE	TYPE	PURPOSE
AUTH117784.01.01	2012	Water Take	Intercept and take approximately 6,000 cubic meters per day of groundwater from the Huntly East Mine
AUTH117786.01.01	2012	Discharge	Discharge up to 11,000 cubic metres per day of treated mine water and stormwater into the Kimihia Wetland.
AUTH108829.01.01	2012	Water Diversion	Divert groundwater and surface water to maintain water levels in areas.

- 4.2.5 An immediately adjacent site is listed on the SLUR. This site is located immediately adjacent to the northeastern boundary of McVie Road. SLUR information for this site is present in Table 4: WRC Immediately Adjacent SLUR.

Table 4: WRC Immediately Adjacent SLUR

SITE ID/NAME	LUI07340 Huntly Gun Club/Huntly Clay Target Club
STATUS	Current record
CLASSIFICATION	Contaminated
HAIL	C2 Gun clubs including clay target clubs that used lead munitions outdoors

- 4.2.6 The site is listed as 'Contaminated' as WRC holds a Detailed Site Investigation including a lead and Bezo(a)pyrene equivalent (BAP eq) contour maps completed by OPUS which documents the site as being contaminated. In summary the report identified lead concentrations across the site above the NES lead Soil Guideline value for an industrial landuse scenario (the intended use of the site). The lead contour map identified some of the highest concentrations (above the NES lead SGV of 3,300 ppm) at the site boundary. The BAP contour map documented concentrations below NES Rural Residential SGV at the northern boundary.

4.3 Mr. Murray Allen, Site Owner

- 4.3.1 Mr. Murray Allen brought the Colliery in 2018 and the farm site in 1987. Mr. Allen stated that he has lived in this area for most of his adult life and he is now 80. Mr. Allen stated that his son Greg has been the farm manager since they purchased the site in 1987.
- 4.3.2 Mr. Allen stated that they brought the Colliery from Solid Energy New Zealand (SENZ) with a Management Plan documenting that the site had been rehabilitated. Mr. Allen also stated that this Plan had been signed off by the Waikato Regional Council.
- 4.3.3 Mr. Allen stated that the site was slowly being developed into a lake with associated facilities. As part of the work they had removed all concrete foundations from the pit floor and stored it on the old workshop and office accommodation concrete foundations. The concrete is going to be reused in future developments such as roads, farm accessways and foundations. This area will be used as a native plant nursey until flooded by the lake in the next ten years, with the seedlings planted around the site. The existing asphalt driveway down to the pit and the car park at the top will become the accessway and carpark for the lake. The flat grassed land at the top of the pit in the southeast will be used as the main area for accommodation, education and café etc. The land on which the railway sidings were located will be used as the maintenance workshop and yard and will be screened from the adjacent facilities with native trees. At this stage no earthworks will occur in this area.
- 4.3.5 Mr. Allen stated that quarries on the farm site were clay quarries and to his knowledge no fuel was stored at the site.

- 4.3.6 Mr. Allen stated that even though waste at the village was more than likely collected by the council a small amount of non-hazardous waste had been dumped in the stream as they removed approximately a trailer load of when they purchased the site.

4.4 **Mr. Greg Allen, Colliery Site Manager and Farm Manager**

- 4.4.1 Mr. Allen stated that at the time of purchase in 1987 no chemical storage, landfills or sheep dips were noted on the farm. To his knowledge superphosphate was not applied on a regular basis as the farm is only marginal pastoral at the best.
- 4.4.2 Mr. Allen stated that they have not landfilled any waste at the farm site as the dump and later transfer station is located only minutes away. No hazardous substances have been stored or used at the farm site apart from Roundup and no dipping has occurred. Superphosphate has not been applied as it is not worth the effort as the farm is only marginal pastoral.
- 4.4.3 Mr. Allen stated that they have planted large areas of the site in pine and more recently in native trees predominantly around the gully systems and wetland area.
- 4.4.4 Mr. Allen stated that the concrete circular structure behind the village was a water reservoir for the village.
- 4.4.5 Mr. Allen stated that the railway line that entered the Colliery in the south and up to the concrete pad in the centre was removed by SENZ as part of the site rehabilitation work. The ballast beneath the railway line has since been used as road cover in the northeast of the site.

4.5 **Mr. Hank Ollington, East Mine Onsite Environmental Officer**

- 4.5.1 Mr. Ollington stated that he worked at the mine from 1987 till 1999 as Electrical Supervisor but also held the role of Onsite Environmental Officer.
- 4.5.2 Mr. Ollington stated that SENZ were extremely aware of their environmental obligations and as such the workshop and refuelling facilities were extremely well run. During his time no major spills occurred and no waste was buried or burnt at the site. All waste was taken away by waste contractors. Mr. Ollington stated that no refuelling or major vehicle repairs occurred within the pit. In fact no hazardous activities occurred within the pit.
- 4.5.3 Mr. Ollington stated that he had spent his entire working life in the mining industry including at other open cast mines and whilst he could not comment specifically on the Kimihia operation he would be surprised if vehicles would have been refuelled or maintained in the pit as this practice did not occur at other mines he worked in. The waste from the workshops and village probably was buried with the overburden as this was common practice.

4.6 Mr. John Watkin, East Mine Diesel Mechanic

- 4.6.1 Mr. Watkin stated that he worked as a diesel mechanic in the east mine workshop from approximately 1980 till 2005. During that time the house keeping at the workshop was very good. No major spills occurred and the concrete was kept in a very good condition. All hazardous substances were stored in drums in a bunded concrete area by the refuelling facility. Waste oil was collected and piped into above ground separator tanks which, were located on outside on northern wall of the workshop. No waste was buried or burnt at the site.
- 4.6.2 Mr. Watkin stated that the refuelling facility comprised an aboveground steel tank stored in a bunded concrete container and a bowser located on an adjacent concrete pad. Mr. Watkin does not recall any major spills occurring.
- 4.6.3 Mr. Watkin stated that the old Kimihia Mine workshops on the rim had long gone when he started. No evidence of them having ever been present. Mr. Watkin doubted that the workshops would have had concrete floors.

4.7 Mr. Alan Monigatti, North Island Environmental Manager Bathurst

- 4.7.1 Mr. Monigatti was the SENZ Environmental Manager for the Huntly East Mine. Attempts to contact Mr. Monigatti was made on several occasion however, he did not reply. Note one of the email requests was for the release of a CSI 2012 Benchmarking Report of the Huntly East Mine Refuelling Facility.

4.8 Solid Energy New Zealand, Management Plan Huntly East Mine, 2018

- 4.8.1 A summary of the plan is presented below. A full copy of the plan is available upon request.
- 4.8.2 **Purpose**
- 4.8.2.1 Provide the future landowner with information about the coal mining operation that took place at the site, the potential hazards associated with mining activities that may remain on the site and recommendations for managing the risk.
- 4.8.3 **Background**
- 4.8.3.1 Huntly East Mine was an underground coal mine which commenced operation in 1978 and was owned and operated by SENZ.
- 4.8.3.2 The mine produced coal from 1979 to 2015.
- 4.8.4 **Mine Closure**
- 4.8.4.1 A closure plan was developed to ensure an appropriate sequence for closure that would meet all applicable safety health and environmental regulations and the site would be left in good order for future utilisation by new owners.

- 4.8.4.2 Based on the concept that the old Kimihia Opencast area in which the majority of surface structures and the mine portals were situated would be allowed to flood resulting in a lake.
- 4.8.4.3 The main hazard is spontaneous combustion. However, this risk is completely removed when the mine workings are flooded.

4.8.5 Handover to New Owners

- 4.8.5.1 Most buildings, the processing plant and residual coal stockpiles have been removed. A general tidy up has been carried out with some minor re-contouring of surfaces to remove steep banks or holes.

4.8.6 Management Plan

- 4.8.6.1 Recommend that the entire site is periodically inspected to ensure site security is maintained and hazards are identified and addressed promptly.
- 4.8.6.2 Recommend bi-monthly gas sampling from the three mine portals until the portals are no longer accessible due to the rising lake level.

4.9 The First 100 Years, Kimihia School, 1897 to 1977

- 4.9.1 This booklet was compiled by A D MacDonald and published by The Kimihia Primary School. The following are extracts which, are considered to be relevant to this investigation.
 - 4.9.1.1 In 1944 the New Zealand State Coal Mines took over the mine and decided to close the underground workings and use opencast methods. Downer and Co were contracted to work the mine.
 - 4.9.1.2 The dredge will suck up more than 4.5 million cubic yards of overburden and drain 60 acres of ponded water to let earthmovers strip overburden from the coal seam. The dredge has no rudder or propellers and moves by using its winches which are attached to cables moored on the floor.
 - 4.9.1.3 In 1972 Winstone's took over the now vacant school paddock and the surrounding farm and recovered the underlying clay for its brickwork operations in Huntly.
 - 4.9.1.4 In 1976 coal extraction from the Kimihia Opencast Coal Mine ceased. Construction of mine buildings, coal handling and storage facilities, road and rail access and other headworks commenced in 1977.

4.10 **Tonkin and Taylor, Site Appraisal and Preliminary Assessment Report, 2019**

4.10.1 A summary of what is considered to be relevant to this investigation is presented below.

4.10.2 **Purpose**

4.10.2.1 Provide the landowner with resource engineering and science advice related to the new Kimihia Lake and surrounds. The report is based solely on a review of literature undertaken to date.

4.10.3 **Water Quality**

4.10.3.1 The key object is that the lake water meets recreational standards.

4.10.3.2 The only chemical monitoring of lake water to date was undertaken by WRC staff in November 2018. Results document elevated boron concentrations above Australia and New Zealand Environment and Conservation Council Fresh Water (ANZECC) environmental guideline 95 trigger level but were below ANZECC guidelines for recreational water use. However, the report concluded that the results are of limited use in predicting the water quality going forward considering the volume yet to fill. In addition, the client advised that the areas responsible for leaching boron have been capped and compacted with clay.

4.10.3.3 The report also stated that the Kimihia Wetland is elevated with boron concentrations.

4.10.3.4 There is a stream flowing from the catchment to the south which, originally flowed into the lake but was diverted during mine construction. The stream flows around the south of the site, along East Mine Road towards the Waikato River.

4.11 **Phoenix Consulting Engineers, Soil and Site Assessment**

4.11.1 Phoenix Consulting Engineers undertook a soil investigation on the southern part of 191 Kimihia Road which, is not part of this PSI. In total nine test holes were drilled to two metres depths with the soil determined to be silt and clays.

4.12 **Envirochem Evaluation Ltd, Preliminary Site Investigation, 2016**

4.12.1 Envirochem Evaluation Ltd undertook a PSI on the southern part of 191 Kimihia Road which, is not part of this PSI. The site history was considered to be pastoral with a historical dwelling present. The conceptual site model determined that cadmium as a result of superphosphate application, arsenic from wood treatment and dipping and lead from paint could pose a risk to future occupants. As a result, three composite soil samples comprising three cores were collected across the proposed subdivision site and three composite samples comprising three cores were collected from the area of the historical dwelling and analysed for metals. No elevations were detected above NES rural residential Soil Contaminant Standards.

- 4.12.2 Note it is considered that this PSI was not completed in accordance with MfE Contaminated Land Management Guidelines. A historical residential dwelling is not HAIL and therefore sampling should not have been undertaken at this location. Samples of the site were not completed in accordance with MfE Contaminated Land Management Guideline 5 or the laboratory result of the composite sample multiplied by the number of samples collected as per Guideline 5. However, if the cadmium concentrations which, is considered to be the only potential contaminant of concern at the site, are taken as representative samples and not composites all of the concentrations are below the NES rural residential cadmium Soil Contaminant Standard.

5.0 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

5.1 Geology

- 5.1.1 The Land Resource Information System (LRIS) Portal documents the surface soil at the site as clay or a silt loam.
- 5.1.2 Phoenix Consulting Engineers, soil investigation of the southern part of 191 Kimihia documented silt and clays at the site down to at least two metres.

5.2 Hydrogeology

- 5.2.1 Information from the Waikato Regional Council indicates a probable groundwater system beneath the site at about 10 metres however, it is possible that groundwater may be present at 4 m. This information is based on the bores located within 500 metres of the site as presented in Table 5: Bore Information.

Table 5: Bore Information.

NUMBER	NAME	DEPTH	SCREEN	CASING DEPTH
72_6616	NZ Transport Agency BH11	25		
72_10358	State Highway 1 and Evans Road	14.5		3.5
72_6615	NZ Transport Agency BH9	25	19	
72_7165	Waikato Expressway BH55	23	17	
72_6611	NZ Transport Agency BH7	15.5	10	10
72_7619	Expressway Huntly Section	15	12	

5.3 Hydrology

- 5.3.1 Surface water is present at the site in a number of locations. The new Kimihia Lake is located in the historical opencast mine pit. A pond is present in the north in an old opencast pit. A stream is located in the east which flows north towards the lake upon where it is diverted to the west, south of East Mine Road towards the Waikato River. A wetland is located along the western boundary of the site and in the west immediately south of East Mine Road which, flows into the above stream. A number of streams and ephemeral streams are located within hollows and gullies on the farmland which, are considered to flow into the above stream with the exception of the ephemeral stream in the northeast which, is considered to flow to the north of the site. Also present are two ponds on the farmland in the centre.
- 5.3.2 The Tonkin and Taylor 2019 assessment determined that water quality of the lake met recreation values. The water quality of the wetland was considered to be similar to surround wetlands with boron elevated. The water quality of the steam was not assessed.

6.0 SITE EVALUATION

6.1 Walkover

6.1.1 A site walkover was undertaken by Guy Sowry on 26 August 2020. At the time of the walkover the day was overcast with rain. A selection of the photos taken on this day are provided for in Appendix E.

6.1.2 Colliery Observations

6.1.2.1 The majority of the concrete floor of the SENZ Workshop was covered with broken up concrete. What was visible was marginally cracked and damaged with minimal staining observed. No evidence of the refuelling facility was visible. There was no physical evidence of the older Kimihia Open Pit workshops or potential refuelling facilities on the flat land in the central east.

6.1.2.2 There was no obvious evidence that the flat land in the central east had been used to store coal. Only small bits of coal were present on the ground. The concrete pad with railway line for the historical coal loading area was marginally cracked and damaged with no significant staining noted. This area was being used as a service area and storage area for the development of the site. No hazardous substances were noted.

6.1.2.4 No odour and no vegetation stress was noted at this site.

6.1.2 Tawa Site Observations

6.1.2.1. No waste/rubbish was noted in any of the drains or wetlands at this site.

6.1.2.2 No straining was noted on any of the villages structural remains including the circular object, no asbestos like material was noted on any of these remains and no hummocky land was present to suggest landfilling.

6.1.2.3 No asbestos fibres were observed on the farm tracks that had received ballast from the railway line. However, it should be noted that these would be difficult to see. Only small amounts of coal were observed on the rehabilitated land further to the north.

6.1.2.4 No odour and no vegetation stress was noted.

6.1.3 Kimihia East and Kimihia West Observations

6.1.3.1 No waste/rubbish was noted in any of the drains, gullies or wetlands at this site.

6.1.3.2 No historical structures including dipping foundations were noted and no hummocky land was present to suggest landfilling.

6.1.3.2 No odour and no vegetation stress was noted.

6.2 History

6.2.1 Aerial Photos

- 6.2.1.1 An aerial photo from 1941 shows a lake in the north, north west and central west with the remainder of the site pastoral land with dwellings and other structures present.
- 6.2.1.2 Aerial photos from 1963 to 1973 show an open cast mine in the north, northwest and central west with buildings on the rim of the pit in the southeast and a railway line in the south and southeast. The remainder of the site is pastoral land punctuated with: vegetation; wetlands or vegetated gullies; excavations in the north and central east which, increase and decrease in size; the village with a circular object; and dwellings and other structures in various locations which, come and go.
- 6.2.1.2 Aerial photos from 1979 to 2016 show a mine pit with various levels of water present in the north and west with buildings in the pit in the southeast including a conveyor and associated hopper with a railway line and yard. The remainder of the site is similar to the above however: by 1995 only three dwellings remain in the village; the building's in the central south straddling Tawa Road have gone by 1967; all buildings in the south have gone by 1979; and all excavations have gone by 1995.

6.2.2 Aerial Oblique Photos

- 6.2.2.1 Oblique aerial photos from 1954 to 1970 document: an open cast mine with buildings on the rim including at least two probable workshops, a refuelling facility and railway line with associated hopper; the residential village; a school and residential dwellings straddling Tawa Road; and pastoral land punctuated with vegetation, wetlands or vegetated gullies and excavations.

6.2.3 Photos and Images

- 6.2.3.1 Photos and images from *The First 100 Years, Kimihia School, 1987 to 1997* document: a 1895 photo of Taupiri Reserve Mine or Hollands Mines with associated railway line and yard; a memory map from a local resident documenting the location of the Taupiri/Hollands Mine; various photos documenting workshops, the railway line yard, conveyor and hopper on the rim of the pit; various images and photos of Kimihia School and associated dwellings straddling Tawa Road and a 1991 photo documenting a clay quarry behind the old location of Kimihia School.

6.2.6 Waikato Regional Council

- 6.2.6.1 The site is listed on WRC SLUR as: Solid Energy East Coal Mine; Verified HAIL – no sampling; HAIL E7 mining and HAIL A17 Storage tanks for fuel and chemicals. No contaminated land reports are held.

6.2.6.2 There is no current permits or consents issued to the site and no record of pollution incidents at the site.

6.2.6.3 An immediate adjacent site to the northeast is listed on WRC SLUR as: Huntly Gun Club; Contaminated; HAIL G2 – Gun club that used lead munitions outdoor'. A DSI documents concentrations of lead above the NES industrial SGV immediately adjacent to the site.

6.2.7 **Mr. Murray Allen, Current Site Owner**

6.2.7.1 The Colliery was purchased in 2018 and the farm was purchased in 1987. Mr. Allen stated that a SENZ Site Management Plan documented that the site had been rehabilitated and that it had been approved by WRC.

6.2.7.2 Mr. Allen stated that the excavation sites on the farm were clay quarries with no hazardous substances present.

6.2.8 **Mr. Greg Allen, Colliery Site Manager and Farm Manager**

6.2.8.1 Mr. Allen stated that sheep dipping, chemical storage or landfill has not occurred at the farm since 1987 and there was no evidence to suggest that these activities ever occurred. No superphosphate has been applied since 1987.

6.2.8.2 Mr. Allen stated that no chemicals have been stored at the Mine Site since they took ownership.

6.2.8.3 Mr. Allen stated that ballast from the historical railway line has been used on Colliery Site accessways in the north.

6.2.9 **Mr. Hank Ollington, East Mine Onsite Environmental Officer**

6.2.9.1 Mr. Ollington stated he worked at the site from 1987 till 1999 and during that time the workshop and refuelling facilities were extremely well run and no major spills occurred. No waste was buried or burnt on the site.

6.2.10 **Mr. John Watkin, East Mine Mechanic**

6.2.10.1 Mr. Watkin stated he worked at the site from 1980 till 2005 and during that time the housekeeping at the workshop were very good. No major spills occurred. All chemicals were stored in a concrete bunded area next to the refuelling facility except waste oil which, was stored in above ground steel tanks. The refuelling facility comprised one fully contained above ground tank in a concrete bunded area and a bowser on a concrete bunded pad. No major spills occurred.

6.2.11 **Solid Energy New Zealand Management Plan**

6.2.11.1 Operating below ground coal mine from 1979 to 2015. Most buildings, the processing plant and residual coal stockpiles have been removed. The site has been recontoured.

6.2.12 The First 100 Years, Kimihia School, 1987 to 1977

- 6.2.12.1 A memory map documenting Taupiri/Hollands mine till at least 1945.
- 6.2.12.1 The onsite dredge was powered by winches which were attached to cables moored on the floor of the lake
- 6.2.12.3 in 1972 Winstone's took over the clay quarries.

6.2.13 History Summary

- 6.2.11.1 A summary of the above information is presented in Table 6: History Summary.

Table 6: History Summary

SITE	ACTIVITY	APPROX DATES	EVIDENCE
Colliery	Pastoral	Pre 1941 – 1950's	Aerial photos. Anecdotal.
	Taupiri/Hollands underground mine, colliery and railway line/yard	1895 - 1945	Photo. Anecdotal – memory map.
	Kimihia open cast mine and colliery with motor vehicle workshops and probable fuel dispensing	1950's - 1974	Aerial photos. Oblique photos. Literature. Anecdotal. SENZ Management Plan.
	SENZ Underground mine and colliery with motor vehicle workshops and probable fuel dispensing.	1978 -2015	Aerial photos. Oblique photos. Anecdotal. SENZ Management Plan. Unsighted CSI Report.
Tawa Road	Underground mine – Taupiri/Hollands	1895 - 1945	Photo. Aerial photos. Anecdotal.
	Part of colliery – hopper, railway and coal yard	1978 - 2015	Aerial and obliques photos. Anecdotal.
	Pastoral land	Pre 1941 – to present	Aerial and obliques photos. Anecdotal. Site walkover.
Kimihia East and West	Pastoral land	Pre 1941 – to present	Aerial and oblique photos. Anecdotal. Site walkover.
	Clay quarries	1963 - 1995	Aerial and oblique photos. Anecdotal.

6.3 Potential Ground Contaminants

Coal Mine and Colliery

- 6.3.1. The site has been associated with the mining industry from circa 1854 to 2018.
- 6.3.2 The MfE considers the following hazardous substances to be typically associated with mining industries: arsenic; mercury; cyanide, sulphides, metals and hydrocarbons associated with fuel storage. However, coal mines do not use or have compounds of or by products of cyanides and sulphides.
- 6.3.3 The HAIL activity of coal or coke yards has also occurred at this site. The MfE has identified the following hazardous substances that are typically associated with coal or coke yards: hydrocarbons (practically polycyclic aromatic hydrocarbons) boron and arsenic.

Motor Vehicle Workshops

- 6.3.4 Motor vehicle workshops have been present at the site from circa 1950 to 2015. It is also possible that a workshop may have been present on site associated with the Taupiri/Hollands mine between the years 1895 to 1945.
- 6.3.5 Hydrocarbons and metals associated with waste oil are considered to be the typical hazardous substances found at motor vehicle workshops.

Railway Line and Yard

- 6.3.6 A railway line has been present at the site since at least the 1854.
- 6.3.7 Railway lines and yards where constant braking has occurred may have asbestos fibres present as a result of trains and associated carriages having asbestos brakes.
- 6.3.8 A site walkover identified that the railway line has been removed except in the yard beneath the historical hopper. This yard is covered with a concrete pad . Anecdotal information states that the line was removed by SENZ. However, anecdotal information also states that the ballast beneath the railway line has been used for onsite roading.

Landfilling

- 6.3.9 Anecdotal evidence suggest that domestic waste from the village was either collected by the council or disposed off with mine mullock. If was disposed of with mullock it is not considered an issue as domestic waste does not contain significant amounts of hazardous material.

Pastoral Land

6.3.10 Pastoral land prior since at least 1942 to current day. Whilst pastoral farming is not considered to be HAIL the farming activities of livestock dipping, landfilling (including offal pits), chemical storage, fuel storage, persistent pesticide application (DDT and Dieldrin to control grass grub) and the intentional or accidental release of a hazardous substance, are. A Waikato Regional Council Report titled *Historic Pesticides Residues in Horticultural and Grazing Soils in the Waikato Region*, Sally Gaw, 2003, documents the accidental release of a hazardous substance from farming practices to be: cadmium in superphosphate; and zinc in facial eczema remedies. Each of the above potential HAIL are presented below in comparison to the most sensitive intended landuse scenario of rural residential.

6.3.11 Livestock Dipping, Farm Landfilling, Chemical and Fuel Storage

6.3.11.1 Aerial photos clearly document that the site was not occupied by structures associated with livestock dipping. Anecdotal information documents that livestock dipping has not occurred since 1987 and no evidence to suggest it ever occurred. A site walkover documented no evidence of structures associated with livestock dipping.

6.3.11.2 Aerial photos from 1942 to 1995 document structures at the site. These structures may have been used to store chemicals or fuel. Anecdotal information documents that no chemicals or fuel other than Roundup have been used or stored at the farm site since 1987, other, and no evidence to suggest it ever occurred. No evidence of chemical storage i.e. soil staining or odour noted during site walkover. As it is over 30 years since chemicals or fuel may have been stored at the site it is considered that they will have degraded to be well below NES rural residential values.

6.3.11.3 Anecdotal information documents that farm landfilling has not occurred at the farm site since 1987 and no evidence to suggest it occurred prior. No evidence of landfilling i.e. hummocky land noted during site walkover.

6.3.11.4 Therefore, potential ground contaminants from livestock dipping, and farm landfilling has not occurred at the site and chemical storage may have occurred but due to the time since it may have occurred is not considered to be an issue at the site.

6.3.12 Persistent Pesticide Application

6.3.12.1 It is not known if DDT and any other organochlorines were applied to the site historically. Glyphosate has been used however, it is not considered to be a persistent pesticide as its half-life is approximately 96 days.

6.3.12.2 The WRC Report titled *Historic Pesticides Residues in Horticultural and Grazing Soils in the Waikato Region*, Sally Gaw, 2003, documents a DDT high of 0.75 mg/kg for pastoral land. When this value is compared to the NES rural residential landuse no produce soil guideline value (SGV) for DDT of 120 mg/kg, DDT and other organochlorines are not considered to be potential ground contaminants at the site.

6.3.13 Accidental Release of Hazardous Substances - Cadmium

6.3.13.1 Anecdotal information documents that Superphosphate was applied on the odd occasion historically but it has not been applied since 1987 as the land is only marginal pastoral and therefore it is not worth the effort.

6.3.13.2 Therefore, the accidental release of cadmium from superphosphate application is not considered to be a potential ground contaminant at the site.

6.3.14 Accidental Release of Hazardous Substances - Zinc

6.3.14.1 Facial eczema remedies may have been given to stock that grazed the site. Therefore, zinc from facial eczema remedies such as boluses or fortified feed, may have been passively released by stock onto the land.

6.3.14.2 The WRC Report titled *Historic Pesticides Residues in Horticultural and Grazing Soils in the Waikato Region*, Sally Gaw, 2003, documents a zinc high of 58 mg/kg for pastoral land. When this value is compared to a NES approved landuse scenario SGV for zinc of 200 mg/kg, the accidental release of zinc is not considered to be a potential contaminant at the site.

Clay Quarries

6.3.15 Aerial photos and anecdotal information documents that at least two clay quarries have been present on the farm site since 1963 to 1995. Whilst a clay quarry is not considered to be HAIL the subsequent activity of fuel storage, is.

Fuel Storage

6.3.15.1 Aerial photos from 1942 to 1995 document structures at the southernmost quarry that may have been used to store fuel. Anecdotal information documents that fuel was not sorted at the quarries. No evidence of chemical storage i.e. soil staining noted during site walkover. As it is over 30 years since fuel may have been stored and used at the quarries it is considered that PAH's will have degraded to be well below NES rural residential values.

6.3.15.2 Therefore, potential ground contaminants from fuel storage is not considered to be an issue at the quarries.

Adjacent HAIL

- 6.3.16 A gun club occupied the site immediately adjacent to the east of the Colliery and north of the Tawa Site.

Gun Club

- 6.3.16.1 The site is listed on WRC SLUR as Contaminated as an OPUS DSI documented lead elevations above the NES lead industrial landuse SGV of 3,300 ppm, as this is the intended use of the site. A lead contour map documented the highest concentrations of lead immediately adjacent to the Colliery boundary. However, concentrations immediately adjacent to the Tawa Road boundary were below the NES industrial lead SGV but above the NES recreational lead SGV of 880 ppm.
- 6.3.16.2 Therefore, lead from a gun club is considered to be a potential contaminant at the site.

6.3.17 Conclusion

- 6.3.17.1 Based on the above information the potential likely contaminants at the site are considered to be:
- Polycyclic aromatic hydrocarbons (PAH's) – coal mine, coal yard, fuel storage and dispensing, and motor vehicle workshops;
 - boron and arsenic - coal yard and coal mine;
 - metals - motor vehicle workshops;
 - asbestos – railway line and yard; and
 - lead - gun club.

6.4 HAIL Assessment

- 6.4.1 It is considered that HAIL E5 - coal yard; has occurred at 239 East Mine Road and 96 Tawa Road.
- 6.4.2 It is considered that HAIL E7 – mining industries; has occurred at 239 East Mine Road and 96 Tawa Road.
- 6.4.3 It is considered that HAIL F.4 - motor vehicle workshop; has occurred at 239 East Mine Road
- 6.4.4 It is considered that HAIL F.7 - service station; has occurred at 239 East Mine Road.
- 6.4.5 It is considered that HAIL E1 – asbestos disposal has occurred at 239 East Mine Road and 96 Tawa Road.
- 6.4.6 It is considered that HAIL H – migration of lead from an adjacent gun club has more than likely occurred at 239 East Mine Road and 96 Tawa Road.

6.5 Conceptual Site Model

6.5.1 Conceptual Site Models (CSM) for each HAIL for the proposed redevelopment into a recreational facility is presented in Tables 7 - 12: Conceptual Site Models.

Table 7: HAIL E5 – Coal Yard Conceptual Site Model

ELEMENTS	CONTAMINANTS	
	PAH's	Boron and Arsenic
HAZARD	Contact during development. Potentially mobilised during development.	
	PAH's are considered to be marginally volatile.	
PATHWAY	Air	During development. Soil is clay. PAH's may discharge to air. However, for this to occur they need to be present at high concentrations, which is considered to be highly unlikely.
	Stormwater	Soil will be exposed during development. Stormwater discharge directly to the soil on site however, clay soil will limit lateral migration into onsite drains and lake.
	Groundwater	A shallow groundwater system maybe present. The clay soil will limit vertical migration of contaminants to depth.
	Contact	Direct during site works. Direct contact is highly unlikely during occupation as site is to be covered with buildings, hardstand and vegetation. The soil at this is not considered to be of local or national importance therefore ecological contact is considered to be low.
RECEPTOR	Human Health	On site - development and maintenance workers. Off site - none.
	Ecological	On site – aquatic organisms in groundwater and surface waters. Off site - none.
	Built	None.
RISK	Human Health	MEDIUM
	Ecological	LOW
	Built	LOW

6.5.2 The Coal Yard CSM documents a **medium** risk to human health - development workers or future maintenance workers in this historical area as they may come into direct contact with PAH's, boron and arsenic in the soil during development.

- 6.5.3 The Coal Yard CSM documents a **low** risk to the environment as the soil is not considered to be of local or national importance. The clay soil will prevent the lateral and vertical migration of any potential contaminants into adjacent watercourses.

Table 8: HAIL E7 – Mining Conceptual Site Model

ELEMENTS		CONTAMINANTS	
		PAH's	boron and arsenic
HAZARD		The base of the historical pit is covered by water and the walls will be covered with water. Water quality monitoring by WRC in 2018 documented concentrations below ANZECC recreational water use.	
PATHWAY	Air	Surface exposed during infilling. PAH's are considered to be marginally volatile however, for this to occur they need to be present at high concentrations, which is considered to be highly unlikely.	
	Stormwater	None.	
	Groundwater	At depth beneath the lake and therefore, more than likely confined.	
	Contact	Unlikely as development has already occurred in historical pit areas. Water during occupation.	
RECEPTOR	Human Health	On site - none. Off site - none.	
	Ecological	On site – aquatic organisms in lake. Off site - none.	
	Built	None.	
RISK	Human Health	LOW	
	Ecological		
	Built		

- 6.5.4 The mining CSM documents a **low** risk to human health as it is highly unlikely that site workers and future occupants will come into contact with PAH's, boron and arsenic in the historical mine pit due to the pit being currently covered with water and continued infilling to form a lake.
- 6.5.5 The mining CSM documents a **low** risk to the environment as water quality monitoring by WRC in 2018 documented concentrations below ANZECC recreational water use.

Table 9: HAIL F4 – Motor Vehicle Workshops Site Model

ELEMENTS		CONTAMINANTS	
		PAH's	Metals
HAZARD		Workshop pad in pit to be used as a plant nursery until covered with lake water. Workshops locations on the rim to be developed into commercial, accommodation and education facilities.	
		PAH's are considered to be marginally volatile	
	Air	Surface exposed during development. PAH's may discharge into the air however, for this to occur they need to be present at high concentrations, which is considered to be highly unlikely.	
	Stormwater	Soil will be exposed during development. Stormwater discharge directly to the soil on site however, clay soil will limit lateral migration into onsite drains and lake.	
PATHWAY	Groundwater	A shallow groundwater system maybe present. The clay soil will limit vertical migration of contaminants to depth.	
	Contact	Direct during site works, nursery occupation and future maintenance. Buildings, hardstand vegetation and clay to cover rim workshops.	
	Human Health	On site – development and maintenance workers. Off site - none.	
RECEPTOR	Ecological	On site – aquatic organisms in lake. Off site - none.	
	Built	None.	
	Human Health	MEDIUM	
Ecological			
Built	LOW		

6.5.7 The Motor Vehicle Workshop CSM documents a **medium** risk to human health as development workers may come into contact PAH's and metals in the historical workshop locations during development. The risk to future occupants is considered **low** as the historical workshop in the pit will be covered with a nursery and then with water and the historical workshops on the pit will be covered with either: hard stand; buildings; a clay soil; and vegetation.

- 6.5.8 The Motor Vehicle Workshop CSM documents a **medium** risk to the environment as potential contaminants from the workshop in the pit may discharge into the lake when this area is inundated. A **low** risk to the environment from historical workshops on the pit rim as the clay soil will prevent the lateral and vertical migration of any potential contaminants and the soil on site is not considered to be of local or national importance.

Table 10: HAIL F7 – Service Station Conceptual Site Model

ELEMENTS		CONTAMINANTS
HAZARD		PAH
		No development to occur at this location within pit. To be covered by lake however, contamination in this area considered to be low based on site observations and anecdotal information.
PATHWAY	Air	Soil exposed but undisturbed until covered with water. PAH's are volatile however, for this to occur they need to be present at high concentrations, which is considered to be highly unlikely.
	Stormwater	Soil will be exposed but undisturbed until covered with water.
	Groundwater	At depth beneath the pit and therefore, more than likely confined.
	Contact	None. The soil is not considered to be of local or national importance. Lake water.
RECEPTOR	Human Health	On site – none. Off site - none.
	Ecological	On site – aquatic organisms in lake. Off site - none.
	Built	None.
RISK	Human Health	LOW
	Ecological	
	Built	

- 6.5.7 The Service Station CSM documents a **low** risk to human health and the environment, as there are no identified potential contaminants/hazards. Without a hazard source a pathway link to potential receptors is unable to be established.

Table 11: HAIL F8 – Asbestos Conceptual Site Model

ELEMENTS		CONTAMINANTS
HAZARD		Asbestos
		Fibres potentially beneath and beside current railway line and yard. Fibres potentially located in old ballast used as roading material in the north of the site.
PATHWAY	Air	Concrete pad and surrounds to remain untouched and covered. Roading material to remain exposed.
	Stormwater	Stormwater discharge directly to the soil on site however, clay soil will limit lateral migration into onsite drains and lake.
	Groundwater	A shallow groundwater system maybe present. The clay soil will limit vertical migration to depth.
	Contact	Unlikely as development has already occurred in these areas. The soil is not considered to be of local or national importance.
RECEPTOR	Human Health	On site – none. Off site - none.
	Ecological	On site – aquatic organisms in lake. Off site - none.
	Built	None.
RISK	Human Health	LOW
	Ecological	
	Built	

6.5.8 The CSM documents a **low** risk to human health as potential asbestos fibres are in locations that are currently covered and are not to be disturbed during development or in an area that will only be used by site workers infrequently thereby limiting exposure by reducing airborne emissions.

6.5.9 The CSM documents a **low** risk to the environment as potential asbestos fibres are in locations that are currently covered or in an area of the site that will be rarely disturbed thereby reducing airborne emissions.

Table 12: HAIL H – Adjacent Gun Club Conceptual Site Model

ELEMENTS		CONTAMINANTS
		Lead
HAZARD		Lead shot more than likely located in the pit in the north and future lake margin in this area.
PATHWAY	Air	Exposed until filled by water or vegetated.
	Stormwater	Stormwater discharge directly to the soil on site however, clay soil will limit lateral migration into onsite lake.
	Groundwater	At depth beneath the lake and therefore, more than likely confined.
	Contact	Unlikely as development has already occurred in this area. Water during occupation. The soil is not considered to be of local or national importance.
RECEPTOR	Human Health	On site – none. Off site - none.
	Ecological	On site – aquatic organisms in lake. Off site - none.
	Built	None.
RISK	Human Health	LOW
	Ecological	MEDIUM
	Built	LOW

6.5.10 The CSM documents a **low** risk to human health as potential lead contamination is in an area location that has been developed including vegetated and will be either inundated by water thereby limiting contact.

6.5.11 The CSM documents a **medium** risk to the environment as potential lead contaminants from the adjacent gun club will discharge into the lake when this area is inundated.

6.6 Risk Assessment

6.6.1 The **medium** risk to **human health** associated with potential contaminants from the coal yard and historical workshops and **medium** risk to the **environment** associated with potential contaminants from the historical pit workshop and gun club is discussed further in section 7.0 Contamination Assessment.

7.0 CONTAMINATION ASSESSMENT

7.1 Risk Assessment Defined

7.1.1 A 'contaminated land' risk assessment is the process of estimating the potential impact of a hazard substance on a specified receptor and involves the following four steps:

- Hazard source – identification of the contaminants of concern;
- Potential Receptors – define a receptor which may or may be has been exposed to the hazard source. Receptors are usually humans but it may also include other organisms such as livestock and plants or inert objects such as utilities or buildings;
- Exposure Pathways – for a hazard source to pose a risk to a receptor a pathway of contact must exists to the hazard source. An exposed pathway consists of a transport mechanism or migratory pathway, a point of exposure and an exposure route. Human exposure routes are ingestion, consumption, dermal contact and inhalation; and
- Risk Characterisation – estimates the risk to the receptor using the classifications of low, medium or high. Low refers to no risk. Medium refers to tolerable or acceptable risk. High refers to an unacceptable risk.

7.2 Hazard Source

7.2.1 Coal was stored and processed on the flat land east of the coal pit at 239 East Mine Road and beneath the conveyor and hopper at 96 Tawa Road. The CSM for this activity identified a medium risk to development and maintenance workers.

7.2.2 A motor vehicle workshop was located on the eastern wall of the pit at 239 East Mine Road and at least three motor vehicle workshops were located on the flat land east of the pit at 239 East Mine Road. The CSM for this HAIL activity identified a medium risk to development and maintenance workers and a medium risk to the environment from the workshop in the pit.

7.2.3 An adjacent gun club has more than likely discharged lead shot onto the land in the northeast of 239 East Mine Road and north of 96 Tawa Road. The CSM for this activity identified a medium risk to the environment.

7.2.4 Therefore, the hazard sources on site are considered to be:

- PAH's - coal yard and motor vehicle workshops;
- boron and arsenic - coal yard;
- metals - motor vehicle workshops; and
- lead - gun club.

7.3 Potential Receptors

- 7.3.1 The flat land east of the pit at 239 East Mine Road on which, the coal yard and historical workshops were located is to be developed into a community central hub comprising: a café and an education centre; short term accommodation comprising a hotel, dormitories and a camping ground.
- 7.3.2 The land on which, the historical workshop in the pit will be used as a plant nursery site until it is inundated by water.
- 7.3.2 The land on which, lead shot was discharged into has already been developed including vegetated and will eventual be inundated with water.
- 7.3.3 Therefore, the potential receptors are considered to be:
- development workers;
 - future maintenance workers; and
 - aquatic organisms.

7.4 Exposure Pathways

- 7.4.1 The exposure pathways for human health are ingestion, inhalation and absorption of potential contaminants.
- **Ingestion** is almost always the dominant exposure route typically accounting for more that 99% of any potential exposure from impacted soil. An adult is considered to ingest about 20 mg (0.02 g) of soil or dust a day from direct contact with the soil or dust, followed by transfer to the mouth or by eating food grown on the property.
 - **Inhalation** is most commonly associated with indoor industrial settings. Outdoors inhalation usually accounts for less than 1% of potential exposure for a person living or working on a site. For this to occur the site must be predominantly bare soil and have extremely high concentrations of vapour emitting contamination present.
 - **Dermal** absorption is considered to be a negligible exposure pathway for metal contaminants as they are not significantly absorbed through the skin.
- 7.4.2 Therefore, the primary human health exposure pathway is considered to be the indirect ingestion of contaminant laden soil or dust.

7.5 Risk Characterisation

7.5.1 Soil Assessment

- 7.5.1.1 The flat land east of the pit is currently unoccupied vacant land that has been rehabilitated by SENZ including the removal of coal. During the site walkover no coal storage was noted. This area was the location of historical workshop and based on the age of these workshop it is considered highly unlikely that they had concrete pads to limit the vertical migration of contaminants.
- 7.5.1.2 The concrete pad associated with the workshop in the pit is to remain on site and will be used at the floor of the plant nursery. The concrete pad appeared to be in a reasonable condition with minimal staining noted and minimal cracking and pitting. However, only a small portion of the pad was exposed as it was being used to stored concrete rubble. Concrete is considered to be porous and therefore, it is possible that hydrocarbons may have leached through the concrete or migrated through cracks into the soil beneath. Metals will bind to soil particles on the concrete floor and eventual via wind, sweeping, movement etc within a workshop will migrate into the cracks and therefore potentially migrate into the soil.
- 7.5.1.3 The land in the north of the site in which, lead shot has been discharged to, is predominantly vegetated sloping down to the floor of the pit and subsequent lake with a strip of bare land at the top which is a road.
- 7.5.1.4 Therefore the risk to the soil at these locations is considered **medium**.

7.5.2 Human Health - Development and Maintenance Workers

- 7.5.2.1 Arsenic concentrations typically found in NZ coal range from 0.5 to 10 ppm. Boron concentrations typically found in NZ coal range from 10 to 120 ppm. PAH's concentrations within NZ coal have not been determined. A CSI investigation of a rehabilitated mine site on Rotowaro Road documented PAH's concentrations of <0.04 and arsenic concentration between 9 – 11. When these concretions are compared to NES industrial (the closest landuse scenario for workers) SGVs for arsenic 70 ppm, boron >10,000 ppm and BAP eq 35 ppm, arsenic, boron and PAH's are not considered to be a risk from the coal yard.
- 7.5.2.2 The California Office of Environmental Health Assessment recommends that the half-life of PAH's should be set at 570 days. Therefore, it would take approximately 15 years for PAH's to have degraded to what is considered to be very low concentrations. Therefore, as the workshops on the flat land to the east of the pit were present over 45 years ago PAH's are not considered to be a risk from motor vehicle workshops in this location.

- 7.5.2.4 Metals are natural elements and therefore do not degrade. A CSI Investigation of the historical Downers Motor Vehicle Workshop on Rotowaro Road comprising the collection of 5 samples immediately adjacent to the workshop, documented the following metal concentration range: arsenic 3 – 6 ppm; chromium 6 -14 ppm; copper 19 - 43 ppm; lead 14 – 58 ppm; and mercury 0.10 – 0.25 ppm and zinc 71 - 83 ppm. When these levels are compared to NES industrial SGVs for: arsenic 70 ppm; chromium >10,000 ppm, copper >10,000 ppm; lead 3,300 ppm; and mercury 4,200 ppm, metals are not considered to be a risk from all of the historic motor vehicle workshops.
- 7.5.2.3 Therefore, the risk to development and maintenance workers at the site is considered **LOW**.

7.5.4 Environment – Aquatic Organisms

- 7.5.4.1 The pit workshop will be underwater in approximately 10 years. Therefore, based on the above half-life for PAH's it is considered that any PAH's that may have leached into the soil will have degraded to a relatively low concentration that should not pose a significant risk to aquatic organisms. When the highest metal concentrations from the CSI investigation of: arsenic 6 ppm; chromium 14 ppm; copper 43 ppm; lead 58 ppm; mercury 0.25 ppm and zinc 83 ppm are compared to Canadian Sediment Quality Guidelines (derived for the protection of aquatic species) metal values of: arsenic 17 ppm; chromium 90 ppm, copper 197 ppm; lead 91.3 ppm; mercury 0.48 ppm and zinc 315 ppm metals are not considered to be a risk to aquatic organisms.
- 7.5.4.2 The OPUS lead contour map indicates that lead shot will be present at the site in excess of 3,300 ppm. Concentration above this value exceeds the Canadian Environmental Quality Guidelines lead value of 70 ppm by a factor of 36 and therefore, are considered to pose a significant risk to aquatic organism. However, chemical monitoring of the lake by WRC in 2018 did not document any lead elevations. In addition, the Tonkin and Taylor report concluded that the results are of limited use in predicting the water quality going forward considering the volume yet to fill.
- 7.5.4.3 Therefore, the risk to aquatic organism at the site is considered to be **LOW**.

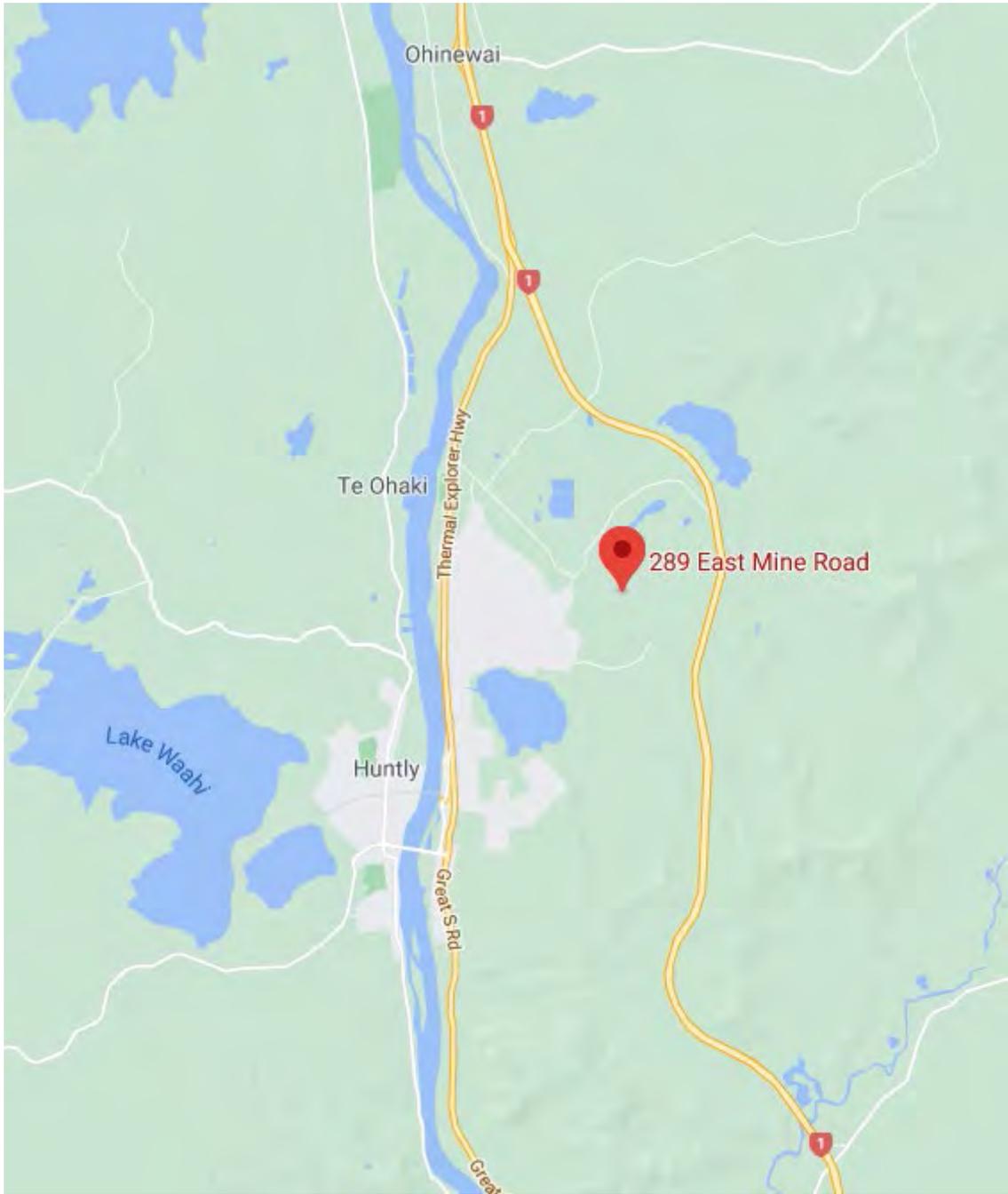
8.0 CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

- 8.1.1 The purpose of this investigation was to determine if HAIL has occurred or is occurring at 239 East Mine Road, 96 Tawa Road, 0 Kimihia Road and 191 Kimihia Road, Huntly. The site is to be developed into a lake with associated recreational and commercial facilities and rural residential properties.
- 8.1.2 A desk top investigation by Guy Sowry of CSI comprising a review of: historical photos; consultation, literature review and a site walkover documents that the following HAIL has occurred: E5 - coal yard; E7- coal mine; F4 - motor vehicle workshop; F7 - service station; E1 - asbestos disposal; and H - gun club. Potential contaminants are considered to be PAH's, boron, arsenic, lead, metals and asbestos.
- 8.1.3 The CSM's identified a **medium** risk to development and maintenance workers as they may come into contact with PAH's and metals from the historical coal yard and motor vehicle workshops. The CSM's identified a **medium** risk to aquatic organisms with PAH's and metals from the motor vehicle workshop in the pit and lead from the gun club.
- 8.1.4 The comprehensive risk assessment identified a **LOW** risk to development workers and maintenance workers as the concentration of PAH's and metals will more than likely be below NES SGV's. The risk assessment identified a **LOW** risk to aquatic organism as lead concentrations will more than likely be present at concentrations 36 times higher than the recommend lead value however, lead was not identified as a contaminant of concern during chemical water monitoring by WRC in 2018.
- 8.1.5 Therefore, it is highly unlikely that there will be a risk to human health if the site is developed into a lake with associated commercial and recreational facilities and rural residential.

8.2 Recommendations

- 8.2.1 No further contaminated land investigations are required for this site.



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	FIGURE 1
	SITE LOCATION



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD
	FIGURE 2
	SITE LOCATION



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	96 TAWA ROAD
	FIGURE 3
	SITE LOCATION



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	0 KIMIHI ROAD
	FIGURE 4
	SITE LOCATION



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	191 KIMIHIA ROAD
	FIGURE 5
	SITE LOCATION

CONCEPT MASTERPLAN

KEY

FARM BLOCK

- ① RESIDENTIAL DEVELOPMENT PRECINCT - STANDARD DENSITY
Already in control Residential or Proposed DP (R2) - 2.50ha± Lake
- ② SUSTAINABLE ENERGY
Renewable Energy Solar Farm
- ③ MOUNTAIN BIKE ZONE
World Class Level Tracks Within Forestry Block
- ④ PLANT NURSERY
On-site For Survival Plant Propagation & Commercial Supply
- ⑤ NATIVE & EXOTIC VEGETATION
Carbon Credit Forestry, Wildlife Habitat, Slope Stabilisation
- ⑥ NATIVE WETLAND RESTORATION
Wetland Habitat Restoration, Improve Water Quality
- ⑦ CONTINUED FARMING
Drystock Grazing & Poultry Practices Continue Around New Activities

MINE SITE

- ⑧ RECREATION LAKE
New-Proposed Recreational Activities
- ⑨ HABITAT RESTORATION
Wetlands, Lakes and Stream
- ⑩ BOAT RAMP & AQUATIC HUB
Inc. Trailer Parking, Jets, Aquatic Equipment Hire Centre
- ⑪ COMMUNITY CENTRE ACTIVITY HUB
Multi-Purpose Building With Cafe, Conference Rooms & Teaching Spaces
- ⑫ COAL MINING MUSEUM
Re-purposed Historic Murty Railway Station, Inc. Outdoor Sculpture Trail
- ⑬ ACCOMMODATION
Motor Units, Dormitories & Camping Facilities
- ⑭ FLEXIBLE OUTDOOR EDUCATION ZONES
Ecological, Experiential & Educational Spaces and Walkways
- ⑮ OUTDOOR RECREATION
Beaches & Lakeside Tracks
- ⑯ PASSIVE RECREATION
Multi-Purpose Open Space
- ⑰ CULTURAL DISCOVERY
Walkers & Heritage Trails with Interpretation & Education Opportunities
- ⑱ LAKE OUTLET CHANNEL
Shedding Clean Overflow to Reconnect Lake Kinloch



WIRIA HILLS (FORMER LAKE) DEVELOPMENT MASTERPLAN

CSI

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34 Brookfield Street
Hamilton

PROPOSED DEVELOPMENT

FIGURE 6

SITE LOCATION

APPENDIX A

REPORT CONDITIONS

This report is prepared solely for the benefit of Kimihia Lakes Community Charitable Trust and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report refers, with the limitations stated, to the conditions of site at the time of the investigation. No warranty is given as to the possibility of future changes in the condition of the site.

This report is based on aerial photos, anecdotal information and a site walkover. Some of the opinions are based on unconfirmed data and information and are presented as the best that can be obtained without further extensive research.

Whilst the findings detailed in this report reflect our best assessment, we are unable to give categoric assurances that they will be accepted by regulatory authorities without questions as such authorities may have unpublished more stringent objectives. This report is prepared and written for the proposed uses stated in the report and should not be used in a different context without reference to CSI. In time approved practices or amended legislation may necessitate a re-assessment.

The report is limited to those aspects of land contamination specifically reported on and is necessarily restricted and no liability is accepted for any other aspects especially concerning gradual or sudden pollution incidents. The opinions expressed cannot be absolute due to the limitations of time and resources imposed by the agreed brief and the possibility of unrecorded previous use and abuse of the site and adjacent sites. The report concentrates on the site as defined in the report. If migrating pollution or contaminants (past or present) exists further research will be required before the effects can be better determined.

APPENDIX B

AERIAL PHOTOS



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK01
	1943



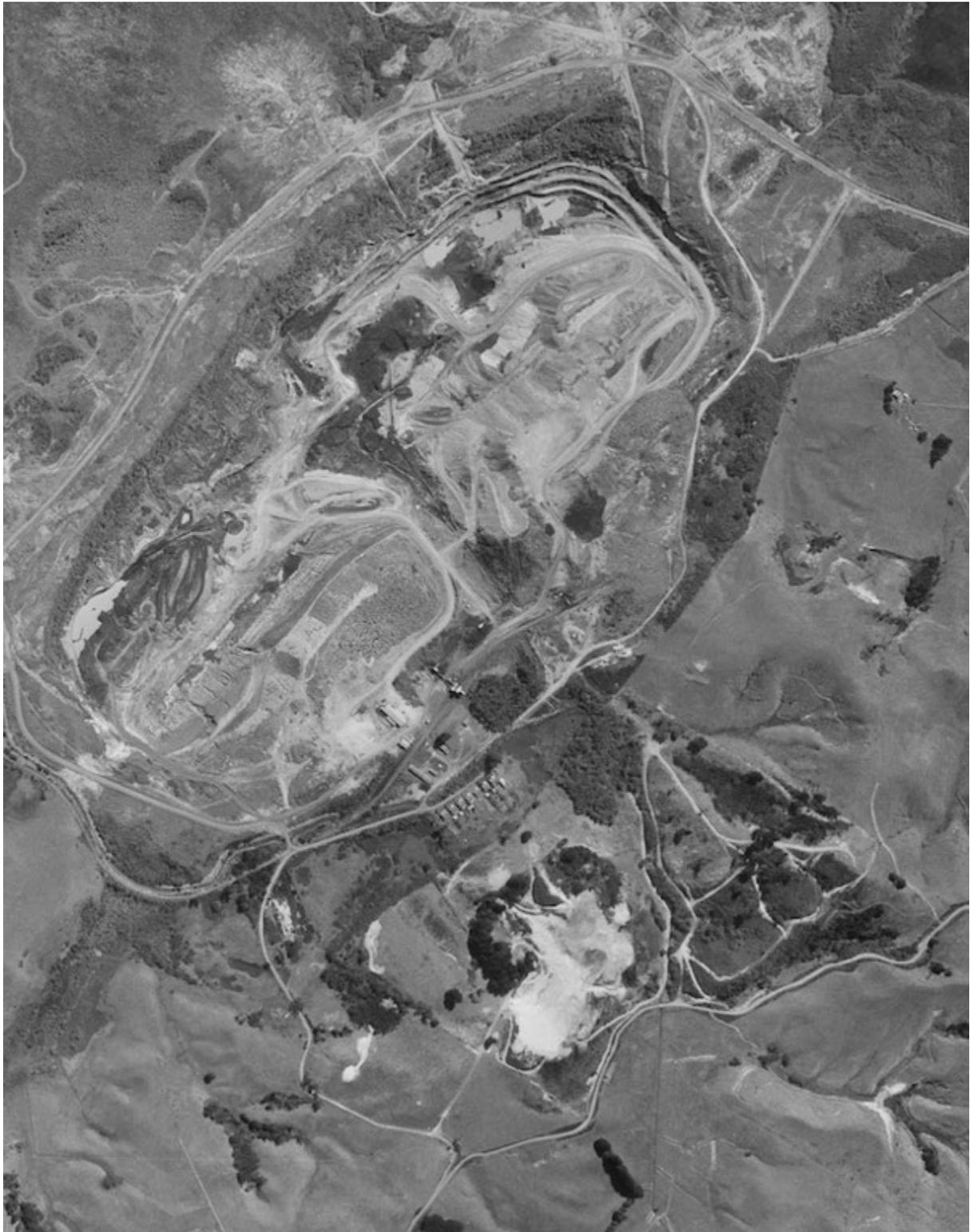
CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK02
	1963



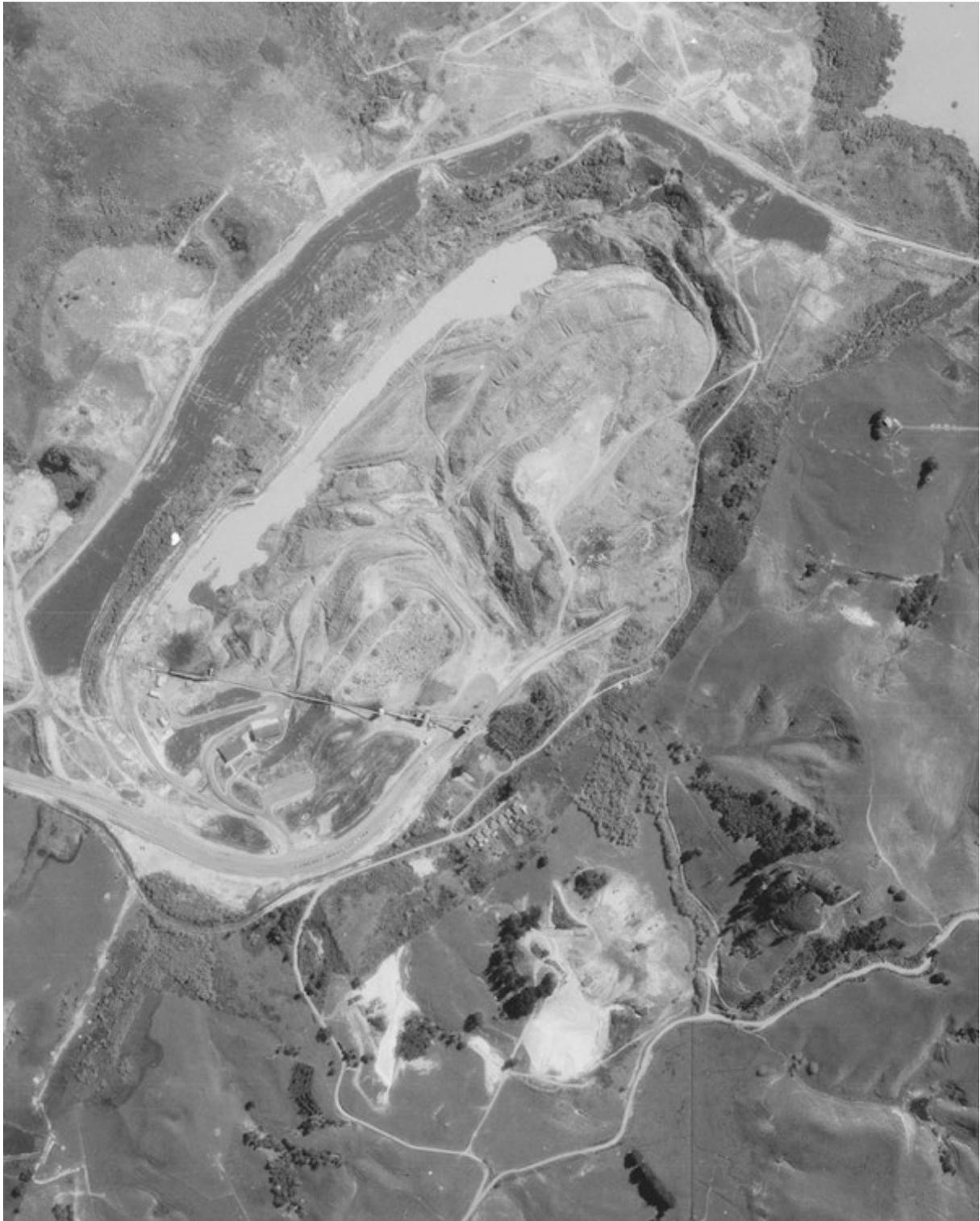
CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK03
	1966



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK04
	1969



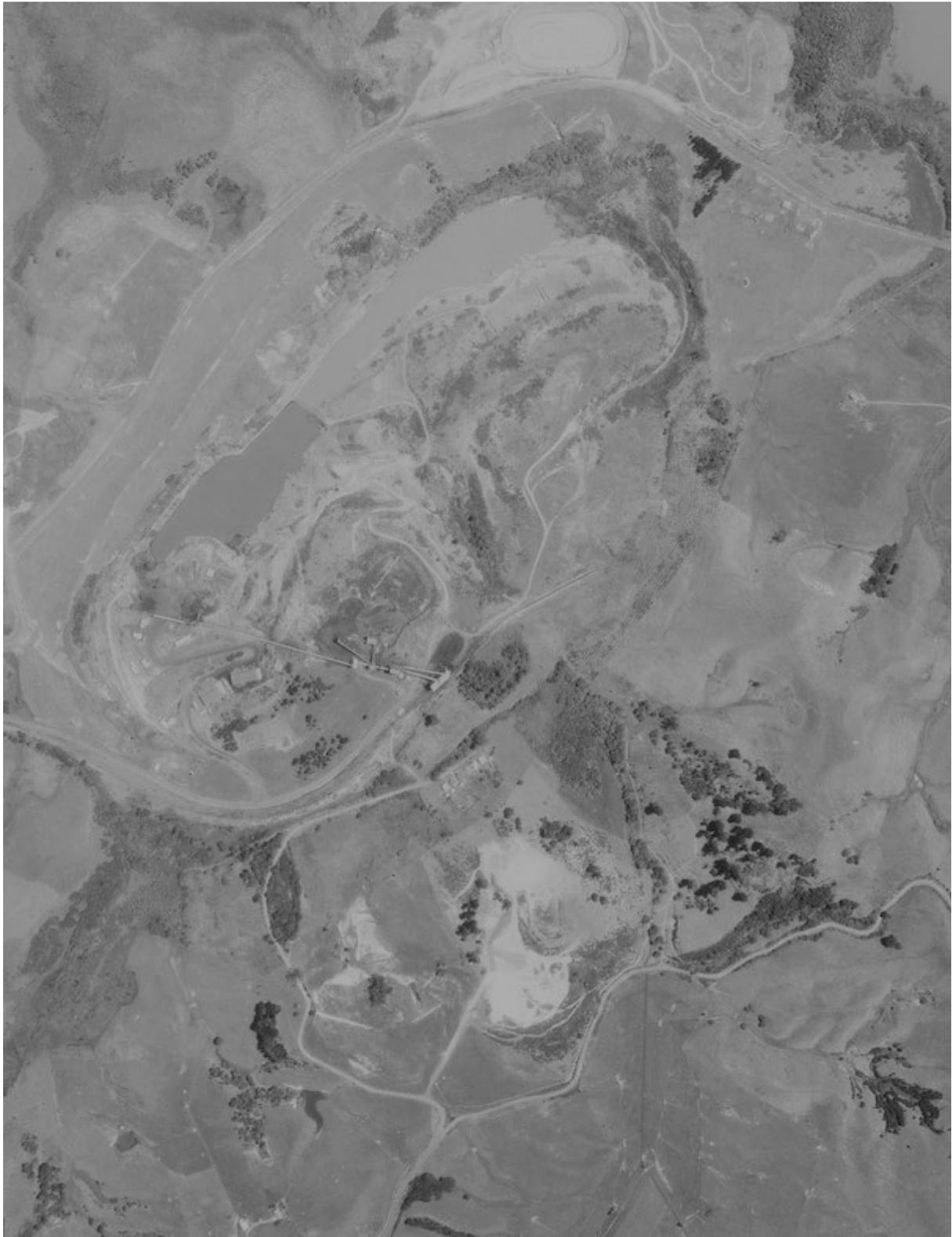
CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK05
	1973



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK06
	1979



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK07
	1984



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK08
	1991



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK09
	1995



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	2008
	SK10



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK11
	2016



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK12
	2010

APPENDIX B

AERIAL PHOTOS



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK13
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-36078-F
	1954



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK14
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-46197
	1958



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK15
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-49203
	1959



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK16
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-49204
	1959



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK17
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-62358-G
	1964



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK18
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-66542-G
	1966



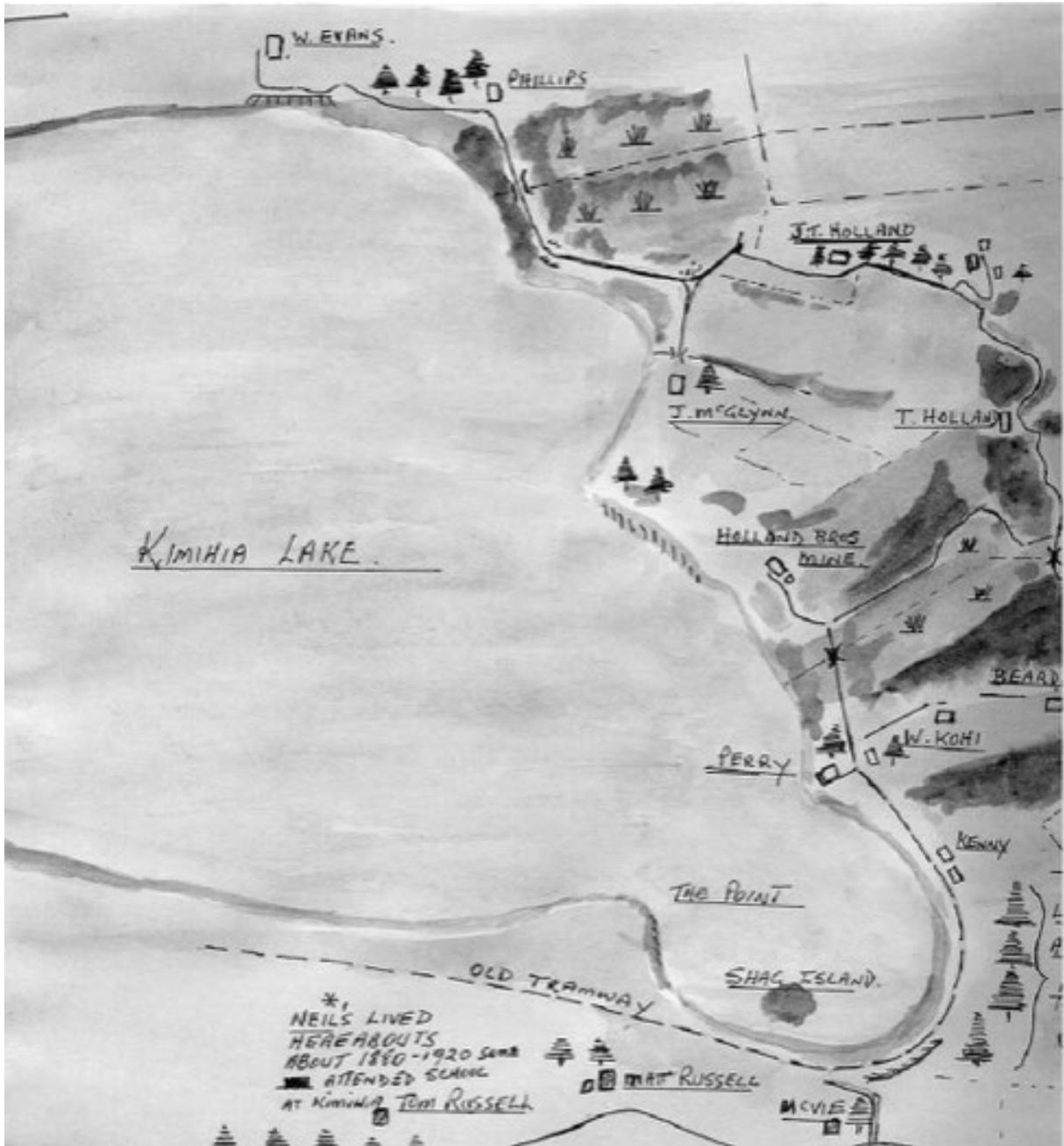
CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK18
	SOURCE: WHITES AVIATION ALEX TURNBULL COLLECTION WA-68894-G
	1970

APPENDIX D

**THE FIRST 100 YEARS, KIMIHIA SCHOOL, 1987 TO 1997
EXTRACTS AND PHOTOS**



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK20



CSI
 Contaminated Site Investigations
 34 Brookfield Street
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239 EAST MINE ROAD AND FARM
 SK21

KIMIHIA

BETWEEN 1930-1945

From memory

ARTHUR NEIL HOLLAND

MARCH 1995



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239 EAST MINE ROAD AND FARM

SK21

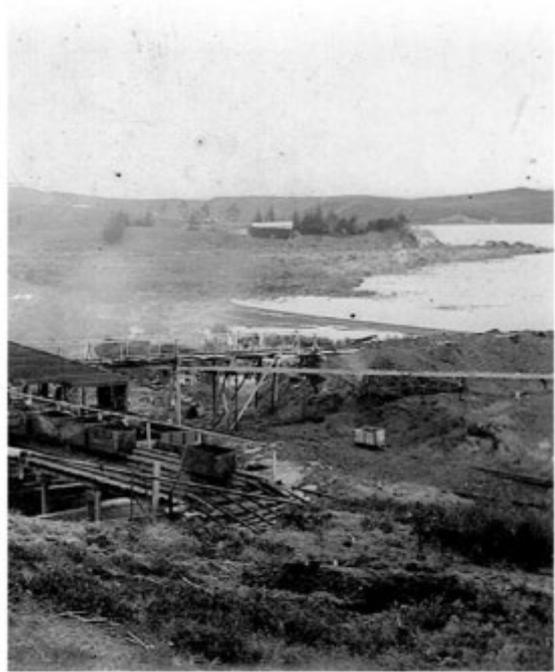


Looking south across the old Kimihia school site, August 1991.

CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK22



The Tappan Reserve Mine (Hibbard's Mine) viewed in 1885 looking to the west.



CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK23



A 1950s panoramic view from the southern lip of the open-pit mine showing the workshops to the left and the bins to the right.
The administration offices were just past the tree out of shot to the left.

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239 EAST MINE ROAD AND FARM

SK24



The main workshop viewed through the trestle supports for the conveyor belt which brought the coal up from the pit.

CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK25
	1984



Workshop #2 on the rim of the pit.

CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK26



The 120-B electric excavator being viewed by Alexander MacDonald, father of one of the operators Harry MacDonald. During all operations around the machine care had to be taken that the very high voltage cable feeding the several motors were protected. During the repositioning of the 120-B the cable was hefted by hand. An interruption to the power flow would render the machine useless. At one point a second 120-B was added to the mine to increase the removal of overburden. The operating noise within the cab as the various motors spun up and down affected the operators hearing over a period of time. It was not a usual practice for ear-muffs to be worn. The cab had to be rotated so that the steps were above the tracks before access and exit of the operator. A large tonnage of weights were placed at the back of the cab to counterbalance the action of the bucket on the front arm.

CSI Contaminated Site Investigations 34 Brookfield Street Hamilton	239 EAST MINE ROAD AND FARM
	SK27



Kmihia mine 1996.

CSI

Contaminated Site Investigations
34 Brookfield Street
Hamilton

239 EAST MINE ROAD AND FARM

SK28

APPENDIX E

SITE WALKOVER PHOTOS



LAKE



EX PIT WORKSHOP PAD



EX LOCATION OF SERVICE STATION



FLAT LAND ON RIM - EX COAL YARD



LOCATION OF HISTORIC WORKSHOP ON THE RIM



EX LOCATION OF HOPPER AND RAILWAY YARD



LOCATION OF HISTORIC VILLAGE



ON SITE DRAIN