12 May 2023
Job No: 1016545.1000

Waikato District Council
Community Growth

Attention: Fiona Hill

Dear Fiona

Proposed District Plan - Variation 3
Implication of Huntly Mine Subsidence Risk for MDRS

1 Introduction and Purpose of Report

Waikato District Council (WDS) are progressing Governments requirements to apply medium density residential standards (MDRS) within relevant residential zones across the District through Variation 3 to the Proposed Waikato District Plan (District Plan).

In summary, the MDRS provides for three dwellings per lot (existing or as part of future subdivision) up to three storeys in height as of right and for increased impermeable spaces and reduced distance from and height to boundary controls as summarised in Table 1.1 below.

General Residential Zone (current)	Medium Density Residential Zone
One residential unit per site	Up to three residential units per site
Maximum building height of 8m	Maximum building height of 11m
HIRB: 45 degrees from 2.5m above the ground level	HIRB: 60 degrees from 4m above the ground level
Building coverage of 40% max	Building coverage of 50% max
Impervious surfaces of 70% max	Impervious surfaces of 70% max

Table 1.1: Summary of proposed changes to building in Residential Zone

However, the MDRS must also recognise and address the existing rules relating to the management of Hazards across the district. This includes the area of Huntly Township underlain by the workings of the Huntly East underground coal mine. This area is subject to policy and rules to manage the risk of mine subsidence, and these will continue to apply (namely Rules NH-P20, to NH-P21 and NH-R68 to NH-R74 with specific relevance to Rules NH-R71 and NH-R72 in relation to earthworks and new buildings).

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In considering the technical implication of applying the MDRS across the Huntly Mine Subsidence Area the following 4 questions have been posed.

1 Could the intensification of residential development (allowed by the MDRS) trigger reactivation of subsidence?

2 Is there an increased risk to the intensified residential development (allowed by the MDRS) from mine subsidence?

3 Do the existing controls on development within the Mine Subsidence area (Rules NH-R68 to R74) adequately address the risk to intensified residential development allowed by the MDRS?

4 What changes could be considered (if any) to the Rules to address changes in the risk profile?

Waikato District Council have engaged Tonkin & Taylor Limited (T+T) through the Waikato Local Authority Share Service framework to undertake a technical review of implications of applying the MDRS across the Huntly Mine Subsidence to specifically address questions 1 to 4 above.

This report provides an overview of the technical background to address the above questions posed and provides direction to WDC on the risk of apply MDRS across the Huntly Mine Subsidence area.

Figures are attached to end of this letter report.

2 Background

T+T has previously provided WDC with technical advice on the Huntly mine subsidence area. For completeness (allowing this letter to stand alone) the following text in sections 2.1 and 2.2 is set out as background to the above questions and has been extracted from the following documents:

- T+T letter report to WDC (reference 1016545) provided to support Waikato District Council in considering publicly Notified Stage 2 (Natural Hazards) of the Proposed Waikato District Plan in 2020/21[1].
- RDCL – "Report on: Risk Assessment for Urban area above the Mine – Project: Huntly East Mine Closure Assessment" for Waikato District Council, reference R-19357-01, dated 14 October 2019[2].
- Relevant sections of Waikato District Plan (See Appendix A).

2.1 General - mine subsidence

Surface subsidence is a recognised as a hazard above areas of underground coal extraction. The extent, magnitude, and shape of any maximum potential subsidence is a function of volume of coal extracted, the depth of extraction, and strength of the strata immediately below and above the coal extraction. The extent of the ground that may be affected by collapse settlement above old workings extends beyond the edge of the mining activity (at the coal seam level) and is projected up to the surface at the angle of draw as shown on Figure 5.1 and Figure 5.2. The angle of draw is a function of the mass strength of the strata above the coal extraction and for the Waikato Coal measures in the Huntly area is generally accepted as 42 degrees.

[1] https://www.waikatodistrict.govt.nz/your-council/plans-policies-and-bylaws/plans/waikato-district-plan/district-plan-review/stage-1/hearings/hearing-27e-subsidence-liquefaction-other-hazards

[2] https://www.waikatodistrict.govt.nz/docs/default-source/your-council/plans-policies-and-bylaws/plans/district-plan-review/stage-2/draft-stage-2-plan/technical-reports/19357-huntly-mine-east-report-2019-10-14-rdcl.pdf?sfvrsn=508a84c9_6

In general, the collapse of the strata into the mine void occurs immediately or soon after mining and generally reduces over time as the ground adjusts to changed stress conditions. The greater the extent and thickness of coal removed the more extensive collapse is likely to be. However, depending on the mining methods used not all voids may collapse or might only partially collapse. Not all collapsed voids may have a surface expression depending on factors such as size of the original void, the extent of ground collapse and its depth. And in some cases, it may take time for collapse features to migrate and result in a surface expression. Furthermore, subsidence can be reactivated due to changes in ground conditions and changes to stress states over time. Saturation or dewatering of a mine, and events such as an earthquake, are common causes of changes in ground conditions and stress state that triggers reactivation of collapse settlement.

The extent of underground workings and current surface deformation associated with the Huntly East mine is well defined as shown on Figure 3 of the IRBA report - reproduced here as Figure 5.3.

The mining methods at Huntly East are well understood, as were the ground conditions at the time of coal extraction. For the Huntly East mine this is well summarised in the RDCL report and summarised on Figure 6 (reproduced here as Figure 5.4).

Zone A represents the shallowest coal (approximately 100 m below surface) with coal extraction using small room and pillar methods. Mining in this area has resulted in measured surface settlements up to 1 m (see Figure 5.3 above). IRBA report noting the rates of measured settlement have reduced over time suggesting the ground response above these workings have reached or is close to an equilibrium state. Voids or partial collapse zones will still exist below this area and the possibility of further surface subsidence is possible. No crown holes (sinkholes) with open connection between the old works and ground surface has been reported. In general, it is found that crown hole development and collapse typically extends to about 30 to 40 m above the coal seams where room and pillar extraction methods have been used. With the old workings over 100 m deep and there being more than 50 m cover in rock before any void migration may encounter with sands and silts of the Tauranga Group (sediments related to the Waikato River that may be subject to erosion and running) the risk of sinkhole development and void collapse is generally considered low. Surface settlement is the main risk to land development.

Zone B is characterised by the mining of deeper coal (depth to coal increasing to the north and north-east) and a change in mining methods using larger pillars (reduce coal extraction). We understand the mining methods were changed following observed surface subsidence affecting urban land use in Zone A. The leaving of larger pillars and reduced coal extraction adopted to reduce the likelihood of surface settlement. There is no record of significant (>10 mm) surface movement. Nevertheless, there will be voids and or partially collapsed ground below this area the possibility of further surface subsidence is possible (albeit the likelihood of collapse leading to surface expression is assessed as less than Zone A).

Zone C is to the north where higher coal volumes were extracted using long wall mining methods. There is limited surface settlement survey data for this area, but we understand (and would expect based on theoretical calculations) there to have been general surface settlement of the order of 1 – 2 m across much of this area. Given the nature of the longwall methods (collapsing the roof as mining is advanced between panels) the settlement would have likely happened at the time of or very soon after mining. Zone C is below rural land and the mine design in this area avoided surface infrastructure (such as road and rail or the river). While surface settlement would have been expected to have occurred in this area already, the potential for future ground settlement cannot be discounted.

Mine Roadways are also shown on Figure 5.4. These are designed for safe mine entry and egress, ventilation, and for conveyor belts. These roadways are generally designed and built to a high

standard to minimise the risk of collapse for safe mining operations. Although the drives would be expected to be open these should have a low likelihood of void collapse.

2.2 Summary of subsidence risk

In conclusion key points to note from the above are that:

- The extent of underground working associated with the Huntly East Mine are well defined.
- The potential for subsidence above the old workings exists.
- Surface subsidence has been observed above the East Mine workings.
- Surface effects can extend beyond the edge of the workings.
- The risk of surface subsidence in the areas of largest measure settlement are across the southern extent of the mine subsidence area where the coal works are shallow.
- Not all areas have measured subsidence, with magnitudes of settlement reducing to the north as the coal gets deeper and mining methods were changed.
- However, if no collapse settlement has occurred to date, or there is not surface expression of collapse, it does not mean it will not happen in the future.
- The consequences of subsidence remain common across the area although the different depth and mining practices makes for different likelihood of surface subsidence. Hence the subsidence risk profiles do vary across the site.
- Flooding of the East Mine (unsure of current levels) will change the stress state and the ground condition above the old workings will change. The changed stress state during flooding has the potential to reactivate subsidence processes and increases the risk of surface settlement.
- The greatest risk for reactivation of settlement is in Zone A (shallower coal where higher rates of coal extraction have already caused some surface settlements), with a lower (but still credible) risk for Zone B.
- The risk of surface movement above the roadways should remain low even with mine flooding.
- Once the mine is fully flooded and the stress states have reached a steady state, the risk of reactivation of collapse and any rates of surface settlement should reduce.
- However, a residual risk will remain that future changes to stress state (for whatever reason) could tigger ground collapse that may manifest in surface subsidence.

2.3 Extent of MDRS changes across the Huntly Mine Subsidence Area

The risk associated with mine subsidence within the Huntly Mine Subsidence Area has been managed by zoning land for different land use (see Figure 5.5) and by provisions within the Natural Hazard rules of the District Plan.

Rural zoning (shaded grey on Figure 5.5) has been used to delineate and restrict development in areas of higher risk, where significant surface subsidence has been recorded.

Across the remaining area, the land is currently zoned for General Residential. The risk to any development within the Mine Subsidence Area is managed by rules to ensure the developments consider and are designed to mitigate against the risk of future land subsidence. The relevant policies for this area are set out in NH-P20 to NH-P21, and Rules NH-R68 to NH-R74 with specific relevance to Rules NH-R71 and NH-R72 in relation to earthworks and new buildings (See Appendix A).

The development changes allowed by the MDRS would only apply to the General Residential yellow shaded area on Figure 5.5.

3 Consideration of MDRS within Huntly Mine Subsidence Area

The following section draws on the background on mine subsidence set out above and considers the four questions set out in relation to the application of the MDRS within Huntly Mine Subsidence Area.

3.1 Could the intensification of residential development trigger subsidence?

The development allowed for by the MDRS will result in works that will change the surface profiles and intensity of building development such that there may be:

- Changes to surface profiles due to earthworks (cut and/or fill) to support denser development.
- Increased ground loading due to added weight of higher and more dwellings across properties.
- More concentrated stormwater collection across sites (due to greater impermeable spaces) and subject to design redirection of stormwater flows.

These works will result in changes to the stress condition below the site. However, given the depth of the old mine workings below the site, the changes in the stress state at the critical depths to trigger ground collapse will be very small (unless the proposed earthworks are substantive with the removal or addition of many metres of fill).

There is a possibility that if there is a hydraulic connection between near surface groundwater and the old workings via fractured ground, changes to the stormwater and groundwater due to development could erode the fractured ground. The existence and extent of fractured ground connecting near surface groundwater and the old working is unknown. However, it is noted that the shallowest coal seam workings, where the maximum settlement has occurred and risk of inter connection would be highest, are already zoned Rural and thus are excluded from MDRS application.

It is concluded the increased development allowed for by MDRS is unlikely to trigger further mine related subsidence. However, it would be prudent to ensure any development is subject to design and review by an appropriately qualified person to ensure the works proposed do not increase the risk of triggering future subsidence (due to loading changes or stormwater disposal to ground) as set out by existing policies NH P20 and P21. Further comment on the rules to manage this risk is provided in Sections 3.3. and 3.4 below)

3.2 Is there an increased risk of subsidence as a result of intensified residential development?

Risk is a measure of both the likelihood of an event occurring and the consequences resulting from an event if it were to happen.

Within the Huntly Mine Subsidence area there is the potential for future subsidence above the old mine workings. Although currently in an equilibrium state (with no settlement being monitored nor reported) there remains a possibility for future settlement albeit this is considered low. It is concluded in 3.1 above, the increased density of development allowed for by the MDRS is unlikely to change the likelihood of future settlements occurring within the Huntly Mine Subsidence area provided developments are managed by the rules and provisions of the District Plan.

However, the increased development allowed for by the MDRS will allow more properties to be built and for more people to be resident within the subsidence area. This will increase the number of properties and people that could potentially be affected should subsidence be reactivated (for whatever reason such as earthquake shaking).

The increased density of development allowed for by the MDRS will therefore result in an increased level of risk (even though the likelihood of reactivation is actively managed). The more development that is allowed within the Mine Subsidence Area, the greater the relative risk will be (compared to what exists today), because the likelihood of future settlements cannot be reduced further to compensate for the increase exposure.

The current level of risk (with controls in place) is arguably deemed acceptable given acceptance of the existing land use and development within the Mine Subsidence area. However, it will be important to consider the acceptability or otherwise, of the increased risk resulting from applying the MDRS within the Mine Subsidence Area.

It is difficult to quantify the level of risk further and the change in risk needs to be managed by subjective criteria (with direction taken from council appetite for risk in terms of hazard exposure set against the need or otherwise for additional housing density). If the increased risk is deemed unacceptable, then the Huntly Mine Subsidence area should be excluded from the MDRS. If the increased risk is deemed acceptable (given land development pressure) it is recommended that existing rules on development in the Mine Hazard Area are maintained (as noted in section 3.1 above).

3.3 Are the existing controls on development within the Mine Subsidence area adequate to allow intensified residential development?

The overarching District Plan policies for the development of land within in the Mine Subsidence area (NH-P20 and P21) require an appropriately qualified engineer (or persons) to:

- Take into consideration the risk of ground subsidence and confirm the site is suitable for the proposed development.
- Ensure buildings and stormwater systems are designed to effectively minimise the risk of damage from ground subsidence.
- Any adverse effects on the site and receiving environment can be appropriately mitigated.

The intent of these controls is to ensure any development does not increase the likelihood of subsidence being triggered and in the unlikely event of settlement occurring damage to buildings and connecting services can be mitigated. These policies are general in nature and direct the developer of the land with Mine Subsidence Area to engage expert(s) who are able to recognise ground subsidence risk and manage it through appropriate design. The policies allow for a range of site conditions and developments to be considered on a site-by-site basis subject to the range of ground conditions that may exist across the area and the variability in risk profile. They are equally applicable to any scale of development across the Mine Subsidence Area.

In relation to the rules that apply to the development of the land within the Mine Subsidence Area (Rules NH-R68 to NH-R74) these all allow development to proceed where:

- The works will have little impact on the stress state of the ground above old workings by limiting earthworks (e.g., less than 1 m of cut or fill over ground level and or less than 20m3 of fill to be placed across site).
- The extent of building works that may be advanced are limited without the inclusion of specific design features or materials to mitigate against effects of ground settlement (e.g., limiting wall lengths and footprint of works).

For works more extensive than that set out in the rules specific investigation and design is required which would be subject to greater level of peer review and scrutiny.

The natural hazard rules, particularly those in relation to earthworks, already set constraints that will for many sites constrain what is a permitted activity for site development to support increased densification. For example, we expect that many sites (subject to site levels and design proposals) will require more than 20m^3 of earthworks to support the intensification of dwellings and the natural hazard rules are considered sufficient to pick this up. Thus it is expected that under the existing District Plan rules, to allow for the MDRS, many sites will require specific investigation and design and be subject to greater level of peer review on a case-by-case basis by suitably qualified persons anyway. As a result, we conclude that the existing District Plan controls remain largely adequate to manage more intensified MDRS development in the Mine subsidence Area if the risk of increased development allowed for by the MDRS is deemed acceptable.

However, we understand within the stormwater rules there is currently no reference to the Mine Subsidence area. A range of stormwater management options exist for stormwater management within the mine subsidence area and most would not trigger elevated subsidence risk. It is only those methods that discharge stormwater to ground that may cause concern, noting the level of risk varies across the area (depending on the design, location of the discharge relative to depth of workings, and proximity to known settlement). It is therefore recommended that if the MDRS standards are to apply to Mine Subsidence Area, that the stormwater rules identify any stormwater disposal methods that seek to discharge to ground within the Mine Subsidence area as requiring specific assessment and design by a suitability qualified person.

3.4 What changes would be recommended (if any) to the Rules to address changes in the risk profile?

Following on from the above discussion we consider the existing natural hazard policies and rules will direct site development allowed for under the MDRS to site specific design. This will allow the likelihood of future ground subsidence to be addressed and mitigated to a level equal to that allowed for and accepted for current land use densities.

As mentioned above it is recommended consideration be given to a modification of the stormwater rules so there is reference to the Mine Subsidence Area and where disposal to ground is proposed, this triggers the designs to be subject to review to ensure the risk of triggering subsurface is appropriately managed.

It is our opinion the natural hazard rules with the addition of additional review of stormwater design (where discharge to ground is proposed) are sufficient to support the MDRS across the general residential zone in the current Mine Subsidence Area. However, the introduction of such rules (or any others) cannot address the over-arching exposure risk of increased housing density in the Mine Subsidence Area to subsidence that might be triggered through factors beyond the control of Council.

4 Summary and conclusion

In this report we have:

- Set out an overview of the mechanisms and likelihood of land subsidence to land development above the old East Mine workings in Huntly.
- Provided background to the land zoning and the natural hazard policy and rules in place to manage land use in areas where there is subsidence risk.

- Considered the technical implication of applying the MDRS across the Huntly Mine Subsidence to address the following questions:
    - Could the intensification of residential development (allowed by the MDRS) trigger reactivation of mine subsidence?
    - Is there an increased risk to the intensified residential development (allowed by the MDRS) to mine subsidence?
    - Do the existing controls on development within the Mine Subsidence area (NH-R68 to R74) adequately address the risk to intensified residential development allowed by the MDRS?
    - What changes could be considered (if any) to the Rules to address changes in the risk profile?

It is concluded that:

1 The presence of mine voids associated with the old Huntly East mine workings have the potential to cause ground surface subsidence. While historic settlements have been observed the ground collapse causing subsidence appears to have reached an equilibrium state and currently no settlement movements are being monitored or reported and the risk of future settlement is considered low. However, a change in the stress state above open voids could re-trigger ground movements (for example due to a large earthquake).

2 The increased development allowed for by MDRS is unlikely to trigger further mine related subsidence provided the developments do not result in changes in the stress that may disrupt the current equilibrium. Current polices and rules controlling development within the Mine Subsidence Area are considered appropriate to ensure the likelihood of future development triggering settlement remains low.

3 Risk is a measure of likelihood and consequences. The land development rules within the Mine Subsidence Area will ensure the likelihood of future settlement is not increased as a result of intensified residential development. However, the MDRS, if enacted in the Mine Hazard Area, will result in more dwellings potentially exposed to subsidence hazards. Therefore, the MDRS will increase the risk due to an increase in the amount of development property exposed to the potential for future settlement (albeit the likelihood of an event is considered unchanged and is considered low).

4 If an increase in risk is not acceptable, then the Huntly Mine Subsidence area should be excluded from the MDRS. However, if the increased risk is acceptable then it is recommended existing policy and rules for development with the Mine Hazard Area are maintained, with the addition of specific considerations where stormwater is proposed to be disposed of to ground.

5 The current District Plan natural hazard polices, and rules as written and applied will likely require development allowed for by the MRDS across the Mine Subsidence Area to be subject to specific investigation and design and subject to greater level of peer review and scrutiny. Hence the likelihood and risk of mine subsidence on each development will be able to be assessed and managed in a case-by-case basis by suitability qualified persons.

6 While stormwater management to manage the risk of subsidence is addressed in NH P21 we understand and there is no specific reference to the Mine Subsidence Area in the stormwater rules. It is recommended that reference to the Mine Subsidence Area be included within the Stormwater rules and those developments that propose stormwater disposal to ground to be subject to specific investigation and design and subject to greater level of peer review and scrutiny (as for earthworks in this area).

5 Applicability

This report has been prepared for the exclusive use of our client Waikato District Council , with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Report prepared by:	Authorised for Tonkin & Taylor Ltd by:
.....	.....
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Figures

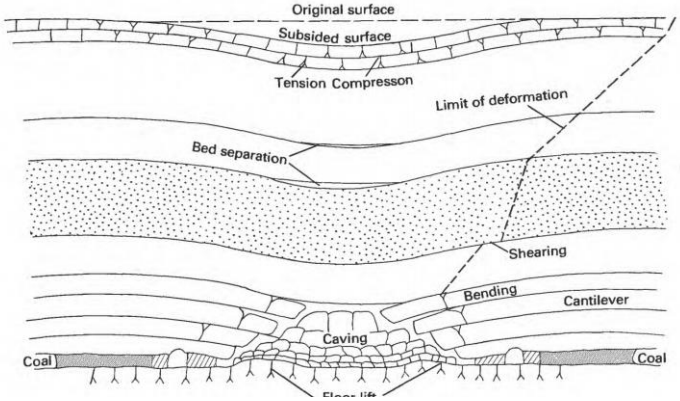

Figure 5.1: Deformation produced in rock above and below an extracted coal seam.

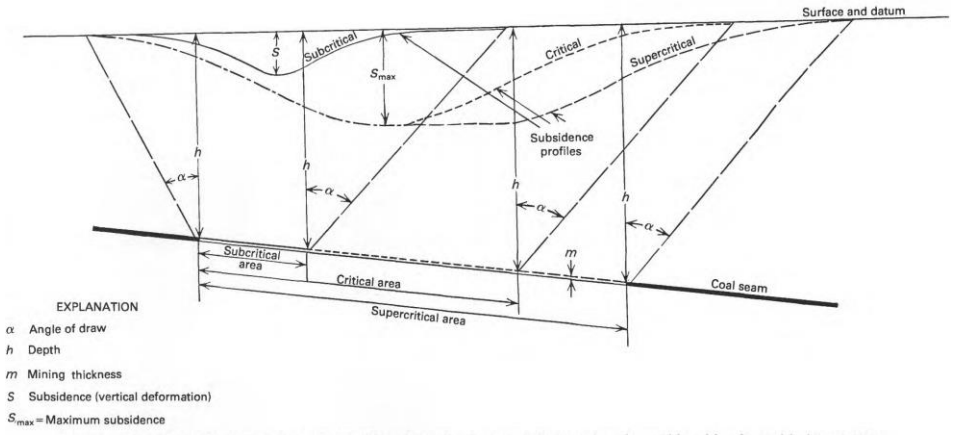

Figure 5.2: Description of subsidence over long wall coal seam mining.

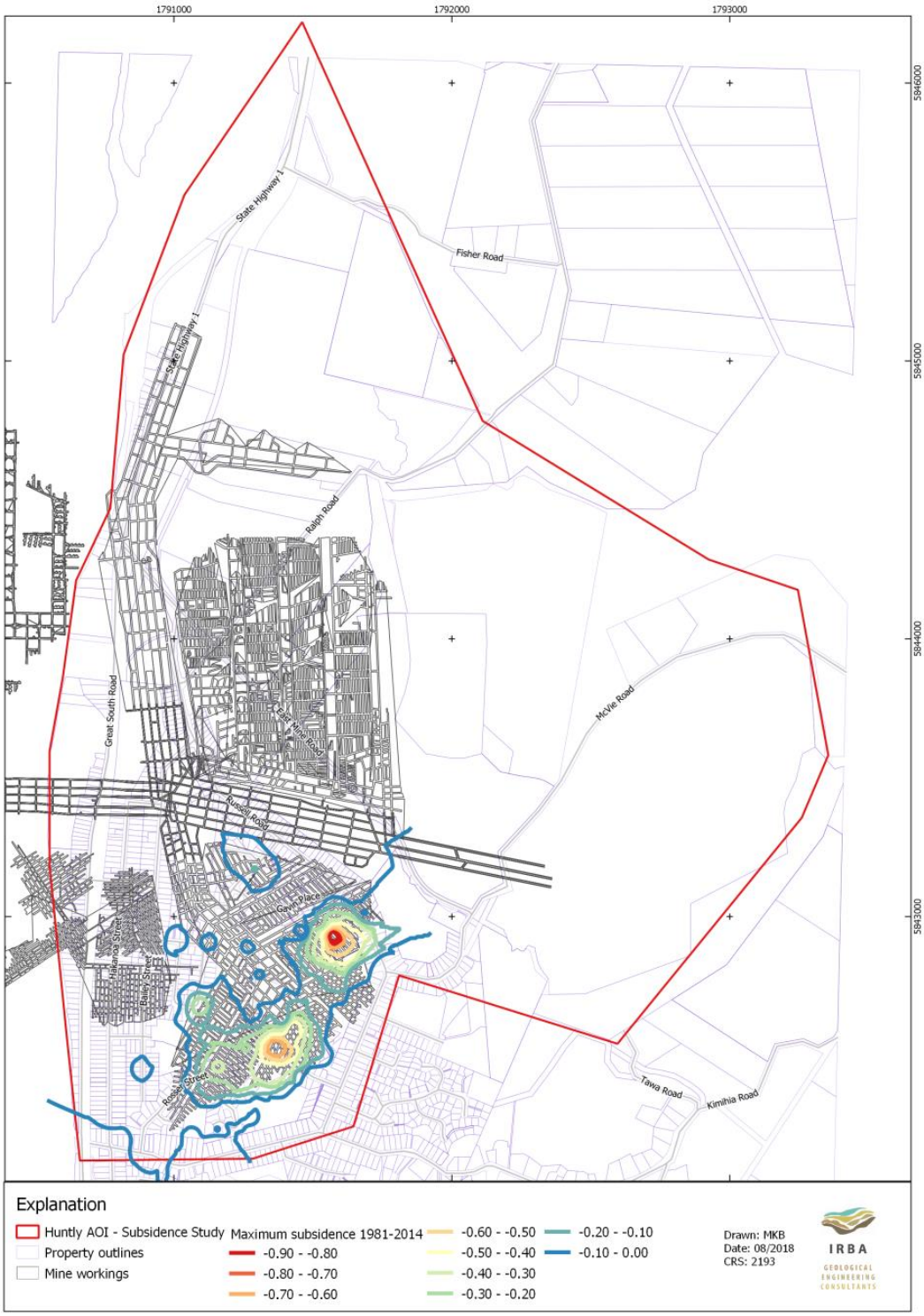

Figure 5.3: Plan showing extent of Huntly East Mine working below Huntly township and measured surface deformations 1981 to 2014 (reproduced from IRBA 2018 report).

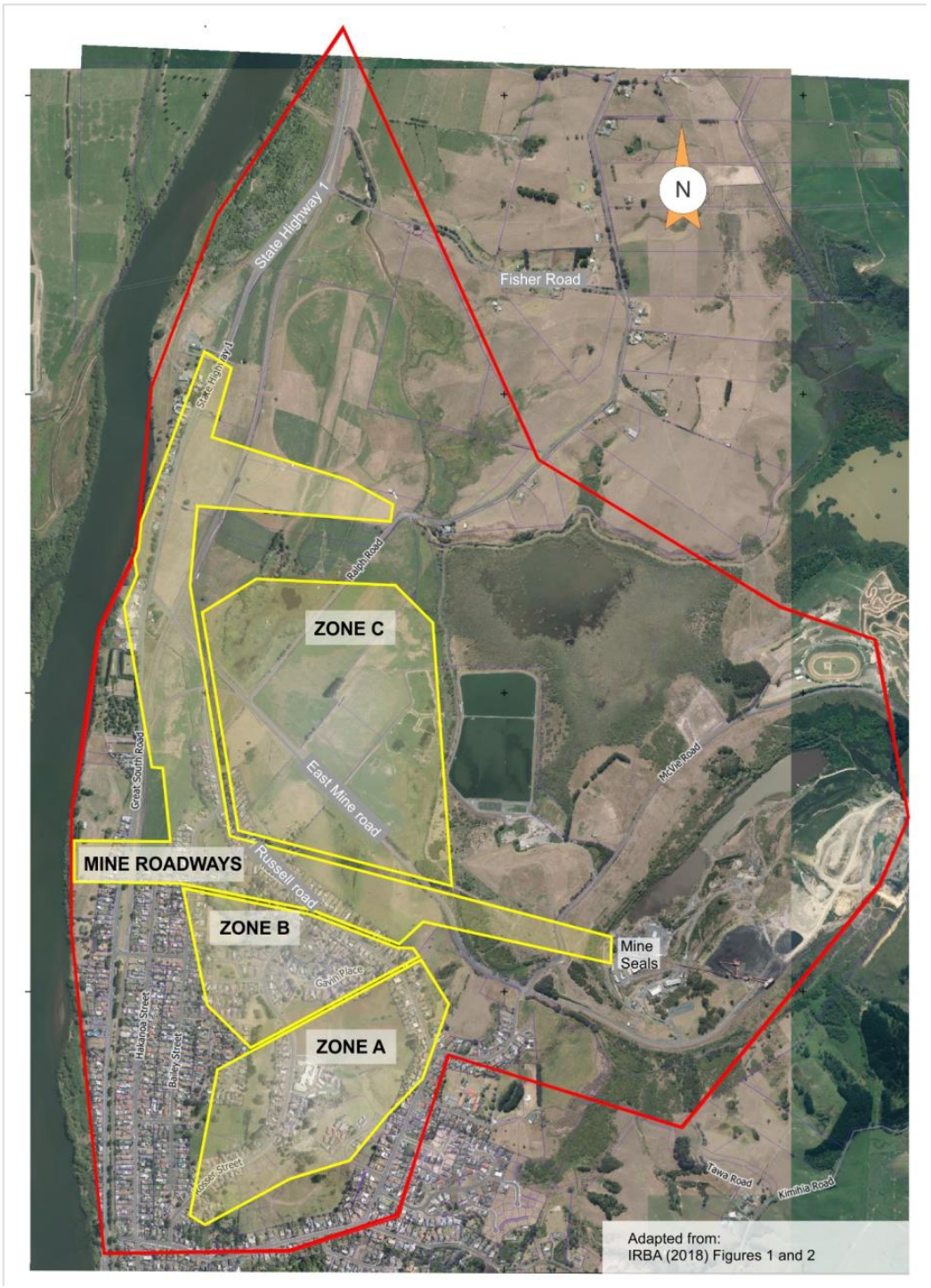

Figure 5.4: Zones showing different mining methods at Huntly East Mine – reproduced from 2019 RDCL report.

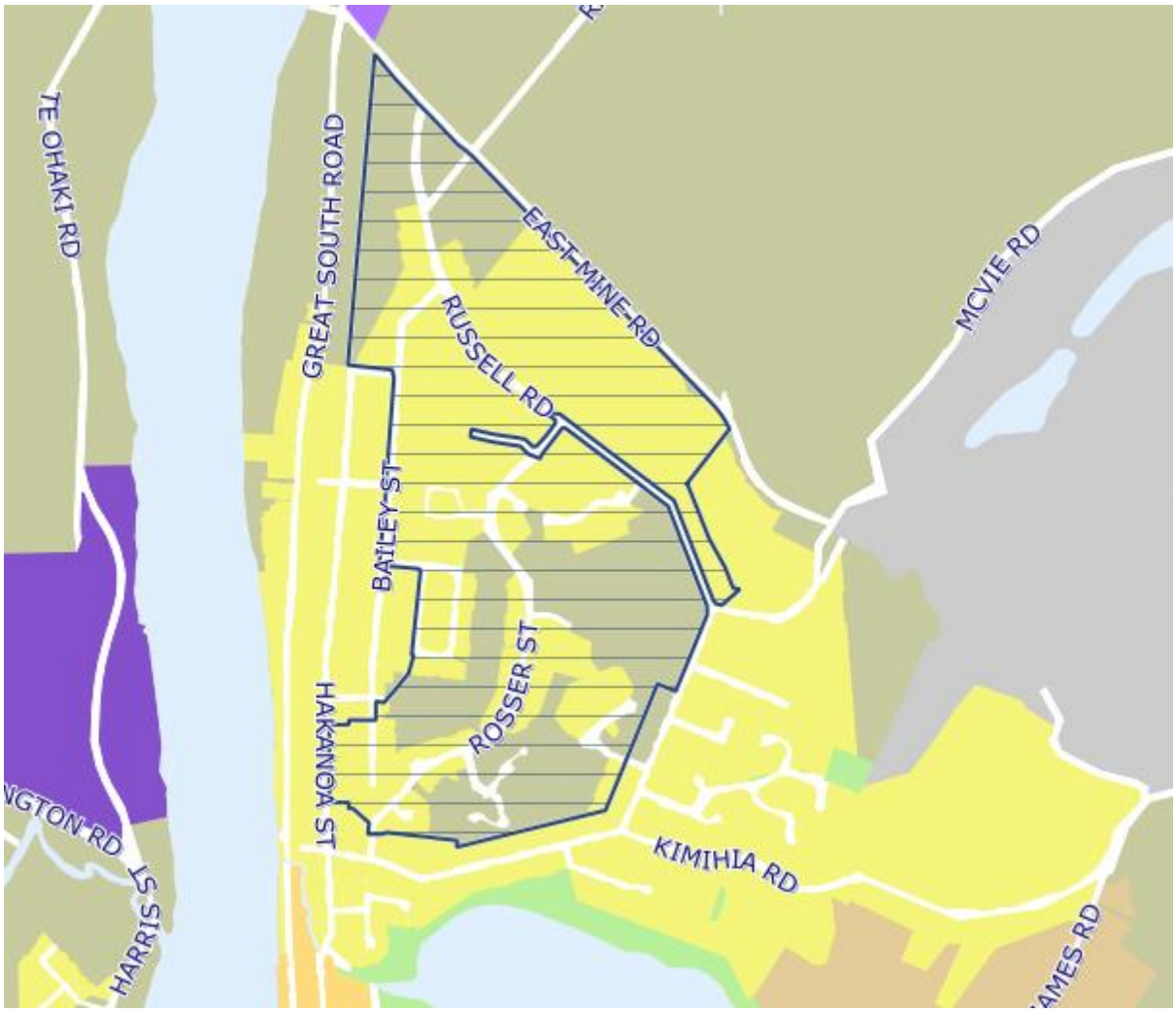

Figure 5.5: Plan showing current land use zones across the Huntly Mine Subsidence Zone (blue hatch). Noting the grey areas are zoned rural and in yellow are currently zoned General Residential. The MDRS changes would only apply to the yellow General Residential Zones.

Appendix A Extracts from Waikato District Plan in relation to Mine Subsidence Area

NH-P20 Development of land in the Mine subsidence risk area (1) On land identified within the Mine subsidence risk area, ensure that: (a) An assessment by an appropriately qualified engineer occurs before subdivision, use or development takes place to confirm that the land is suitable for development; and (b) Buildings are designed and constructed, and uses appropriate materials, to effectively minimise the risk of damage to the buildings from ground subsidence.

NH-P21 Stormwater management in areas subject to risk of land instability or subsidence. (1) Avoid discharge of stormwater directly to ground on land that is potentially at risk of land instability or subsidence unless: (a) An assessment has been undertaken by an appropriately qualified geotechnical specialist, indicating that the site is suitable for the proposed discharges; and (b) Any adverse effects on the site and receiving environment can be appropriately mitigated.

Mine subsidence risk area

NH-R68 Additions to an existing building.

Mine subsidence risk area across all zones.

(1) Activity status: PER Activity-specific standards:
- (a) Additions do not increase the gross floor area of the building by more than 15m2; and
- (b) Additions do not result in the length of any wall of the building exceeding 20m.

(2) Activity status where compliance not achieved: RDIS Council's discretion is restricted to the following matters:
- (a) Construction standards and materials.
- (b) Suitability of the site for development; and
- (c) The potential effects on health and safety.

NH-R69 Standalone garage

Mine subsidence risk area across all zones.

(1) Activity status: PER Activity-specific standards:
- (a) The gross floor area of the building does not exceed 55m2; and
- (b) The maximum length of any wall does not exceed 20m.

(2) Activity status where compliance not achieved: RDIS Council's discretion is restricted to the following matters:
- (a) Construction standards and materials;
- (b) Suitability of the site for development; and
- (c) The potential effects on health and safety.

NH-R70 Construction, replacement, repair, minor upgrading, upgrading or maintenance of utilities and associated earthworks.

Mine subsidence risk area across all zones.

(1) Activity status: PER Activity-specific standards: Nil.
(2) Activity status where compliance not achieved: n/a

NH-R71 Earthworks

Mine subsidence risk area across all zones.

(1) Activity status: PER Activity-specific standards:
(a) The maximum volume of filling does not exceed 20m3 per site; and
(b) The maximum depth of any excavation or filling does not exceed 1m above or below ground level.
(2) Activity status where compliance not achieved: RDIS Council's discretion is restricted to the following matters:
(a) Location and scale of earthworks;
(b) Geotechnical and geological stability of the site following the completion of earthworks; Page: 28 Part 2: District-wide matters / Hazards and risks / NH – Natural hazards and climate change Proposed Waikato District Plan – Decisions Version;
(c) Risk to people and property from subsidence as a result of earthworks; and
(d) Any other mitigation measures to reduce risk.

NH-R72 The construction or alteration of a building that is not provided for under Rule Rules NH-R68 – NH-R71 where a Consent Notice is registered against the Record of Title confirming that a geotechnical assessment has been approved at the time of subdivision and the approved geotechnical report confirms that the ground is suitable for building development and the building development is in accordance with any recommendations of the geotechnical report.

Mine subsidence risk area across all zones.

(1) Activity status: CON Activity-specific standards: Nil.
Council's control is reserved to the following matters:
(a) The degree to which the requirements and recommendations of the geotechnical report approved at the time of subdivision have been incorporated in the building design; and
(b) Whether confirmation is provided from a suitably experienced and qualified geotechnical engineer that confirms the proposed building development is consistent with the recommendations and requirements of the geotechnical report approved at the time of subdivision.
(2) Activity status where compliance not achieved: n/a.

NH-R73 Construction of a building, or reconstruction of, or accessory building or the reconstruction of or additions to an existing building not provided for in Rules NH-R68 – NH-R70 or NH-R72.

Mine subsidence risk area across all zones.

(1) Activity status: RDIS Activity-specific standards: Nil.
Council's discretion is restricted to the following matters:

(a) Construction standards and materials;
(b) Suitability of the site for development; and
(c) The potential effects on health and safety.

(2) Activity status where compliance not achieved: n/a.

NH-R74 Subdivision to create one or more additional vacant lot(s) other than a utility allotment, access allotment or subdivision to create a reserve allotment**.**

Mine subsidence risk area across all zones Activity status: DIS.