



Preliminary Environmental Site Investigation

Amberfield Subdivision

Peacocke

Hamilton

Submitted to:

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1 Introduction

ENGEO Ltd was requested by Weston Lea Ltd, to undertake a Preliminary Environmental Site Investigation (PSI) of the properties associated with the Amberfield Subdivision, Peacocke (reference: P2017.001.084, dated 18 August 2017).

The purpose of the assessment was to support the resource consent application for the 1,000 lot residential subdivision of the site.

This investigation was undertaken in general accordance with the Ministry for the Environment (MfE) *Contaminated Land Management Guidelines No.1: Reporting on Contaminated Sites in New Zealand* (MfE, 2011a). ENGEO performed a geotechnical investigation coincident with this PSI. Geotechnical observations relevant to this PSI are discussed herein; however, a separate report has been prepared with the full results of the geotechnical investigation (ENGEO, 2017).

1.1 Objectives of the Assessment

The objective of this investigation was to identify and evaluate conditions indicative of releases and threatened releases of hazardous substances on or adjacent to the subject property, and report on the potential risk posed to future site users.

1.2 Approach

To satisfy the objectives, ENGEO sought to gather information regarding the following:

- Current and past property uses and occupancies;
- Current and past uses of hazardous substances;
- Waste management and disposal activities that could have caused a release or threatened release of hazardous substances;
- Current and past corrective actions and response activities to address past and on-going releases of hazardous substances at the subject property; and
- Properties adjoining or located near the subject property that have environmental conditions that could have resulted in conditions indicative of releases or threatened releases of hazardous substances to the subject property.

1.3 Investigation Scope

The PSI discussed herein is limited to the site area shown on Figure 1 (i.e. 337, 361 and 523 Peacockes Road, as well as portions of 461 Peacockes Road).

The investigation included the following historical and current site information review:

- A walkover and historical aerial photograph review for the entire site;
- Review of building and resource consent files at Hamilton City Council; and
- Waikato Regional Council (WRC) and Hamilton City Council (HCC) land use enquiry review for all properties relating to the site area.

2 Site Description

The site is located in Peacocke, south of Hamilton City, and comprises portions of 461 Peacockes Road and the entirety of 337, 361 and 523 Peacockes Road. Site information is summarised in Table 1.

Table 1: Site Information Summary

Item	Description
Site Location	The site is located on the eastern side of Peacockes Road and directly adjacent to the western banks of the Waikato River. The site is largely undeveloped and grassed with a number of buildings serving both residential and farming purposes. The area directly adjacent to the Waikato River appears to be densely vegetated with bush and shrubs.
Legal Description	337 Peacockes Road: Lot 1 to 4 DP S81210 361 Peacockes Road: Lot Pt 10 DP S7724 461 Peacockes Road: Lot 1 DP 36935, Lot 5 DP 17475, Pt Lot 6 DP 34164, Pt Allot 93 & 94 Parish of Te Rapa, Allot 87 Parish of Te Rapa 523 Peacockes Road: Lot 1 DP S78023
Current Land Use	Rural Residential (four properties)
Proposed Land Use	Residential Subdivision
Site Area	Total Area: 130 ha Initial Subdivision Area: 105ha
Site Building Details	<p>337 Peacockes Road:</p> <ul style="list-style-type: none"> • Dwelling – primarily brick clad and plaster clad with a tiled roof • Garage – wood and aluminium construction • Farm shed – wooden framing with aluminium roofing and cladding <p>361 Peacockes Road:</p> <ul style="list-style-type: none"> • Dwelling – concrete footing and wooden construction with an aluminium roof • Shed – wooden framing with plastic sheeting and asbestos cladding at the base, corrugated sheet roof (potential asbestos containing material [PACM]) <p>461 Peacockes Road:</p> <ul style="list-style-type: none"> • Main dwelling – primarily brick clad with aluminium roof, PACM in soffits • Main garage and shed – aluminium construction • Secondary dwelling – concrete block construction with aluminium roofing, PACM in soffits • Sleep out – wood cladding with an aluminium roof

Item	Description
	<ul style="list-style-type: none"> • Old milk shed – concrete footing with asbestos cladding, fibreglass windows and an aluminium roof • Tractor shed – wooden framing, aluminium roof • Timber shed – wooden framing, aluminium roof • Shed – wooden framing, aluminium cladding and roof • New Milk Shed – concrete footing, wooden framing and cladding, aluminium roof • Hay barn – wooden framing, aluminium cladding and roof • Shed adjacent to 361 Peacockes Road – Aluminium construction and roofing <p>523 Peacockes Road:</p> <ul style="list-style-type: none"> • Dwelling – Wooden framing and cladding, corrugated sheet roof (PACM) • Garage – Wooden framing and aluminium roof • Storage Shed – Wooden and corrugated sheet cladding and roofing (PACM) • Farm Shed – Corrugated sheet cladding and roofing, wooden doors, PACM interior cladding
Territorial Authority	Hamilton City Council

The site setting is summarised in [Table 2](#).

Table 2: Site Setting

Item	Description
Topography	<p>In general terms, the site is characterised by broad, near level fluvial (river) terraces, separated by steep, linear transition slopes. The terrace transition slopes generally become steeper proximal to the Waikato River.</p> <p>The site encompasses a number of surface waterways and drains, most of which flow toward the Waikato River or the Central Gully along a combination of incised flow paths and formed drains. The largest of the internal waterways, the Central Gully, originates east to northeast of the milking shed and extends north toward the Waikato River.</p> <p>Marshy or swampy ground was also commonly observed proximal to the river in the north of the site, with many of these areas potentially fed by springs rather than overland flow. Marshy ground was also identified within the upper portion of the site, where it was commonly associated with the internal waterways.</p>
Local Setting	<p>The nature of the surrounding land use is similar to the site with rural land and lifestyle blocks in the immediate vicinity.</p>

Item	Description
Nearest Surface Water and Use	An effluent pond and drainage channels are located on-site (seen in Figures 2 a-e and photographs in Appendix 2). Due to recent rainfall events, many of the drainage channels were flowing, with water noted to be relatively clear.
Geology	<p>The site is mapped by the Institute of Geological and Nuclear Sciences (GNS, 2005) as being underlain by the Piako Subgroup of the Tauranga Group comprising unconsolidated to poorly consolidated mud, sand, gravel and peat.</p> <p>The Piako Subgroup was deposited during the Late Pleistocene and Holocene and comprises fluvial, lacustrine alluvium and colluvial sediments. The Piako Subgroup is expected to be underlain by the Walton Subgroup or older rocks. Walton subgroup strata comprises a sequence of laterally interfingering lenses of pumiceous fine grained and gravelly sand and silt with interbedded peat, diatomaceous mud and non-welded ignimbrite and tephra.</p>
Hydrogeology	<p>Groundwater across the site is likely to flow towards the Waikato River (i.e. to the east in the central and southern portions of the site and to the north and east in the northern portion of the site).</p> <p>During the geotechnical investigation, standing water levels were measured as part of seepage testing. Standing water was encountered between 0.4 m below ground level (m bgl) and 3.3 m bgl. Variations in the standing water levels is likely due to the sloping nature of the site, variable permeability of soil deposits and / or antecedent rainfall events.</p>

3 Site History

ENGEO obtained and reviewed available environmental, geotechnical and geological information relevant to the site, including geological maps, historical aerial photographs, Waikato Regional Council and Hamilton City Council's response to a Selected Land Use Register (SLUR) Enquiry and the Hamilton City Council property files. The findings of the site history investigation are summarised in this section.

3.1 Selected Land Use Register

3.1.1 Waikato Regional Council

Waikato Regional Council has compiled a list of about 8,000 sites within the region that are potentially contaminated; the list is known as the Land Use Information Register. This list has been compiled from a variety of sources including aerial photography, resource consents, information from district and city councils, dangerous good licenses, HSNO test certificate data, land use mapping and historic photographs.

The SLUR enquiry response provided by Waikato Regional Council was received and reviewed on 24 August 2017 and is included in Appendix 1. The response indicated that none of the properties that make up the site currently appear on WRC's Land Use Information Register.

3.1.2 Hamilton City Council

The SLUR enquiry response provided by Hamilton City Council was received and reviewed on 07 August 2017 and is included in Appendix 1. The response indicated that Hamilton City Council holds no information in relation to the likely presence of contaminants in soil for the properties comprising the overall site.

3.2 Hamilton City Council Property File Review

The property file for the addresses pertaining to the site were reviewed at Hamilton City Council offices on 30 August 2017. Limited information for these properties was available; however, during the search, the duty planner noted that he understood that the site had been used for farming purposes since the early 1900s. The relevant and applicable findings, in relation to our environmental assessment of this site, are summarised in Table 3 below.

Table 3: Review of Hamilton City Council Property Files

Date	Description
1972	461 Peacockes Road: A consent was issued for the construction of new stables at the property.
1973	361 Peacockes Road: A consent was issued to complete additions to a dwelling.
1982	461 Peacockes Road: Two consents were issued for the construction of a garage and additions to a VAT room (temporary milk storage).
1985	461 Peacockes Road: A consent was issued for the construction of a milking shed.
1995	461 Peacockes Road: A consent was issued for the construction of a garage, a roading underpass and effluent drain. 523 Peacockes Road: A consent was issued for the construction of an effluent drain.
1996	461 Peacockes Road: A consent was issued to relocate a sleepout.
2001	461 Peacockes Road: A consent was issued for the construction of a new garage on-site.
2010	461 Peacockes Road: A consent was issued for the construction of a new milking shed.
2014	337 Peacockes Road: A subdivision consent application was submitted to Hamilton City Council. The application required that a PSI assessment be undertaken, however, this was not completed and the resource consent did not progress.

3.3 Historical Aerial Photograph Review

Aerial photographs dating from 1938 to 2017 have been reviewed and are included in Appendix 2 for reference. The aerials were sourced from Retrolens (retrolens.nz) and Google Earth. Relevant visible features on the site and surrounding area are summarised in Table 4 below.

Table 4: Aerial Photographs

Date	Description
1938 Retrolens	<p>General comment: The entire site appears to be used for farming purposes with a number of residential buildings and sheds located across the site.</p> <p>337 Peacockes Road: A dwelling is present directly adjacent to the bend in Peacockes Road. A number of sheds also appear to be present in the northern half of the property. The remainder of the site is grassed.</p> <p>361 Peacockes Road: A dwelling is present on the site. A paved access way from Peacockes Road leads to the dwelling. The remainder of the site appears grassed or covered with vegetation.</p> <p>461 Peacockes Road: A dwelling is present in the middle of the site where the existing dwelling was noted during the site walkover inspection. A shed is located approximately 200 m north of the dwelling and another shed is located to the northeast. Three smaller sheds appear to be located directly east of the end of Stubbs Road. A number of farm roads / access ways appear to cross the site. The remainder of the site is grassed, with vegetation apparently along the eastern boundary of the site directly adjacent to the Waikato River.</p> <p>523 Peacockes Road: A dwelling is present adjacent to the western boundary of the site. Two sheds are located approximately 200 m south of the dwelling. An area of land disturbance is observed approximately 200 m east of the sheds. The remainder of the site is grassed, with vegetation observed in the gullies.</p> <p>The surrounding area is predominantly rural residential and grazing land.</p>
1943 Retrolens	<p>General comment: No significant changes to 337, 361 or 523 Peacockes Road.</p> <p>461 Peacockes Road: An additional shed appears to have been constructed in the northern half of the property adjacent to 361 Peacockes Road. No other changes are apparent.</p> <p>No significant changes can be observed in the immediate surrounding area.</p>
1967 Retrolens	<p>General comment: No significant changes to 361 Peacockes Road.</p> <p>337 Peacockes Road: Sheds that were present in the northern half of the site have been demolished. No other apparent changes to the site have occurred since the 1943 aerial photograph.</p> <p>461 Peacockes Road: Three additional buildings have now been constructed adjacent to the shed located approximately 200 m north of the dwelling. An access way has now been constructed from the dwelling to the sheds. An additional shed appears to have been constructed approximately 400 m south of the dwelling. No other apparent changes to the site have occurred since the 1943 aerial photograph.</p> <p>523 Peacockes Road: An additional shed appears to have been constructed approximately 100 m south of the existing sheds observed in the 1938 aerial photograph.</p> <p>Land to the east of 337 Peacockes Road, on the eastern bank of the Waikato River, is undergoing residential development. No other significant changes can be observed in the immediate surrounding area.</p>

Date	Description
1972 Retrolens	<p>General comment: No significant changes to 337, 361 and 523 Peacockes Road.</p> <p>461 Peacockes Road: An additional shed has been constructed north of the existing sheds adjacent to the western boundary of the site by Peacockes Road. A larger shed is also apparent to the southeast of the site. An access way has been constructed from the end of Stubbs Road to the shed. No other apparent changes to the property are observed since the 1967 aerial photograph.</p> <p>Land development to the east of 337 Peacockes Road appears to have intensified. No other significant changes can be observed in the immediate surrounding area.</p>
1973 Retrolens	<p>No apparent changes to the overall site or the surrounding area have occurred since the 1972 aerial photograph.</p>
1979 Retrolens	<p>General comment: No significant changes to 361, 461 and 523 Peacockes Road.</p> <p>337 Peacockes Road: Land disturbance activities appear to have taken place in the northern half of the site. No other apparent changes to the site have occurred since the 1973 aerial photograph.</p> <p>461 Peacockes Road: An additional shed has been constructed north of the existing sheds adjacent to the western boundary of the site by Peacockes Road. A larger shed is also apparent to the southeast of the site. An access way has been constructed from the end of Stubbs Road to the shed. No other apparent changes to the property are observed since the 1972 aerial photograph.</p> <p>No significant changes can be observed in the immediate surrounding area.</p>
2008 Google Earth	<p>General comment: No significant changes to 523 Peacockes Road.</p> <p>337 Peacockes Road: The dwelling and sheds present in the earlier photographs have now been demolished. A dwelling, garage and tennis court have been constructed in the southern half of the property, directly east of the dwelling located at 361 Peacockes Road. A shed has also been constructed in the northwest quadrant of the property. The balance of the site remains grassed.</p> <p>361 Peacockes Road: A shed has been constructed approximately 100 m south of the dwelling. A garage also appears to have been constructed on the property. No other apparent changes have occurred since the 1979 aerial photograph.</p> <p>461 Peacockes Road: A number of sheds across the property have been demolished since the 1979 aerial photograph. Two additional sheds have been constructed adjacent to the older sheds located north of the dwelling, and another building has been constructed to the northeast of the sheds. An additional dwelling has also been constructed to the west of the former dwelling, which is still present on-site.</p> <p>Land use to the east of 337 Peacockes Road is now mixed commercial / residential.</p>

Date	Description
2017 Google Earth	<p>General comment: No significant changes to 337 and 367 Peacockes Road.</p> <p>461 Peacockes Road: A number of sheds and buildings across the property have been demolished since the 2008 aerial photograph. The site now comprises a number of sheds north of the dwelling, two dwellings in the centre of the site and a milk shed, effluent pond and smaller shed adjacent to Stubbs Road. A pond and an area of land disturbance is located directly east of the sheds.</p> <p>523 Peacockes Road: Two sheds located south of the dwelling have been demolished. One shed remains. No other changes are apparent.</p> <p>No significant changes can be observed in the immediate surrounding area.</p>

4 Current Site Conditions

A site walkover was undertaken by ENGEO on 30 August 2017. The information gathered is summarised in Table 5. Photographs taken during the site visit are included in Appendix 3.

Table 5: Current Site Conditions

Site Condition	Comments
Surface Water Appearance	Due to recent rainfall events, most of the drainage channels were flowing with water. The water in these channels was noted to be relatively clear.
Visible Signs of Plant Stress	None observed. Cattle were observed grazing on 337 and 461 Peacockes Road.
Potential for On- or Off-Site Migration of Contaminants	<p>The main source of potential migration of contaminants onto the site is from properties located on elevated terrain upslope of the site; however, as residential and rural properties are present upslope, there is not considered to be a significant source of potential migration of contaminants onto the site.</p> <p>As the site is predominantly unsealed and a number of drainage channels traverse the site, there is considered to be some potential for impacted soils / dust / sediment (if present) to be discharged from the site into the Waikato River.</p>

Site Condition	Comments
Presence of Visible Signs of Potential Contamination Sources	<p>During the site walkover a number of potential contamination sources were noted. These are summarised below by address.</p> <p>337 Peacockes Road:</p> <ul style="list-style-type: none"> • Four soil stockpiles in the northwest quadrant of the site comprising soil, wood, steel and gravel fragments (see photographs 48-50). • A burnt rubble pit comprising wood, household rubbish and soil. Evidence of recent burning observed (ash and blackened soil) (see photograph 46). • An area of filled ground containing brick and concrete fragments. <p>An area of potential filled ground on northern side of dwelling boundary (see photograph 68).</p> <ul style="list-style-type: none"> • An incinerator used for burning household rubbish (see photographs 65 - 66). • PACM tiles adjacent to the eastern boundary of tennis court and southern boundary of the garage by the residential dwelling (see photographs 69 and 70).
	<p>361 Peacockes Road:</p> <ul style="list-style-type: none"> • Shed containing deteriorated ACM cement board (see photograph 52). • A burnt rubble pit comprising wood, steel, paper, soil and chemical containers. Evidence of recent burning observed (ash and blackened soil) (see photographs 58-59). • Dumped chemical containers (various sizes) adjacent to northern boundary of shed. Inspection of containers revealed that most contained petroleum products (i.e. Havoline etc.) (see photograph 57). • PACM piping adjacent to access way (see photograph 64). • Various stockpiles comprising household rubbish, soil, wood and gravel fragments (see photographs 54-55 and 63). • Crushed empty 200l drums - type of chemicals unable to be identified during inspection (see photograph 60). <p>Shipping container – unknown storage but potentially used for dangerous goods (see photograph 62).</p>

Site Condition	Comments
	<p>461 Peacockes Road:</p> <ul style="list-style-type: none"> Transformer adjacent to new milking shed – the transformer appeared to be relatively new and was located on a concrete footing which was noted to be in good condition (see photograph 2). A burnt rubble pit (approximately 10 m x 8 m) comprising old household goods – refrigerators, old heaters, wood, concrete, carcass, aluminum, chemical containers. The depth of the pit was estimated to be approximately 4 m. Evidence of recent burning observed (ash and blackened soil) (see photographs 25-29). Storage of chemical drums alongside the southern boundary of the new milking shed. These included products such as Aquaklenz (acid detergent), emollients including Hibitane 2 Teat Spray (Chlorhexidine Digluconate-based) and Glycerine and chemicals used for bloat control in dairy cows including Bloatenz (alcohol ethoxylate / propoxylate surfactant) (see photographs 3-5). A septic tank adjacent to the northern side of the new milking shed (see photograph). An area in the southern half of the site which has stockpiled soil comprising bricks, wood, steel and plastic and evidence of filled land. A potential burial pit (e.g. for offal) along the northern side of storage shed A. PACM in soffits of both residential dwellings located on the property (see photographs 44-45). Area of filled ground adjacent to the old milking shed compound. Evidence of brick, tile, wood and concrete fragments observed (see photograph 30). Area of former pond, which has now been infilled. Source of fill unknown. Stockpiled soil adjacent to the old milking shed (approximately 4 m x 3 m) compound comprising orange brown silt and gravel fragments (see photograph 31). Two above ground storage tanks (ASTs) adjacent to the southern side of the old milking shed. One tank appears to be relic and has been replaced by a newer tank constructed in 2015. The ASTs were located on a concrete slab. The slab appears to be in good condition, with very few cracks noted. Evidence of staining on the slab was observed at the time of inspection (see photograph 32). Old milking shed (Shed B on Figure 2C) observed to contain ACM cladding (see photograph 33). Storage of chemical containers and paint drums in and around old milking shed including glycerine, magnesium oxide (powder form), chlorohexidine glyconate, old empty 200l – former contents unable to be identified due to condition (see photographs 33-36). Incinerator adjacent to Shed C which appeared to be used for domestic rubbish (refer Figure 2C).

Site Condition	Comments
	<p>523 Peacockes Road:</p> <ul style="list-style-type: none"> The shed (refer Figure 2E) located on the property was observed to contain interior ACM cladding (see photographs 8-11). Storage of chemical containers and paint drums within Shed A. Containers noted to contain sodium hypochlorite and petroleum products (see photographs 8-11). Disused 200l drum (empty), contents unidentified (see photograph 12). Rubbish stockpile comprising steel, gravel and outdoor heater (see photograph 71). Dwelling, garage and storage shed with paint in a deteriorated condition (potential for contamination from lead based paint) (see photographs 14 -15). PACM construction materials used on dwelling, garage and shed (see photographs 14 -15).
	<p>Entire Site:</p> <ul style="list-style-type: none"> Potential for lead paint and ACM in all buildings observed on-site. Potential for historical use of superphosphate fertiliser across entire property. The location of all site features identified above are shown on Figures 2 A-E.

5 Potential HAIL Activities

Activities included on the Ministry for the Environment's HAIL (MfE, 2011e) trigger the requirement for a contaminated land investigation prior to development. The following activities listed on the HAIL are known or suspected to have been, or currently are, present at the site:

- HAIL ID A17: Storage tanks or drums for fuel, chemical or liquid waste.

Former or current chemical storage noted in a number of places across the site including:

- Chemical containers and drums dumped around the shed located at 361 Peacockes Road.
- Above ground storage tanks located adjacent to the old milk shed at 461 Peacockes Road.
- Storage of empty chemical containers and drums within the old milking shed at 461 Peacockes Road.
- Storage of chemical drums outside the new milking shed at 461 Peacockes Road.
- Chemical containers and drums observed at 523 Peacockes Road.

- **HAIL ID B2: Electrical transformer including the manufacturing, repairing or disposal of electrical transformers or other heavy electrical equipment.**

A transformer was noted adjacent to the new milking shed at 461 Peacockes Road.

- **HAIL ID E1: Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition.**

All buildings currently located on the site have the potential to contain ACM. There is also the potential that historical buildings may have contained ACM and when demolished, materials may have been scattered and buried in the various rubble pits located across the site. PACM was also observed in piping and tile fragments on 337 and 361 Peacockes Road.

- **HAIL ID G5: Waste disposal to land.**

Areas of filled land, stockpiles of soil and rubble pits containing a variety of materials were observed during the inspection in a number of places across the site (see Figures 2A – E for locations).

- **HAIL ID I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.**

Potential for lead based paint to be used on buildings across the site. The inspection also noted recent burning activities occurring in a number of areas across the site, including three rubble pits and two outdoor incinerators. An underground septic tank located adjacent to the northern side of the new milking shed and an effluent pond were identified at 461 Peacockes Road during the site walkover inspection. Although the use of superphosphate fertiliser was not identified during the inspection, there is a potential that it has been applied at the site historically.

6 Conceptual Site Model

A conceptual site model consists of three primary components. For a contaminant to present a risk to human health or the environment, all three components are required to be present and connected. For the potential risk to be determined, each component is required to be assessed. The three components of a conceptual site model are:

- Source of contamination
- Pathway to allow the contamination to mobilise
- Sensitive receptors which may be impacted by contamination

The potential source, pathway, receptor linkages at the site are provided in [Table 6](#).

Table 6: Conceptual Site Model

Source	Pathway	Receptor
Potential superphosphate application Cadmium	Soil ingestion, inhalation of dust, and / or dermal contact	Future site users Redevelopment site worker
Chemical and fuel storage tanks / drums / containers - Heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH)		
Use of lead based paint on buildings		
Fill material of unknown origin Heavy metals, PAHs and asbestos		
Electrical Transformer - Polychlorinated biphenyls (PCBs), PAHs, copper, tin, lead, mercury and asbestos		
Septic tank and effluent pond		
Open burning occurring on-site - Hydrocarbons including PAHs and heavy metals	Leaching of contaminants	Local environment / domestic groundwater supply
Building materials containing Asbestos	Inhalation of fibres	Future site users Redevelopment site workers
Likelihood of Contamination	High – a number of potential sources of contamination have been identified. An intrusive investigation is required to confirm contaminant levels and assess controls required during and post redevelopment works to protect human health and the environment.	

7 Conclusions

ENGEO was commissioned by Weston Lea Ltd to prepare a PSI for the proposed 1,000 lot residential subdivision planned at 337, 361 & 523 Peacockes Road and a portion of 461 Peacockes Road. The PSI was prepared to fulfil regulatory requirements prior to applying for resource consent to subdivide the site.

The information collected regarding past uses of the site and the surrounding area indicates that there has been farming activities undertaken across the site since the early 1900s. A review of the historical aerial photographs indicate that a number of buildings and sheds were constructed and subsequently demolished between the late 1930s to present.

Numerous known and potential HAIL activities were identified during the preparation of this PSI, as discussed in Section 0. Given the identification of these potentially hazardous activities on-site, further intrusive investigation work is needed to assess if the site is suitable for its intended residential land use, as well as controls that may be required during and / or post redevelopment works to protect human health and the environment from site contamination. It is anticipated that Hamilton City Council and Waikato Regional Council will require soil sampling be performed as part of a detailed site investigation (DSI) to determine if a consent under the NES is required to support the future redevelopment (NES, 2011).

8 Recommendations

To assess the potential for contamination associated with the identified HAIL activities, the following intrusive works described below should be undertaken:

- **HAIL ID A17: Storage tanks or drums for fuel, chemical or liquid waste.**

Samples should be taken from soils directly beneath and surrounding storage tanks, containers and drums identified during the site inspection. Samples should be analysed for a suite of heavy metals, VOCs, SVOCs and TPH.

- **HAIL ID B2: Electrical transformer including the manufacturing, repairing or disposal of electrical transformers or other heavy electrical equipment.**

Samples should be taken from soils within the direct vicinity of the electrical transformer. Samples should be analysed for a suite of polychlorinated biphenyls (PCBs), PAHs, copper, tin, lead, mercury and asbestos.

- **HAIL ID E1: Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition.**

As required by the Health and Safety at Work (Asbestos) Regulations (2016), an asbestos demolition survey should be undertaken before demolition of any buildings located on-site constructed prior to the year 2000. If asbestos is known or suspected to be present in the exterior of the building, the soil directly surrounding the buildings should also be tested to determine if it has been impacted by the deterioration or damage of external walls. Samples should also be collected from all areas where fill has been identified on the site to assess whether the soil has been impacted by ACM.

- **HAIL ID G5: Waste disposal to land.**

Samples should be collected from all identified fill areas, stockpiles and rubble pits across the site. Samples should be analysed for a suite of heavy metals, SVOCs and TPH (if petroleum products are identified to be present within the rubble materials).

- **HAIL ID I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.**

Lead paint: Samples for lead analysis should be collected from soil directly surrounding buildings where paint is noted to be in a deteriorated condition.

Evidence of burning activities: Samples should be collected from soil directly impacted by burning activities (i.e. where ash and blackened soil is observed). All samples should be tested for heavy metals and PAHs.

Septic tank and effluent pond: Soil samples should be collected directly surrounding and beneath the location of the septic tank and any associated lines. Samples should also be collected from soil and sediment beneath and surrounding the location of the effluent pond. All samples should be tested for nutrients, biological contaminants, heavy metals and PAHs.

Application of Superphosphate Fertiliser: Surface soil samples from across the entire site should be collected to assess whether superphosphate fertiliser has resulted in an accumulation of cadmium at the site.

We understand that a discretionary activity consent is being sought for the site redevelopment and that the DSI will be completed at a later date as a condition of the resource consent. This approach has been discussed and confirmed with Hamilton City Council. A site management plan (SMP) or remedial action plan (RAP) may be required on completion of this DSI.

9 References

- Edbrooke, S. (2005). *Geology of the Waikato Area. Institute of Geological & Nuclear Sciences. 1:250,000 Geological Map 4*. Lower Hutt, New Zealand: Institute of Geological & Nuclear Sciences Limited.
- ENGEO. (2017). *Preliminary Geotechnical Investigation: 1000 Lot Development at Peacockes Road*. Auckland: ENGEO.
- MfE. (2011). *Ministry for the Environment (2011). Hazardous Activities and Industries List (HAIL)*.
- MfE. (2011a). *Ministry for the Environment. (2011). Contaminated Land Management Guidelines No.1: Reporting on Contaminated Sites in New Zealand*.
- MfE. (2012). *Ministry for the Environment. (2012). Users Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*.
- NES. (2011). *The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations (2011)*. .
- WAMINZ, 2016. (2016). *Waste Management Institute New Zealand. Technical Guidelines for Disposal to Land*.

10 Limitations

- i. We have prepared this report in accordance with the brief as provided. This report has been prepared for the use of our client, Weston Lea Ltd, their professional advisers and the relevant Territorial Authorities in relation to the specified project brief described in this report. No liability is accepted for the use of any part of the report for any other purpose or by any other person or entity.
- ii. The recommendations in this report are based on the ground conditions indicated from published sources, site assessments and subsurface investigations described in this report based on accepted normal methods of site investigations. Only a limited amount of information has been collected to meet the specific financial and technical requirements of the client's brief and this report does not purport to completely describe all the site characteristics and properties. The nature and continuity of the ground between test locations has been inferred using experience and judgement and it should be appreciated that actual conditions could vary from the assumed model.
- iii. Subsurface conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual data provided. They should perform any additional tests as necessary for their own purposes.
- iv. This Limitation should be read in conjunction with the IPENZ/ACENZ Standard Terms of Engagement.
- v. This report is not to be reproduced either wholly or in part without our prior written permission.

We trust that this information meets your current requirements. Please do not hesitate to contact the undersigned on (09) 972 2205 if you require any further information.

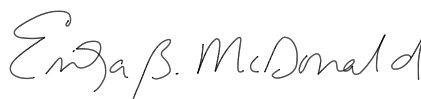
Report prepared by



Courtney Armstrong

Environmental Scientist

Report reviewed by



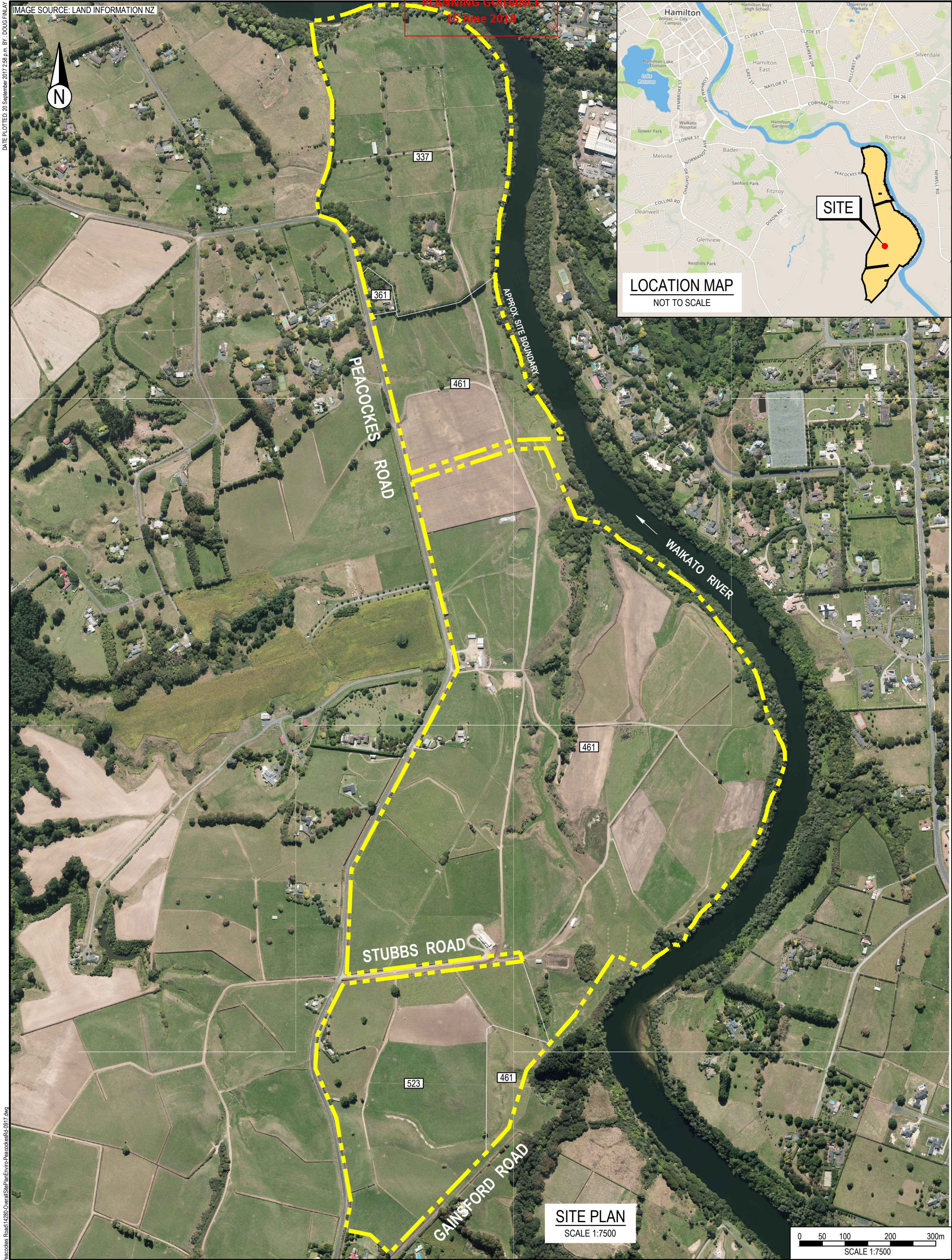
Erika McDonald, CMEngNZ

Associate Environmental Engineer

FIGURES

IMAGE SOURCE: LAND INFORMATION NZ

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Auckland Office
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Tel: 09 972 2205
www.engeo.co.nz

OVERALL SITE PLAN

Title:

Client: WESTON LEA LTD C/- DELOITTE

Project:
AMBERFIELD
SUBDIVISION
HAMILTON

Proj No: 14280.000.000

Designed: CF
Drawn: DF
Checked: -
Date: 20.09.17

Scale: 1:7500

Figure No:

2

Size: A3

Rev: 0

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-					
Rev	Date	Description		Drwn	Chkd

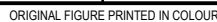



Auckland Office
6 Antares Place, Rosedale
North Shore City 0632, Auckland
Tel: 09 972 2205
www.engeo.co.nz

Title:

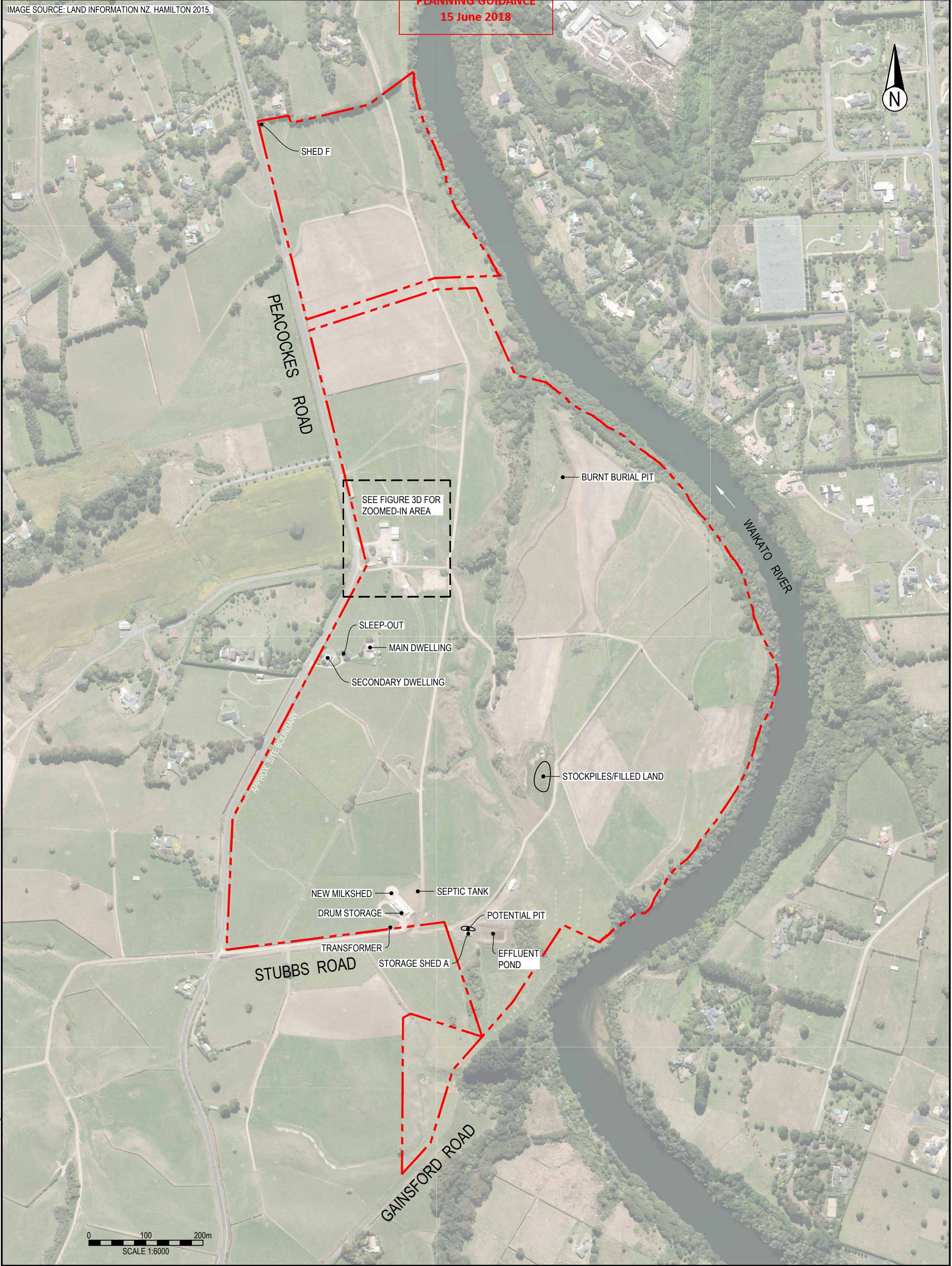
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Project: 337 PEACOCKES ROAD SUBDIVISION HAMILTON	Designed: CF	
	Drawn: DF	
	Checked: -	
	Date: 20.09.17	
Proj No: 14280.000.000	Scale: 1:3000	Size: A3
		Rev: 0



										<p>Auckland Office 6 Antares Place, Rosedale North Shore City 0632, Auckland Tel: 09 972 2205 www.engeo.co.nz</p>					Title:										Client: WESTON LEA LTD. C/- DELOITTE					Figure No:											
															SITE FEATURES										Project:					361 PEACOCKES ROAD SUBDIVISION HAMILTON					Designed: CF		2b				
																														Drawn: DF											
																														Checked: -											
																														Date: 20.09.17					Size: A3						
																														Proj No: 14280.000.000					Scale: 1:500					Rev: 0	
Rev Date Description Drwn Chkd																																									

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SCALE 1:6000



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North Shore City 0632, Auckland
Tel: 09 972 2205
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Title:

SITE FEATURES

Client: WESTON LEA LTD C/- DELOITTE

Project:
461 PEACOCKES ROAD
SUBDIVISION
HAMILTON

Proj No: 14280.000.000

Designed: CF
Drawn: DF
Checked: -
Date: 20.09.17

Scale: 1:6000

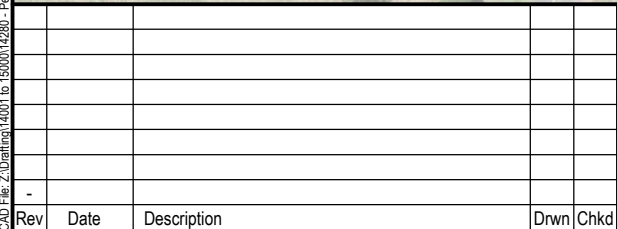
Figure No:

2c

Size: A3

Rev: 0

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SITE FEATURES

Client: WESTON LEA LTD C/- DELOITTE		Figure No:
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	Drawn: DF	
	Checked: -	
	Date: 20.09.17	
Proj No: 14280.000.000	Scale: 1:1000	Size: A3 Rev: 0

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	<p>Auckland Office 6 Antares Place, Rosedale North Shore City 0632, Auckland Tel: 09 972 2205 www.enggeo.co.nz</p>	<p>Title:</p> <p>SITE FEATURES</p>	Client: WESTON LEA LTD C/- DELOITTE		Figure No:
			Project: 523 PEACOCKES ROAD SUBDIVISION HAMILTON	Designed: CF	2e
				Drawn: DF	
				Checked: -	
Proj No: 14280.000.000			Date: 20.09.17		Size: A3
			Scale: 1:2000		Rev: 0

APPENDIX 1:
SLUR Enquiry Responses

7 September 2017

ENGEO
PO Box 305136
Auckland 0757
Attn: Courtney Fagan

Dear Courtney

Request under Section 10 of the Local Government Official Information and Meetings Act 1987

This letter provides the response to your request for information under Section 10 of the Local Government Official Information and Meetings Act 1987. The properties that are the subject of this request (details as provided by you) is as follows:-

Address: 337, 361 461 & 523 Peacockes Rd, Hamilton
Legal Description: (Multiple Lots – The Adare Company Ltd)

Council holds records of properties where certain hazardous activity and industrial landuses (HAIL) that are considered likely to cause land contamination are known to be occurring, may have occurred, or have occurred in the past.

As at **7 September 2017** a search of environmental health records has shown that no information in relation to the likely presence of contaminants in soil is held by the Environmental Health Unit in respect of this property.

However, the site is a Greenfield site and as such may require an assessment under the Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (referred to as the NES). If there is sufficient reason to believe that a proposed activity may pose a human health risk to future site users then an investigation may be required to establish if any potential soil contamination is present, and to determine whether any controls or restrictions are required.

Important notes:-

The absence of information does not necessarily mean that no hazardous activity or industrial landuse is occurring or has occurred on the land, or the absence of hazardous contaminants on the land, but simply means that no information is currently held by Council.

No inspection of the subject property(s) has been carried out as a result of this application. This response relates only to the likely presence of hazardous contaminants. It does not include any information Council may hold in relation to any other matters listed in Section 44A(2) of the Local Government Official Information and Meetings Act 1987.

Disclaimer:

December 2008



Private Bag 3010
Hamilton 3240
New Zealand

TEL 07 838 6699
FAX 07 838 6599
EMAIL info@hcc.govt.nz
hamilton.govt.nz

Hamilton City Council accepts no liability for any inaccuracy in, or omission from, the information provided above, or for any consequence of that inaccuracy or omission.

Any person who wishes to make any commercial decisions that involves an assessment of whether the site is impacted by hazardous contaminants should make their own enquiries and decisions.

Further information:-

More information on hazardous activities and industries that are considered likely to cause land contamination can be found at:-

<http://www.mfe.govt.nz/issues/hazardous/contaminated/hazardous-activities-industries-list.html>.

Please contact me if you require any further assistance.

Yours sincerely

Carmel Mangan
Contaminated Land Officer
Council Buildings
Garden Place, Hamilton
Phone 07 838 6451
Fax 07 838 6458
Email carmel.mangan@hcc.govt.nz

Dear Courtney,

Thank you for your enquiry. Usually we encourage people to lodge enquiries via our website (<https://bps.waikatoregion.govt.nz/online-services/new/RequestForService/step/1>) but in this instance I have completed this on your behalf.

Thank you for your LGOIMA enquiry regarding information the Waikato Regional Council may hold relating to potential contamination at the properties indicated below:

337 Peacockes Road, Fitzroy: Lot 1 DP S81210 Lot 2 DP S81210 (04151/037/10)

337 Peacockes Road, Fitzroy: Lot 3 DP S81210 Lot 4 DP S81210 (04151/037/20)

**461 Peacockes Road, Fitzroy: Allot 87 Parish of Te Rapa ALT PT 93 Parish of Te Rapa
LOT 1 DP 30545 Lot 1 DP 36935 Lot 1 DP S12991 Lot 1 DP S76734 Lot 1 DP S78023 Lot 2 DP
23381 Lot 5 DP 17475 Lot 5 DP S45202 Lot 8 DP 34164 Pt Allot 94 Parish of Te Rapa Pt Lot 6
DP 34164 (04151/041/00)**



Background: The Waikato Regional Council maintains a register of properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of

past land use. This register (called the Land Use Information Register) is still under development and should not be regarded as comprehensive. The 'potentially contaminated' category is gradually being compiled with reference to past or present land uses that have a greater than average chance of causing contamination, as outlined in the Ministry for the Environment's Hazardous Activities and Industries List (HAIL): <http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf>

These properties: I can confirm that **none** of these properties currently appear on the Land Use Information Register.

District Councils: Our records are not integrated with those of territorial authorities, so it would also be worth contacting the Hamilton City Council to complete your audit of Council records if you have not already done so. In general, information about known contaminated land will be included on a property LIM produced by the territorial authority.

Rural Land Considerations: Examples of sites that are "more likely than not" to have soil contamination (HAIL sites) include timber treatment activities, service stations and/or petroleum storage, panel beaters, spray painters, etc. Whilst pastoral farming is not included on this list, typical farming activities of horticulture, sheep dipping, chemical storage, petroleum storage and workshops are; but are more difficult to identify and may not be as well represented on the Land Use Information Register. Therefore, individuals interested in pastoral land may be interested in completing further investigations in accordance with Ministry for the Environment Guidelines prior to land purchase and/or development.

Additional Information: Please note that:

- Significant use of lead-based paint on buildings can, in some cases, pose a contamination risk; the use of lead-based paint is not recorded on the Land Use Information Register.
- Buildings in deteriorated or derelict condition which contain asbestos can result in asbestos fibres in soil; the use of asbestos in building materials is not recorded on the Land Use Information Register.
- The long term, frequent use of superphosphate fertilisers can potentially result in elevated levels of cadmium in soil; the use of superphosphate fertiliser is not recorded on the Land Use Information Register.
- We are not currently resourced to fully incorporate historic aerial photographs in our region-wide assessment of HAIL activities. A significant proportion of the Crown historical aerial image archive for the Waikato region is available to view free of charge at <http://retrolens.nz/>. We recommend this resource is consulted for any HAIL assessment.

Please feel free to contact me if you have any further queries, or would like to discuss the matter further.

Regards,

Michelle Begbie | Scientist, Land and Soil | Science and Strategy
Waikato Regional Council
P: +64 7 859 0549
F: +64 7 859 0998
Private Bag 3038, Waikato Mail Centre, Hamilton 3240

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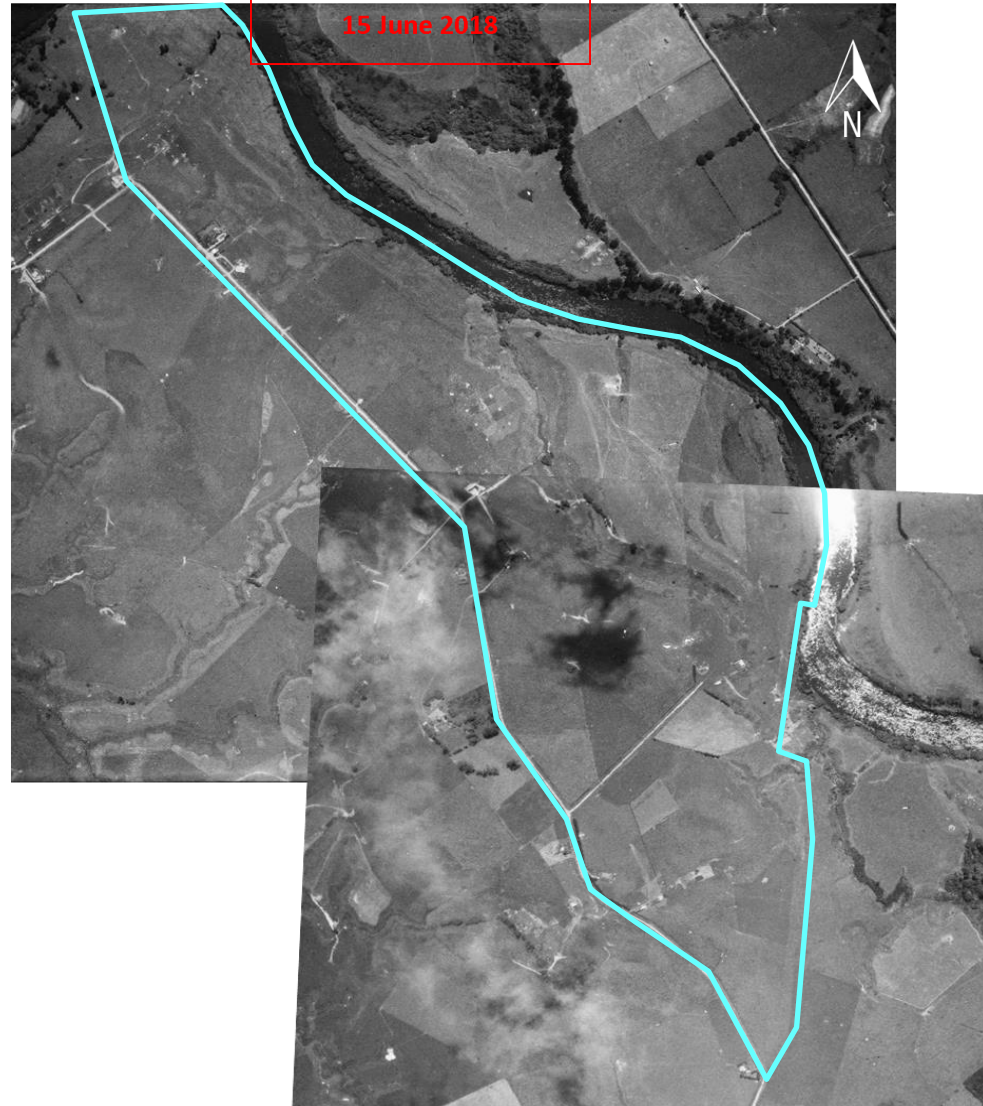


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Please Note: Due to the large volume of enquiries being received, we may not be able to respond to your enquiry as quickly as previously. We are resourced to meet 20 day response times as per LGOIMA, but endeavour to respond more quickly when workload permits. If your enquiry is urgent, please mark it as such and we will do our best to assist.

APPENDIX 2: Historic Aerial Photographs

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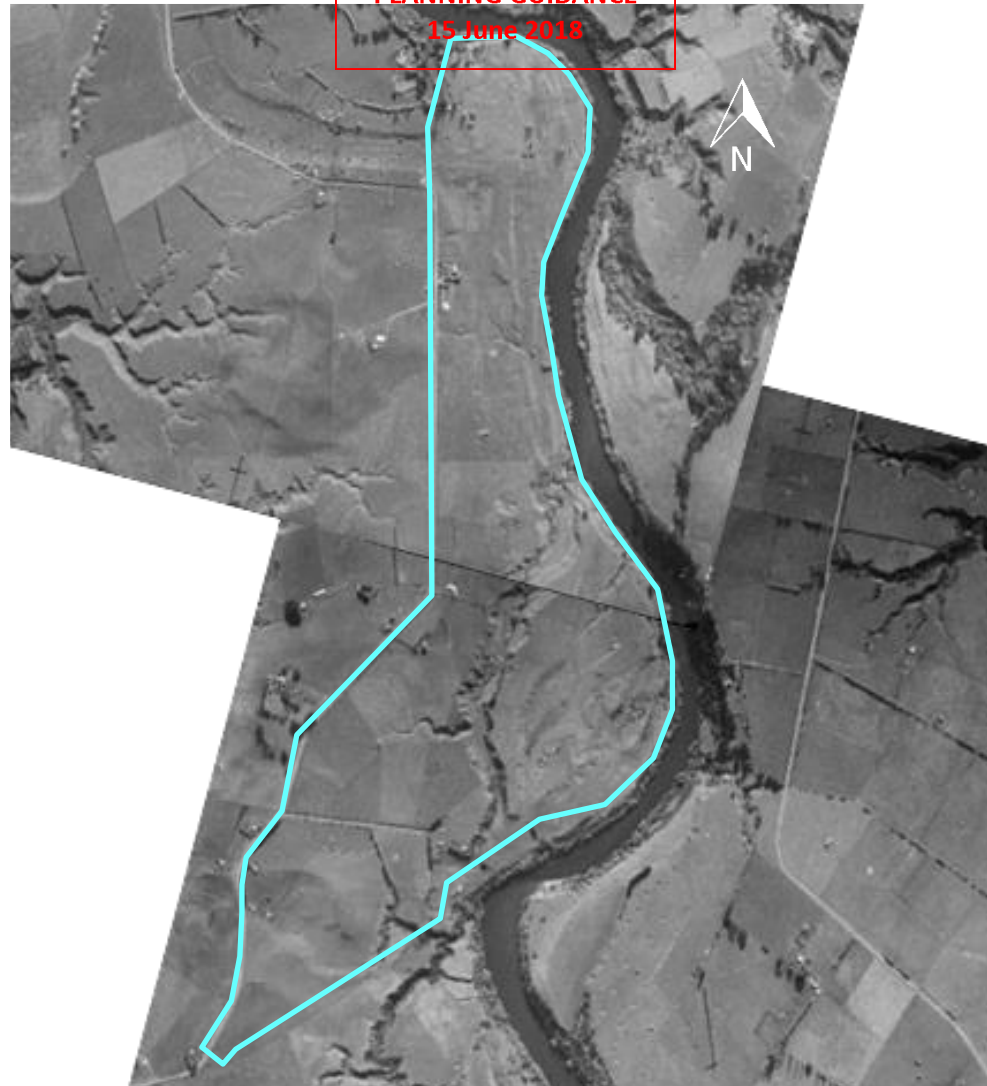
 Approximate
site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug- 17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1938
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

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 Approximate
site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1943
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



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15 June 2018

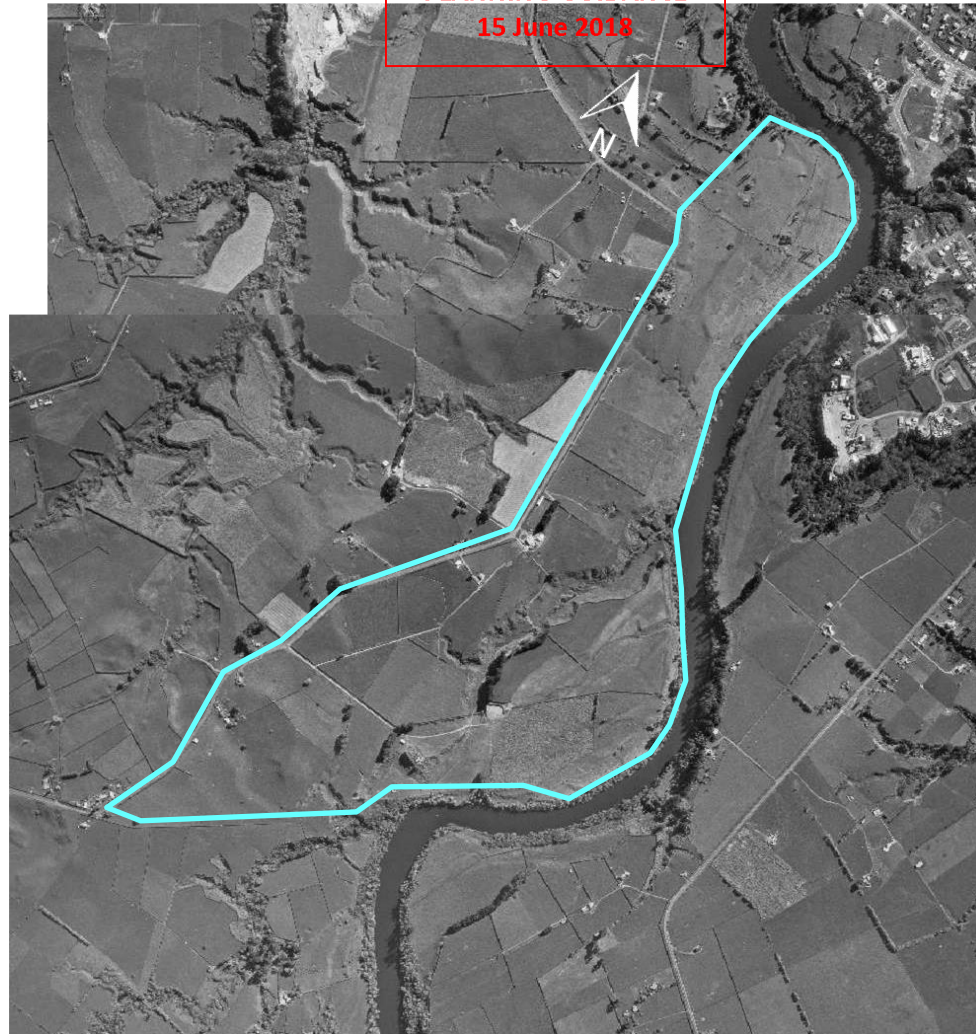
 Approximate site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1967
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

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 Approximate
site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1972
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

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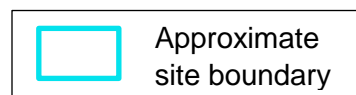
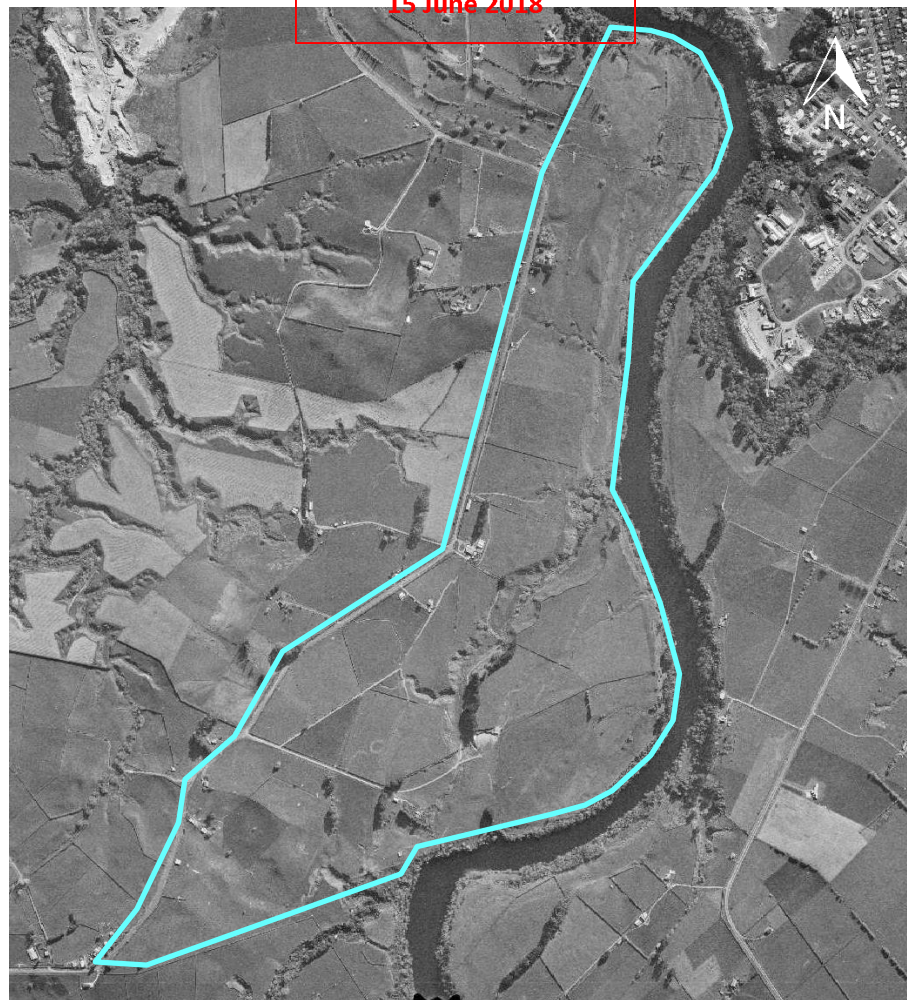
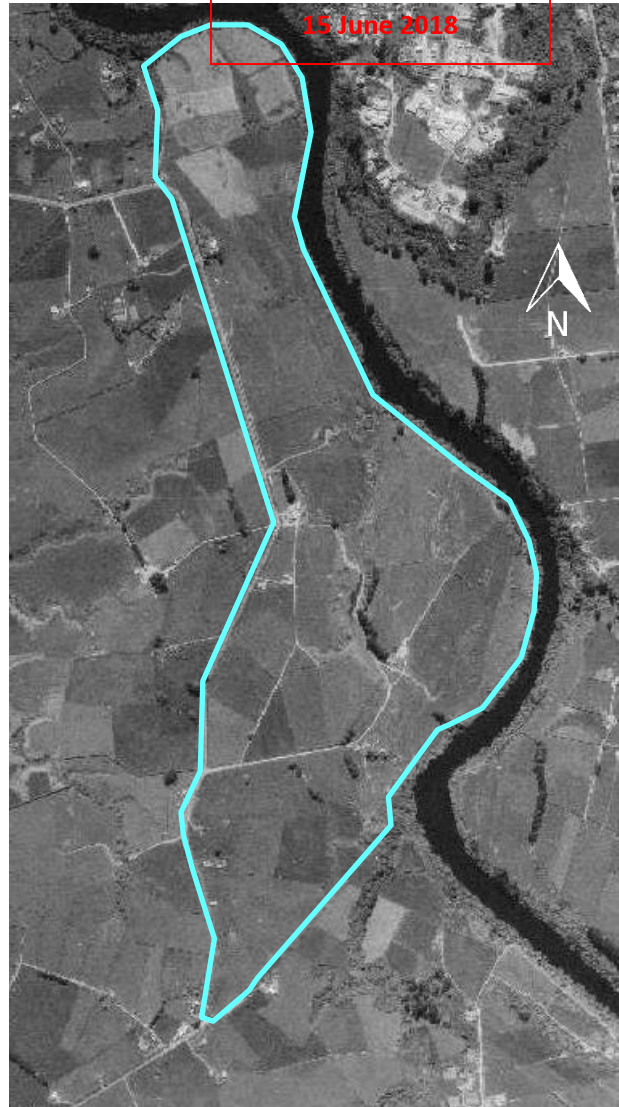


Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1973
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

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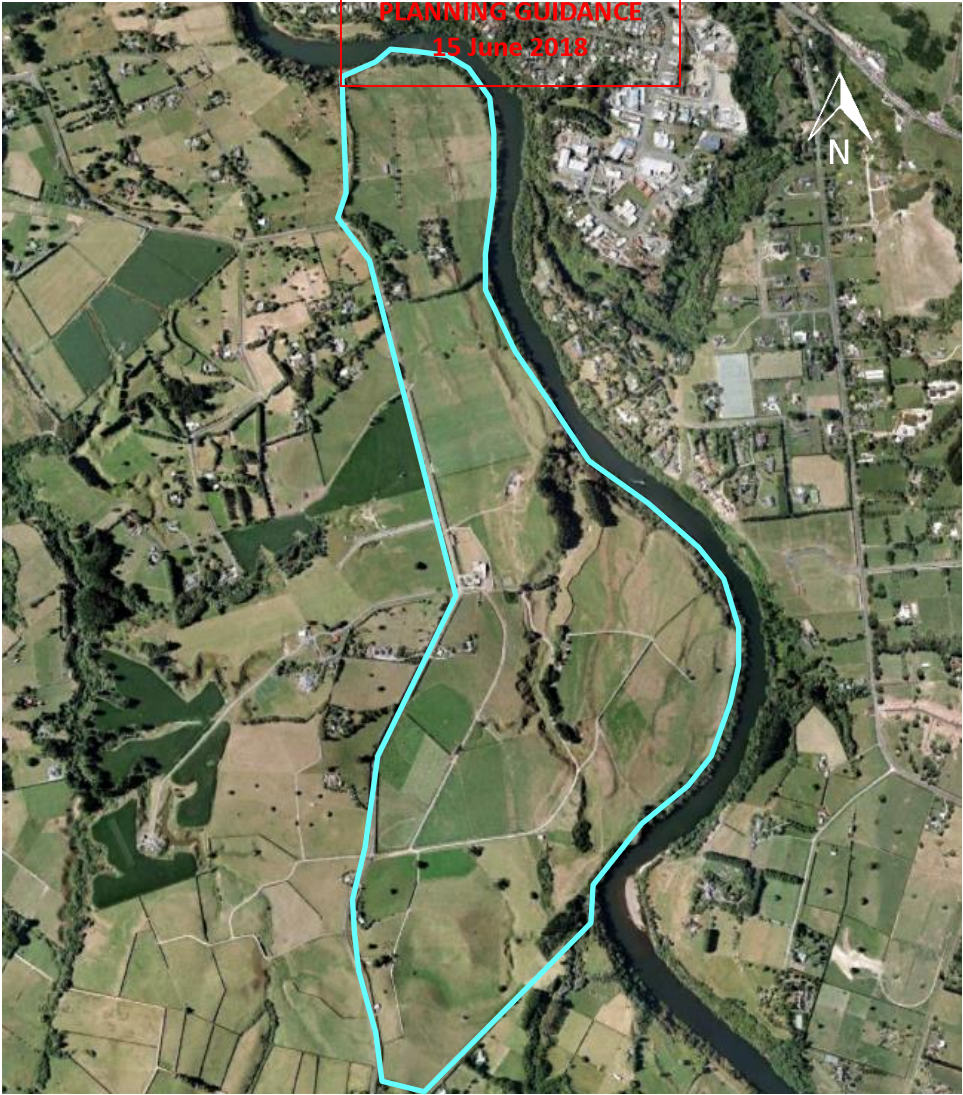
 Approximate
site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1979
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

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Approximate
site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 1979
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

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 Approximate
site boundary

Image sourced from Retrolens (retrolens.nz)



Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Aerial Photograph - 2017
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001

APPENDIX 3:
Site Walkover Photographs



Photograph 1: New milk shed



Photograph 2: Transformer by milk shed



Photograph 3: New milk shed



Photograph 4: Chemical storage around new milk shed

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 5: Chemical storage around new milk shed



Photograph 6: Track off Stubbs Road heading south



Photograph 7: Track off Stubbs Road heading north



Photograph 8: 523 Peacocks Rd

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 9: 523 Peacockes Road interior



Photograph 10: 523 Peacockes Road interior



Photograph 11: 523 Peacockes Road - interior with Asbestos



Photograph 12: 523 Peacockes Road - Drum adjacent to southeastern corner of dwelling

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 13: 523 Peacockes Road - Garage



Photograph 14: A14 - 523 Peacockes Road – Dwelling and storage shed



Photograph 15: View north east towards new milk shed from 523 Peacockes Road



Photograph 16: Bore on 461 Peacocke Road south of new milk sheds

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 17: View looking north-east from PT Allot 94



Photograph 18: Unidentified structure located directly east of new milk shed. Likely used for stockpiling and loading of gravel (or similar)



Photograph 19: View looking north from new milk shed at location of underground septic tank



Photograph 20: View looking east at drainage from new milk shed

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 21: View looking east at new milk shed



Photograph 22: Storage shed B adjacent to effluent pond



Photograph 23: Effluent pond



Photograph 24: View looking east towards Waikato River

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 25: Burnt rubble pit identified in valley at 461 Peacockes Road



Photograph 26: Burnt rubble pit identified in valley at 461 Peacockes Road



Photograph 27: Burnt rubble pit identified in valley at 461 Peacockes Road



Photograph 28: Burnt rubble pit identified in valley at 461 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 29: View looking north-east from ridge line looking at location of buried rubble pit



Photograph 30: Filled land adjacent to old milking shed



Photograph 31: Stockpiles of fill adjacent to old milking shed



Photograph 32: New and old diesel AST adjacent to old milking shed

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 33: Interior of old milking shed



Photograph 34: Interior of old milking shed



Photograph 35: Interior of old milking shed



Photograph 36: Interior of old milking shed

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 37: Interior of old milking shed



Photograph 38: Interior of Shed C



Photograph 39: Exterior of shed D



Photograph 40: Exterior of Shed C

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 41: Exterior of old milking shed (shed B)



Photograph 42: Sheds adjacent to dwelling at 461 Peacockes Road



Photograph 43: Sheds adjacent to dwelling at 461 Peacockes Road



Photograph 44: Potential asbestos on dwelling at 461 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 45: Potential asbestos on dwelling at 461 Peacockes Road



Photograph 46: Burnt rubble pit - 337 Peacockes Road



Photograph 47: Burnt Rubble Pit - 337 Peacockes Road



Photograph 48: Stockpiles - 337 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 49: Stockpiles - 337 Peacockes Road



Photograph 50: Stockpiles - 337 Peacockes Road



Photograph 51: Burnt stockpiles adjacent to shed at 361 Peacockes Road



Photograph 52: Shed containing asbestos at 361 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 53: Dwelling - 361 Peacockes Road



Photograph 54: Asbestos cladding on shed - 361 Peacockes Road



Photograph 55: Asbestos cladding on shed and surrounding stockpiled materials - 361 Peacockes Road



Photograph 56: Chemical containers south of the shed at 361 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 57: Chemical containers south of the shed at 361 Peacockes Road



Photograph 58: Burnt rubble pit adjacent to chemical containers at 361 Peacockes Road



Photograph 59: Burnt rubble pit - 361 Peacockes Road



Photograph 60: Used and empty chemical drums adjacent to container at 361 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 61: View looking south adjacent to shed at 361 Peacockes Road



Photograph 62: -View looking south of contaminants at 361 Peacockes Road



Photograph 63: View looking east adjacent to shed at 361 Peacockes Road



Photograph 64: PACM adjacent to accessway at 361 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 65: Incinerator adjacent to dwelling at 337 Peacockes Road



Photograph 66: Disused incinerator adjacent to dwelling at 337 Peacockes Road



Photograph 67: Dwelling at 337 Peacockes Road



Photograph 68: Potential filled area adjacent to fence line behind garage at 337 Peacockes Road

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
Scale (approx.)	Not to scale	ENGEO Ref.	14280.000.001



Photograph 69: PACM adjacent to fence line to the east of the tennis court at 337 Peacockes Road



Photograph 70: PACM tiling at 337 Peacockes Road behind garage



Photograph 71: Stockpiled material adjacent to dwelling at 523 Peacockes Road



Photograph 72: Exterior of Shed C and D

Date	Aug-17	Client	Weston Lea Ltd
Drawn by	CF	Project	Amberfield Subdivision
Approved by	EM	Description	Site Walkover Photographs
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