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Fraser Thomas

ENGINEERS • RESOURCE MANAGERS • SURVEYORS



O'HARA WAIUKU PLAN
CHANGE

45A, 92 & 130 CONSTABLE
ROAD, WAIUKU

PRELIMINARY SITE
INVESTIGATION-
CONTAMINATION



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PRELIMINARY SITE INVESTIGATION - CONTAMINATION

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PRELIMINARY SITE INVESTIGATION REPORT - CONTAMINATION
O’HARA WAIUKU PLAN CHANGE, 45a, 92 & 130 CONSTABLE ROAD, WAIUKU

EXECUTIVE SUMMARY

In response to instructions from Gardon Trust, Fraser Thomas Limited (FTL) has undertaken a Preliminary Site Investigation (PSI) for the proposed O’Hara Waiuku Plan Change at 45a, 92 & 130 Constable Road, Waiuku, Auckland. The proposed plan change includes the rezoning of all properties from ‘Rural – Mixed Rural Zone’ to ‘Residential – Mixed Housing Suburban Zone’ to allow for future residential development. The sites have a combined total area of 32.04ha.

This investigation involved a desktop study, site walkover and reporting associated with potential land contamination issues.

The main rationale and objectives for this investigation were:

- To identify the main actual or potential contamination issues due to ongoing and historic use of land within the proposed plan change area.
- To confirm that the proposed plan change area is suitable or can be made suitable for the proposed plan change and future residential development, including identifying which individual sites require further investigation prior to development.

This investigation has been undertaken in general accordance with the requirements of the Ministry for the Environment ‘Contaminated Land Management Guidelines No.5’ (CLMG5) for site investigations and analysis of soils with contamination of this nature. Furthermore, this investigation has been managed, reviewed and approved by a Suitably Qualified and Experienced Practitioner (SQEP), as defined in the National Environment Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS).

The PSI undertaken of the proposed O’Hara Waiuku plan change area has found:

- The NESCS and the contaminated land provisions of the Auckland Unitary Plan: Operative in Part (AUP:OP) only apply to 92 & 130 Constable Road within the proposed O’Hara Waiuku plan change area. 45a Constable Road has been in use for stock grazing, with no HAIL activities identified on site.
- These properties (92 & 130) have also essentially been used for livestock grazing purposes for the last 80 years. However, during this time, the following HAIL activities have occurred onsite:
 - Historical Application of Lead Based Paint & Burning of unknown materials (I);
 - Stock Loading Ramps and potential Spray Races (A8); and
 - Asbestos products in a deteriorated state (E1) (92 Constable Road only).
- Based on this and on the discussion presented above there are contamination issues at these subject sites that may present a risk to the health of site workers or residents from the proposed future residential developments, and as such, require further investigation.

In addition, it is important to note that the subject sites are considered suitable for the proposed O'Hara Waiuku plan change, however prior to any future subdivision or soil disturbance works a Detailed Site Investigation will be required for both of these properties. This will involve soil sampling from the areas of concern for relevant parameters to determine whether the soil contains elevated levels of contaminants at levels in excess of relevant guidelines. Once this sampling is done, the consent status of these areas under the NESCS and AUP:OP will be determined, along with the need for any remedial works and long-term management (if required).

It should further be noted that if during site development works, any fill, rubbish, odorous or visually stained soil materials are encountered suggestive of contamination, that Fraser Thomas Ltd should be notified to inspect these areas and to collect sufficient soil samples to confirm whether this material can remain on site or needs to be disposed of off-site.

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**NATIONAL ENVIRONMENTAL STANDARD FOR ASSESSING AND MANAGING
CONTAMINANTS IN SOIL TO PROTECT HUMAN HEALTH**

**GARDON TRUST
PRELIMINARY SITE INVESTIGATION REPORT - CONTAMINATION
O'HARA WAIUKU PLAN CHANGE, 45A, 92 & 130 CONSTABLE ROAD, WAIUKU**

PRELIMINARY SITE INVESTIGATION - CERTIFYING STATEMENT

I, Dr Sean Matthew Finnigan of Fraser Thomas Ltd certify that:

This Preliminary Site Investigation meets the requirements of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, NESCS) Regulations 2011 because it has been:

- a. done by suitably qualified and experienced practitioners, and
- b. reported on in accordance with the current edition of Contaminated Land Management Guidelines No 1 – Reporting on Contaminated Sites in New Zealand, and
- c. the report is certified by a Suitably Qualified and Experienced Practitioner.

This Preliminary Site Investigation has found:

- a. The proposed zoning change will trigger a “change in land use” activity under the NESCS, while “subdivision” and “soil disturbance” activities will apply to future consenting stages.
- b. The NESCS may apply to specified potential HAIL activities as described in this report and illustrated on the Site Plan. Further intrusive investigation is required of these areas for potential contamination in order to determine any associated human health and environmental effects. If further investigation is not undertaken prior to lodging for resource consent, then the proposed subdivision would be a discretionary activity under Regulation 11 of the NESCS.

This investigation has been undertaken by the following staff:

- a. Dr Sean Finnigan, BE, MEnv.Sci, PhD; CPEng, M.ALGA, M.WasteMINZ, CEnvP-CL (21 yrs CL experience)
- b. Elliot Bish, BSc, PGDipl. Env.Sci, IP402 BOHS Asbestos Building Surveyor, M.ALGA, M.WasteMINZ (5 yrs CL experience)

Further evidence of these staff' qualifications and experience can be provided on request.

Signed:



Date: 1st November 2021



**GARDON TRUST
PRELIMINARY SITE INVESTIGATION REPORT - CONTAMINATION
O'HARA WAIUKU PLAN CHANGE, 45a, 92 & 130 CONSTABLE ROAD, WAIUKU**

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- B Historical Aerial Photographs (1942, 1961, 1975, 1981, 1988, 2001, 2010, 2017)
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PRELIMINARY SITE INVESTIGATION REPORT - CONTAMINATION
O'HARA WAIUKU PLAN CHANGE, 45a, 92 & 130 CONSTABLE ROAD, WAIUKU

1.0 INTRODUCTION

In response to instructions from Gardon Trust, Fraser Thomas Limited (FTL) has undertaken a Preliminary Site Investigation (PSI) for the proposed plan change at 45a, 92 & 130 Constable Road, Waiuku, Auckland. The proposed plan change includes the rezoning of all properties from 'Rural – Mixed Rural Zone' to 'Residential – Mixed Housing Suburban Zone' to allow for future residential development. The sites have a combined total area of 32.04ha.

This investigation involved a desktop study, site walkover and reporting associated with potential land contamination issues.

The format of this report is as follows:

- Rationale, objectives and scope of work.
- Site details.
- Investigation methodology.
- Desktop study and site walkover results.
- Discussion, conclusions and recommendations.
- Site plans, representative photographs and other relevant information in appendix form.

This investigation has been undertaken in general accordance with the requirements of the Ministry for the Environment 'Contaminated Land Management Guidelines No.5' (CLMG5) for site investigations and analysis of soils with contamination of this nature. Furthermore, this investigation has been managed, reviewed and approved by a Suitably Qualified and Experienced Practitioner (SQEP), as defined in the National Environment Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS).

2.0 RATIONALE, OBJECTIVES AND SCOPE OF WORK

The main rationale and objectives for this investigation were:

- To identify the main actual or potential contamination issues due to ongoing and historic use of land within the proposed development area.
- To confirm that the proposed development area is suitable or can be made suitable for the proposed development, including identifying which individual sites require further investigation prior to development.

3.0 INVESTIGATION METHODOLOGY

The methodology used for this site assessment is summarised below:

1. Desktop study involving review of existing historical information for the proposed plan change area including aerial photographs, certificates of title, Auckland Council (AC) files (contaminated land and related information) and interviews with current land owners.

Historical aerial photographs from 1942, 1961, 1975, 1981, 1988, 2001, 2010 and 2017 were reviewed. Aerial photographs from 2001, 2010 and 2017 were accessed from the Auckland Council GeoMaps website. Aerial photographs from 1942, 1961, 1975, 1981 & 1988 were accessed from the Local Government Geospatial Alliance (LGGA) Retrolens historical image resource.

2. Site walkover investigation of the subject site, with a visual appraisal to identify any disturbed and potentially contaminated areas. Relevant photographs are set out in Appendix C.
3. Preparation of a PSI report including the results of the desktop study, site walkover survey, and conclusions and recommendations.
4. Provision of site plans, relevant documentation and representative photographs as appendices to this report.

Fraser Thomas Limited Health and Safety Management Plan procedures were followed throughout the duration of the investigation.

4.0 SITE DETAILS

4.1 LOCATION, PROPERTY DETAILS AND LAND USE

A map showing the location of the site is set out in drawing 32897/01. The site comprises two different properties and covers an area of 32.04ha of rural land along Constable Road, Waiuku.

The site is zoned “Rural – Mixed Rural Zone” under the Auckland Unitary Plan: Operative in Part (AUP:OP).

Details of each of the properties making up the proposed plan change area are listed in Table 1, including the current land use.

Table 1: Property Details

Ref No	Registered Owner	Address	Legal Description	Title	Area (ha)	Land Use
S1	Annette Therese Black, Donna Goettler, Gary Ian Goettler	92 Constable Road, Waiuku	Pt Lot 4 Deeds Reg WHAU 29 DISTRICT	NA771/107	24.9033	Rural- Residential Pasture
S2	Terry Short	130 Constable Road, Waiuku	Lot 3 DP 64198	NA26B/939	4.0448	Rural- Residential Pasture
S3	Pokorua Holdings Limited	45a Constable Road, Waiuku	Lot 101 DP 559984	987396/NA85A/37	3.3645	Pastural Block

4.2 TOPOGRAPHY, GEOLOGY AND SOILS

The site has an undulating landscape with a gentle slope from the southern property boundary north-west. In the north-western corner of the subject site (S2), an unnamed tributary of the Waiuku River is visible. Subject site (S3) is generally flat, with slight undulations noted.

In carrying out the appraisal of the site, reference has been made to the Institute of Geological and Nuclear Sciences geological web map (NZ 1:250,000). The map indicates that the sites at 45a & 92 Constable Road, Waiuku are underlain by late Pliocene to middle Pliocene pumiceous river deposits comprising pumiceous mud, sand and gravel with muddy peat and lignite: rhyolite pumice, including non-welded ignimbrite, tephra and alluvia. The site at 130 Constable Road, Waiuku is underlain by Awhitu Group Dunes comprising moderately to poorly consolidated, cross-bedded, plane-parallel and ripple-laminated sandstone, with paleosols, lignite and carb.

Fraser Thomas has undertaken a geotechnical investigation of the site in early 2021. In brief, nine hand augers were extended to a maximum depth of 5.0m below ground level (bgl). Topsoil was encountered in all locations, and was generally underlain by silty clays of the Tauranga Group and sandy deposits of the Awhitu Group. No fill materials were identified in any hand auger location; however, an area of non-engineered fill materials was identified in the equestrian training arena.

4.3 PROPOSED DEVELOPMENT

The proposed plan change includes the rezoning of all properties from 'Rural – Mixed Rural Zone' to 'Residential – Mixed Housing Suburban Zone' to allow for future residential development.

5.0 DESKTOP STUDY AND WALKOVER SURVEY RESULTS

The results of the desktop study and the site walkover survey are summarised in this section and illustrated in the attached site features plan, aerial photographs (Appendix B) and site photographs (Appendix C). Throughout the site walkover survey, a visual assessment was used to classify any foreign materials as particular contaminants, without any formal identification. Hence, reference to a specific contaminant in the survey results should essentially be read as “suspected contaminant”, unless otherwise stated.

5.1 92 CONSTABLE ROAD, WAIUKU (S1)

5.1.1 Site Identification and Use

The site details and ownership history are summarised below.

Table 2: Site Details and Ownership History

Registered Owners	Annette Therese Black, Donna Goettler, Gary Ian Goettler	
Street Address	92 Constable Road, Waiuku, Auckland	
Legal Description	Pt Lot 4 Deeds Reg Whau 29 District	
Title	NA771/107	
Total Area (ha)	24.9033	
Zoning	Rural – Mixed Rural Zone	
Ownership History		
CTs	From	Registered Owner
NA771/107	1940 2013	Margaret Evelyn Joyce O’Hara, Frederick Ralph Smith and Colin Henry Bryant.
NA771/107	2013 to present day	Annette Therese Black, Donna-Marie Geraldine Goettler, Gary Ian Goettler.

The CT information available does not indicate any obvious occupations of previous owners that may have caused soil contamination (e.g. intensive horticultural activities).

5.1.2 Interviews

Contact was only successfully made with the current owner. No other historic owners could be contacted as they are deceased.

Donna Goettler – Current site owner (phone 021 712 211)

Mrs Goettler has confirmed that this land was previously owned by the O’Hara family, who had farmed the property since purchasing in 1940. The only structures that have been added to the property in that time are the lunchroom and workshop (W1), all other structures are the original structures detailed in this desktop study.

The land is currently used as a dairy overflow for livestock grazing purposes and there are no other known uses of the land in the last 80 years.

There are no footrot troughs or sheep dips on site.

The owner was not aware of any contamination 'hot-spots', chemical spills or leaks and was not aware of any excavation or filling that has taken place on-site.

5.1.3 Council Records

An enquiry regarding site contamination information was made to the Auckland Council on 11th January 2021. The Council database was searched for records of landfill, air discharge, industrial and trade process consents, contaminated site discharge consents and environmental assessments. No records were found for the subject site and the surrounding 200m.

The Auckland Council property files for 92 Constable Road was requested and reviewed. The relevant information obtained is presented in Table 3 below.

Table 3: Property File Information: 92 Constable Road, Waiuku

Date	Reference Number	Applicant	Activity
06/03/1953	Permit No.173	W.R. Howard	Erect cowshed
11/06/1953	Permit No.257	W.R. Howard	Erect hayshed (storing truck, tractor, stacker and other farm gear)
21/03/1956	Permit No.1393	W.R. O'Hara	Erect implement shed (motorshed & workshop)

5.1.4 Aerial Photographs

1942 Aerial

The subject site (S1) appears largely as undeveloped grassed paddocks, likely in use as pasture. There are five structures visible, four of which are located adjacent to the eastern property boundary, appearing as rural-residential dwellings and sheds. The fifth structure is located in the southern-central portion of the site, potentially appearing as a rural-residential dwelling or shed. Constable Road is visible adjacent to the southern property boundary.

A small shelter belt is visible in the north-western corner of the site, running north to south along the south-western property boundary.

The surrounding land appears as pasture with sparse rural-residential properties visible north, west and south of the site. A residential subdivision is visible east of the site.

The grass cover across the site is uniform and there are no signs of excavation or fill material.

1961 Aerial

The 1961 aerial photograph is very similar to the 1942 photograph. There are potentially two additional structures, one directly north-west of the previously identified group of four structures, appearing as a shed. The other additional structure appears directly west of the three structures, also appearing as a shed. The small shelter belt identified appears to have been removed, while intermittent tree plantings are visible along the north-eastern property boundary. Constable Road appears unchanged.

The surrounding environment remains in use for rural purposes, with increasing residential development visible east of the site.

The grass cover across the site remains uniform and there are no signs of excavation or fill material.

1975 Aerial

The main difference from the 1961 aerial photograph is the appearance of an additional structure, appearing as a shed, in the northern portion of the site, and the farm track running through the southern-central portion of the site. The seven previously identified structures appear in similar condition to the 1961 aerial photograph, with the shed in the southern-central portion of the site potentially being added to.

A shelter belt is now visible along the eastern property boundary.

The grass cover across the site is uniform and there are no signs of excavation or fill material.

Increasing residential development can be seen east of the site, with Waiuku College now visible directly east of the site. Large portions of land west of the site remain in use for rural purposes.

1981 Aerial

There are no significant changes from the 1975 aerial photograph or other features of note. The grass cover across the site appears uniform, and there are no signs of excavation or fill material. More residential development has occurred on the adjacent properties, in particular to the east and to the west.

1988 Aerial

The main difference from the 1981 aerial photograph is the appearance of an additional structure, appearing as a shed, adjacent to the residential dwelling and pre-existing sheds

along the eastern property boundary. There are no other significant changes or other features of note.

The grass cover across the site appears uniform, however there is discolouration in the central and northern paddocks, potentially hay bailing or silage.

Horticultural activities are visible on the properties north and west of the site.

Increasing residential developments are visible east and north of the site.

2001 Aerial

The only discernible change from the 1988 aerial photograph is the removal of one shed (Historical Building #01 (HB01)), adjacent to residential dwelling and pre-existing sheds along the eastern property boundary.

The remainder of the site appears unchanged, with the paddocks all remaining undeveloped and in use for pasture.

Horticultural activities remain visible on the properties north and west of the site.

Increasing residential developments are visible east and north of the site.

2010 Aerial

The only discernible change from the 2001 aerial photograph is the removal of another shed (HB02), adjacent to the pre-existing shed in the central-southern portion of the site.

The remainder of the site appears unchanged, with the paddocks all remaining undeveloped and in use for pasture.

Horticultural activities remain visible on the properties north and west of the site.

Increasing residential developments are visible east and north of the site.

2017 Aerial

The 2017 aerial photograph shows the site largely as it appeared during the site walkover, with the key change being the addition of a half round barn directly north-east of the residential dwelling along the eastern property boundary.

The remainder of the site appears unchanged, with the paddocks all remaining undeveloped and in use for pasture.

Horticultural activities remain visible on the properties north and west of the site.

The surrounding environment remains residential to the east and north, and rural to the south and west.

5.1.5 Site Walkover Results

A site walkover of the subject site was undertaken by FTL Intermediate Environmental Scientist, Elliot Bish, on 28th January 2020. The site was accessed from 92 Constable Road, from the southern portion of the property. The southern portion of the site was observed in an overgrown state, with some minor grass discolouration. The features referred to below are shown in Figure 2-1.

A gravel driveway led through the southern portion of the site to the residential dwelling (RD1), workshop (W1) and laundry shed. The residential dwelling (RD1) was constructed with a tin roof, partial wood and partial potentially asbestos containing material (PACM) cladding and was built on raised piles. The workshop (W1) was constructed with a tin roof, painted wooden cladding and was built on a wooden base. The interior of the workshop was in use for sewing. The laundry shed was constructed with a tin roof, painted PACM cladding and was built on a concrete base, storing laundry equipment. All materials appeared painted and in good condition. The potential for ground contamination from the historical application of lead-based paints was observed in this area of the site.

North-east of the laundry shed, a contractor's storage area and portable diesel storage tank were encountered. The contractor's yard contained two freight containers, access to these containers was not granted during the site walkover, however the tenants advised sewing supplies and farming tools were stored inside. The diesel storage tank was observed in relatively good condition, no cracks in the tank were noted, no signs of staining were observed on the surrounding soils.

Adjacent to the contractor's storage area, a large storage shed (SS1) was encountered. The storage shed was constructed with a tin roof, corrugated iron and PACM cladding and was built on a concrete base, storing jet boats, tools, compressed gasses & chemicals. No signs of cracks or staining were observed on the concrete cover.

On the western façade of the storage shed (SS1), a small incinerator was encountered, staining and burnt material debris was observed surrounding the incinerator. The potential for soil contamination from the burning of unknown materials was identified in this area of the site.

Further west of the incinerator, a wood shed and lunchroom were encountered. The wood shed was constructed with a tin roof, corrugated iron and PACM cladding, and was built on a concrete base. The lunchroom was a portacom structure, constructed with a tin roof, cement board cladding and built on a raised wooden base.

North of the wood shed and lunchroom, the workshop (W2) was encountered. The workshop (W2) was constructed with a tin roof, partially wood and partially PACM cladding and was constructed on a concrete base. The workshop (W2) was observed storing a tractor and empty

oil drums. Minor staining was observed on the concrete floor; however, no cracks were observed. Broken PACM cladding in a deteriorated state was observed inside the workshop (W2) and surrounding the western façade of the workshop (W2) in direct contact with the underlying soils. The potential for asbestos ground contamination was identified in this area of the site.

South-west of the workshop (W2), in the central portion of the site, the implement shed was encountered. The implement shed was constructed with a tin roof, partial tin and partial PACM cladding, with a partial concrete/hardstand base and was storing fencing supplies and a hay bailer. Broken PACM pieces were observed in contact with the soils both inside and outside of the implement shed.

In the northern portion of the site, a small hay shed was encountered. The hay shed was constructed with a tin roof, tin cladding and was built on a concrete base. The hay shed was empty at the time of the site walkover.

The remainder of the northern and central portions of the site were observed as undeveloped paddocks, no features of note were observed.

In the southern portion of the site, a historical building platform, water tank shed, milking shed and crush were encountered. The water tank shed and milking shed were constructed out of partial tin and partial wooden cladding, both built on a concrete base. Within the milking shed a crush was observed, no signs of cracks or staining were observed in this area of the site.

On the southern façade of the milking shed, a stock loading ramp (SLR1) and series of water tanks were encountered. The potential for ground contamination from the historical use of stock loading ramps as spray races was identified in this area of the site.

East of the stock loading ramp (SLR1) an additional water tank and storage shed (SS2) were encountered.

The remainder of the site at 92 Constable Road was observed in an undeveloped and grassed state.

5.2 130 CONSTABLE ROAD, WAIUKU (S2)

5.2.1 Site Identification and Use

The site details and ownership history are summarised below.

Table 4: Site Details and Ownership History

Registered Owners	Terry Short	
Street Address	130 Constable Road, Waiuku, Auckland	
Legal Description	Lot 3 DP 64198	
Title	NA26B/939	
Total Area (ha)	4.0448	
Zoning	Rural – Mixed Rural Zone	
Ownership History		
CTs	From	Registered Owner
NA26B/939	July 1973	Carolyn Victoria Hansen, Vincent Kenneth Hansen
NA26B/939	Nov 2007	Transfer to Matoaka Holdings Limited

The CT information available does not indicate any obvious occupations of previous owners that may have caused soil contamination (e.g. intensive horticultural activities).

5.2.2 Interviews

Contact was only successfully made with the current owner. No other historic owners could be contacted as they are deceased.

Terry Short – Current site owner (phone 027 493 1529)

Contact was made with Mr Short via email. In his response Mr Short advised that the property has historically been used for grazing horses and farming practices, which is still the case today. There have been no chemical or fuel spills on site in the time Mr Short has owned the property, and there are no onsite fuel or chemical stores. No structures have been built or demolished on site during this time either.

5.2.3 Council Records

An enquiry regarding site contamination information was made to the Auckland Council on 11th January 2021. The Council database was searched for records of landfill, air discharge, industrial and trade process consents, contaminated site discharge consents and environmental assessments. No records were found for the subject site and the surrounding 200m.

The Auckland Council property files for 130 Constable Road was requested and reviewed. The relevant information obtained is presented in Table 5 below.

Table 5: Property File Information: 130 Constable Road, Waiuku

Date	Reference Number	Applicant	Activity
29/06/1988	Permit No. F63176	P.A. Sands	Resite building and convert to dwelling
02/07/1990	Permit No. H23914	P.A. & L.F. Sands	Construct a garage to be used as a car shed

5.2.4 Aerial Photographs

1942 Aerial

The subject site (S2) is covered with grass and appears to be in pasture. The land appears to be flat and there are no buildings on it. The only relevant feature is a partial tree shelter belt along the northern portion of the western boundary.

The surrounding land appears to be in pasture with sparse rural-residential properties visible. Constable Road is visible adjacent to the southern property boundary.

The grass cover across the site is uniform and there are no signs of excavation or fill material.

1961 Aerial

There are no significant changes from 1942 or other features of note.

1975 Aerial

The 1975 aerial photograph shows the site in similar condition to the previous year's photographs. The only discernible change is the removal of the partial tree shelter belt along the northern portion of the western boundary.

The grass cover across the site is uniform and there are no signs of excavation or fill material.

Increasing residential development can be seen east of the site, with Waiuku college now visible directly east of the site. Large portions of land west of the site remain in use for rural purposes.

1981 Aerial

There are no significant changes from the 1975 aerial photograph or other features of note. The grass cover across the site appears uniform, and there are no signs of excavation or fill material. More residential development has occurred on the adjacent properties, in particular to the east and to the west.

1988 Aerial

There are no significant changes from 1981 or other features of note. The grass cover across the site appears uniform, and there are no signs of excavation or fill material.

Horticultural activities are visible on the properties north and west of the site.

Increasing residential developments are visible east and north of the site.

2001 Aerial

The 2001 aerial photograph shows the site with the addition of three structures in the central portion of the site, appearing as residential dwellings and a shed. Directly north of the structures an equestrian paddock is visible.

The remainder of the site appears unchanged. Horticultural activities remain visible on the properties north and west of the site.

Increasing residential developments are visible east and north of the site.

2010 Aerial

There are no significant changes from the 2001 aerial photograph or other features of note.

Horticultural activities remain visible on the properties north and west of the site.

Increasing residential developments are visible east and north of the site.

2017 Aerial

The 2017 aerial photograph shows the site largely as it appeared during the site walkover, with the two residential dwellings and shed located in the central portion of the site.

The remainder of the site appears unchanged, with the paddocks all remaining undeveloped and in use for pasture.

Horticultural activities remain visible on the properties north and west of the site.

The surrounding environment remains residential to the east and north, and rural to the south and west.

5.2.5 Site Walkover Results

A site walkover of the subject site was undertaken by FTL Intermediate Environmental Scientist, Elliot Bish, on 28th January 2020. The site was accessed from 130 Constable Road, from the southern portion of the property. The southern portion of the site was observed in an overgrown state, with minor grass discolouration, two stockpiles of tree debris and one area of burning (AOB1). The potential for soil contamination from the burning of unknown materials was identified in this area of the site. The features referred to below are shown in Figure 2-2.

A gravel driveway led through the southern portion of the site to the residential dwelling (RD2), storage shed (SS3) and areas of burning (AOB2 – 4). The residential dwelling (RD2) was constructed with a tin roof, PACM gable ends and soffits and wooden cladding. All material appeared painted and in good condition. The storage shed was constructed with a tin roof,

PACM gable ends, soffits and cladding, storing equestrian equipment. All materials appeared painted and in good condition. The residential dwelling (RD2) was constructed on raised piles, while the storage shed (SS3) was constructed on a concrete slab. The potential for ground contamination from the historical application of lead-based paints was observed in this area of the site.

Between the residential dwelling (RD2) and storage shed, two areas of burning were encountered (AOB2 & AOB3). On the northern façade of the residential dwelling (RD2), an additional area of burning (AOB4) was encountered. Staining of the soils surrounding these site features was observed. The potential for soil contamination from the burning of unknown materials was observed in this area of the site.

The remainder of the southern portion of the site was observed as grassed paddocks.

No other features of note were observed.

Further north of the area of burning (AOB4), an equestrian shed, stock loading ramp (SLR2) and equestrian arena were encountered. The equestrian shed was constructed with a tin roof and tin cladding, with no base. The shed was storing equestrian equipment and a horse float. No signs of staining were observed. The non-engineered fill referred to in the Fraser Thomas geotechnical investigation report is considered to be typical equestrian arena base materials and not to be of concern from a contamination perspective.

On the northern façade of the equestrian shed, a stock loading ramp (SLR2) was encountered. The potential for ground contamination from the historical use of stock loading ramps as spray races was observed in this area of the site.

The remainder of the site at 130 Constable Road was observed in an undeveloped and grassed state.

5.3 45A CONSTABLE ROAD, WAIUKU (S3)

5.3.1 Site Identification and Use

The site details and ownership history are summarised below.

Table 6: Site Details and Ownership History

Registered Owners	Pokorua Holdings Limited
Street Address	45a Constable Road, Waiuku, Auckland
Legal Description	Lot 101 DP 559984
Title	987396/NA85A/37
Total Area (ha)	3.3645
Zoning	Rural – Mixed Rural Zone

Ownership History		
CTs	From	Registered Owner
NA85A/37	Dec 1990	Par Properties Limited
	Mar 2006	Grahams Beach Developments Limited
	Mar 2006	Pokorua Holdings Limited

The CT information available does not indicate any obvious occupations of previous owners that may have caused soil contamination (e.g. intensive horticultural activities).

5.3.2 Aerial Photographs

1942, 1961, 1975, 1981, 1988, 2001, 2010 & 2017 Aerial

The subject site (S3) appears largely as undeveloped grassed paddocks, likely in use as pasture. There are no structures visible on the site in any of the historical photographs. Constable Road is visible to the south of the property boundary, and remains unchanged throughout the photographs.

The surrounding land appears as pasture with sparse rural-residential properties visible north, west and south of the site. Waiuku College is visible east of the site.

The grass cover across the site is uniform and there are no signs of excavation or fill material.

5.3.3 Site Walkover Results

A site walkover of the subject site was undertaken by FTL Intermediate Environmental Scientist, Elliot Bish, on 1st October 2021. The site was accessed from Waiuku College, in the eastern area of the subject site. The entirety of the site was observed in an undeveloped and grassed state, with a stockpile of onsite sourced topsoil & clay located in the central portion of the site. This material had clearly been moved from the adjacent site at 45 Constable Road during earthworks. No signs of contamination were identified on the subject site.

6.0 DISCUSSION

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) governs a number of activities (including soil disturbance, soil sampling and changes in land use) on potentially contaminated land in New Zealand, the latter being defined by activities or industries listed on the Hazardous Activities and Industries List (HAIL).

The NESCS will likely apply to the proposed O'Hara Waiuku plan change area, as there is a proposed change in land use, followed by future subdivision of the site and land disturbance, and HAIL activities have been confirmed.

This investigation has confirmed that two of the three properties forming the proposed O’Hara Waiuku plan change have potential contamination issues. This is based on the site history information reported herein, and results of the site walkover.

The following HAIL activities have been identified on site at 92 & 130 Constable Road, Waiuku:

- Historical Application of Lead Based Paint & Burning of unknown materials (I);
- Stock Loading Ramps and potential Spray Races (A8); and
- Asbestos products in a deteriorated state (E1) (92 Constable Road only).

No HAIL activities were identified at 45a Constable Road, Waiuku.

The above ground fuel storage tank has not been considered in the above assessment given the good condition of the tank and lack of any visual staining on the underlying soils.

The NESCS is considered to apply to 92 and 130 Constable Road properties under Regulation 5 (7) as HAIL activities are currently or have previously taken place on them. Similarly, the contaminated land provisions of the AUP:OP will likely apply.

A Detailed Site Investigation (DSI) will be required for 92 & 130 Constable Road, involving soil sampling from the areas of concern for relevant parameters to determine whether the soil contains elevated levels of contaminants at levels in excess of relevant guidelines. Once this sampling is done, the consent status of these areas under the NESCS and AUP:OP will be determined, along with the need for any remedial works and long-term management (if required). It is proposed that the DSI be done as part of the future subdivision consent.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The PSI undertaken of the proposed O’Hara Waiuku Plan Change area has found:

- The NESCS and the contaminated land provisions of the Auckland Unitary Plan: Operative in Part (AUP:OP) only apply to 92 & 130 Constable Road within the proposed O’Hara Waiuku plan change area. 45a Constable Road has been in use for stock grazing, with no HAIL activities identified on site.
- These properties have essentially been used for livestock grazing purposes for the last 80 years. However, during this time, the following HAIL activities have occurred onsite:
 - Historical Application of Lead Based Paint & Burning of unknown materials (I);
 - Stock Loading Ramps and potential Spray Races (A8); and
 - Asbestos products in a deteriorated state (E1) (92 Constable Road only).
- Based on this and on the discussion presented above there are contamination issues at these subject sites that may present a risk to the health of site workers or residents from the proposed future residential developments, and as such, require further investigation.

In addition, it is important to note that the subject sites are considered suitable for the proposed O’Hara Waiuku Plan Change. However, prior to any future subdivision or soil disturbance works, a Detailed Site Investigation will be required for 92 & 130 Constable Road,

Waiuku. This will involve soil sampling from the areas of concern for relevant parameters to determine whether the soil contains elevated levels of contaminants at levels in excess of relevant guidelines. Once this sampling is done, the consent status of these areas under the NESCS and AUP:OP will be determined, along with the need for any remedial works and long-term management (if required).

It should further be noted that if during site development works, any fill, rubbish, odorous or visually stained soil materials are encountered suggestive of contamination, that Fraser Thomas Ltd should be notified to inspect these areas and to collect sufficient soil samples to confirm whether this material can remain on site or needs to be disposed of off-site.

8.0 LIMITATIONS

We have performed our services for this project in accordance with current professional standards for an assessment of the nature and extent of any soil contamination on-site, based upon preliminary site assessment investigations and current regulatory standards for site contamination. The scope of the site assessment activities was generally in accordance with the Ministry for Environment Contaminated Land Management Guideline's (Parts 1 (2021), 2 (2011) and 5 (2021)) and the NESCS (2011). Conclusions on actual or potential contamination cannot be applied to areas outside of the site investigation.

We do not assume any liability for misrepresentation or items not visible, accessible or present at the subject site during the time of the site inspection.

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Figures



Legend

- NZ Roads
- ▭ Site Boundary

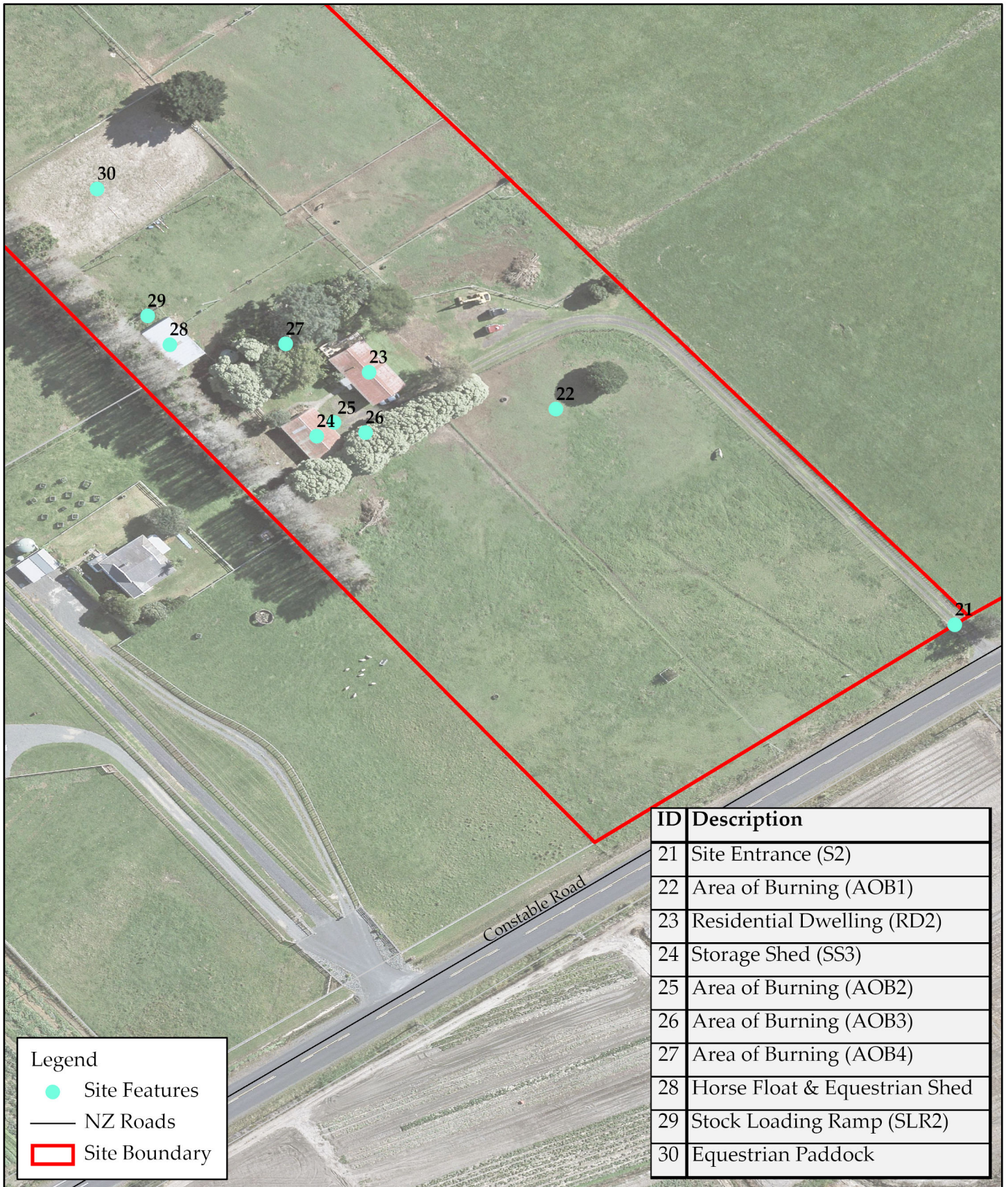


Figure 1: Site Location Plan

Preliminary Site Investigation
 O'Hara Waiuku Plan Change
 45A, 92 & 130 Constable Road
 Waiuku
 Auckland

Date: 18/10/2021
 Figure Reference: 32897/001
 Drawn by: EB
 Reviewed by: SF
 Job Number: 32897





ID	Description
21	Site Entrance (S2)
22	Area of Burning (AOB1)
23	Residential Dwelling (RD2)
24	Storage Shed (SS3)
25	Area of Burning (AOB2)
26	Area of Burning (AOB3)
27	Area of Burning (AOB4)
28	Horse Float & Equestrian Shed
29	Stock Loading Ramp (SLR2)
30	Equestrian Paddock

Legend

- Site Features
- NZ Roads
- Site Boundary



Figure 2-1: Site Features Plan

Preliminary Site Investigation
 O'Hara Waiuku Plan Change
 45a, 92 & 130 Constable Road
 Waiuku
 Auckland

Date: 18/10/2021
 Figure Reference: 32897/002-1
 Drawn by: EB
 Reviewed by: SF
 Job Number: 32897





ID	Description
1	Site Entrance (S1)
2	Residential Dwelling (RD1)
3	Workshop (W1)
4	Laundry Shed
5	Contractors Storage
6	Diesel Tank
7	Storage Shed (SS1)
8	Wood Shed
9	Incinerator
10	Lunchroom
11	Workshop (W2)
12	Implement Shed
13	Hay Shed
14	Historical Building Platform
15	Water Tank Shed
16	Milking Shed & Crush
17	Water Tanks (WT1)
18	Stock Loading Ramp (SLR1)
19	Storage Shed (SS2)
20	Water Tank (WT2)

Legend
● Site Features
 — NZ Roads
 Site Boundary

Figure 2-2: Site Features Plan

Preliminary Site Investigation
 O'Hara Waiuku Plan Change
 45A, 92 & 130 Constable Road
 Waiuku
 Auckland

Date: 18/10/2021
 Figure Reference: 32897/001
 Drawn by: EB
 Reviewed by: SF
 Job Number: 32897



Appendix A

***Ministry for the Environment
Contaminated Site Report Checklist***

GARDON TRUST
PRELIMINARY SITE INVESTIGATION REPORT - CONTAMINATION
O’HARA WAIUKU PLAN CHANGE, 45a, 92 & 130 CONSTABLE ROAD, WAIUKU

PRELIMINARY SITE INVESTIGATION – CONTAMINATION

SUMMARY CONTAMINATED SITES REPORT CHECKLIST

Content	Required	Required if relied on	CLMG 5 section
1. Introduction			
• investigation objectives	<input checked="" type="checkbox"/>		2.1
• site identification (site name, address, legal description; site boundaries; a map reference and geographic coordinates)	<input checked="" type="checkbox"/>		3.3.1
• proposed site use		<input checked="" type="checkbox"/>	3.3.2
2. Site description			
• environmental setting		<input checked="" type="checkbox"/>	3.3.3
• site layout	<input checked="" type="checkbox"/>		3.3.4
• current site uses	<input checked="" type="checkbox"/>		3.3.5
• surrounding land uses	<input checked="" type="checkbox"/>		3.3.6
• geophysical surveys		<input type="checkbox"/>	5.1
• site inspection		<input checked="" type="checkbox"/>	3.3.8
3. Historical site use			
• summary of site history gained from:	<input checked="" type="checkbox"/>		3.3.7
– review of existing investigation reports		<input type="checkbox"/>	
– review of council information		<input checked="" type="checkbox"/>	
– review of aerial photographs		<input checked="" type="checkbox"/>	
– interviews		<input checked="" type="checkbox"/>	
– review of other historical information		<input checked="" type="checkbox"/>	
• preliminary sampling (if carried out)		<input type="checkbox"/>	3.3.9
– description (including diagram)			
– justification for sample location and analyte selection			
– results			
– comparison of results to guidelines			
4. Risk assessment			3.3.11
• conceptual site model	<input checked="" type="checkbox"/>		
• evaluation of the probability that contamination exists on the site	<input checked="" type="checkbox"/>		
• identification and characterisation of potential pathways and receptors for each exposure area across the site (eg, assessment of geology, hydrogeology, building construction, site use)	<input checked="" type="checkbox"/>		
• likelihood that contamination poses a risk to identified receptors including potential receptors	<input checked="" type="checkbox"/>		
• magnitude of the risk to receptors, pursuant to regulation 8(4)(b):	<input checked="" type="checkbox"/>		

<p>– is it highly unlikely that there will be a risk to human health if the activity is done to the piece of land?</p> <ul style="list-style-type: none"> • evaluate the magnitude of any identified risk to other receptors (eg, ecological) • describe the limitations of the data collected and the assumptions and uncertainties inherent in the data and models used • Note: If the regulation 8(4)(b) ‘highly unlikely’ test cannot be achieved, then the activity is not permitted. 	<input type="checkbox"/> <input type="checkbox"/>	 3.3.11, 7.3.2
5. Conclusions	<input checked="" type="checkbox"/>	
6. Recommendations (if relevant to report purpose)	<input checked="" type="checkbox"/>	
7. Report limitations	<input checked="" type="checkbox"/>	
8. SQEP certification of report (refer appendix C)	<input checked="" type="checkbox"/>	1.2
9. References	<input type="checkbox"/>	
Appendices: relevant supporting information		

Supporting information	Required	Required if relied on
Figures (including site plan – regulation 8(4)(c))	<input checked="" type="checkbox"/>	
Conceptual site model (if not included in report body)	<input type="checkbox"/>	
Land titles		<input type="checkbox"/>
Site photographs (if site inspection carried out)		<input checked="" type="checkbox"/>
Laboratory reports and chain of custody documentation (if sampling carried out)		<input type="checkbox"/>
Calibration information for any field screening instruments used		<input type="checkbox"/>
Other supporting information		<input type="checkbox"/>
Statement of qualification of the author and, if not the author, the certifying SQEP	<input checked="" type="checkbox"/>	1.2

Appendix B

Historical Aerial Photographs

1942



1961



1975



1981



1988



2001



2010



2017



Appendix C

Site Walkover Photographs



Site Entrance 92 Constable Road (S1)



Southern Portion of 92 Constable Road



Residential Dwelling (RD1)



Workshop (W1)



Interior of Workshop (W1)



Laundry Shed



Interior of Laundry Shed



Contractors Storage



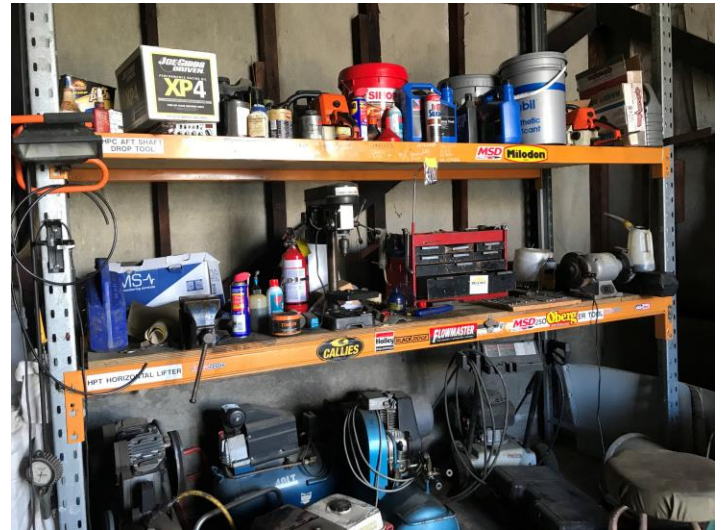
Diesel Tank adjacent to Contractor Storage



Storage Shed (SS1)



Interior of Storage Shed (SS1)



Interior of Storage Shed (SS1) cont.



Incinerator



Lunchroom



Wood Shed



Central Portion of 92 Constable Road



Example of Concrete Water Troughs



Workshop (W2)



Interior of Workshop (W2)



Broken PACM Sheeting outside Workshop (W2)



Implement Shed, PACM Clad



Interior of Implement Shed



Broken PACM Sheeting



Hay Shed



Interior of Hay Shed



Historical Building Platform



Water Tank Shed



Milking Shed



Crush



Water Tanks (WT1)



Stock Loading Ramp (SLR1)



Storage Shed (SS2) & Water Tank (WT2)



Site Entrance 130 Constable Road (S2)



Southern Portion of 130 Constable Road



Area of Burning (AOB1)



Residential Dwelling (RD2)



Area of Burning (AOB2)



Area of Burning (AOB3)



Area of Burning (AOB4)



Storage Shed (SS2)



Central Portion of 130 Constable Road



Equestrian Arena



Horse Float and Equestrian Shed



Interior of Equestrian Shed



Stock Loading Ramp (SLR2)



Northern Portion of 130 Constable Road



Northern Boundary with 45a Constable Road



Stockpile on Site



Southern Portion of 45a Constable Road