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Report

Preliminary Site Investigation Report
Proposed Residential Subdivision Development
Lot 437 DP 755242 No 1377 Hue Hue Road
Wyee NSW

Prepared for:
Topa Property
Suite 7, 114 Majors Bay Road
Concord NSW 2137

Ref: JC21405A-r1(rev)
September 2021

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23rd November 2021

Our Ref: JC21405A-r1(rev)

Topa Property
Suite 7, 114 Majors Bay Road
Concord NSW 2137

Attention: Ms Olga Masella

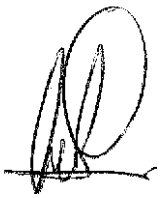
Dear Madam

Re: Preliminary Site Investigation (PSI) Report
Lot 437 DP 755242 No 1377 Hue Hue Road Wyee

We are pleased to submit our Preliminary Site Investigation assessment for the Proposed Residential Subdivision Development at the above address.

Should you have any queries, please contact the undersigned.

Yours faithfully
GeoEnviro Consultancy Pty Ltd



Solern Liew BE CPEng NER CEnvP
Director

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Document Control

Document Details	
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Address	No 1377 Hue Hue Road Wyee
Client	Topa Property

Document Status				
Issue/Revision	**Status**	**Prepared By**	**Reviewed By**	**Date**
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Executive Summary

This report presents the results of a Preliminary Site Investigation Report for the property referred to as Lot 437 DP 755242 No 1377 Hue Hue Road Wyee as shown in Drawing No 1. The investigation was commissioned by Ms Olga Masella of Topa Property. The scope of this assessment was carried out in general accordance with our proposal reference PC21018A dated 9th July 2021.

We understand the proposed development will include subdivision of the site into residential lots and construction of residential roads.

The objective of this study was to assess if significant land contamination is likely to exist on site that may present a risk to human health and/or the environment as a result of previous and current land use and to provide our assessment and recommendation on suitability of site for the proposed development.

From our review of the historical information, the site has been used for both agricultural purposes and residential purposes since at least the 1960s with residential use being the main land use for at least the last 20 years.

Our test pit investigation revealed the site to be generally underlain by topsoil overlying varying natural soil including Silty Clay, Sand, Gravelly Silty Clay and Gravelly Clayey Sand. Some Siltstone/Claystone and Sandstone bedrock was encountered in TP 5 and 9 to 12 at depths ranging from 1.2m to 1.9m below existing ground surface.

Based on the foregoing, we are of the opinion that the risk of gross chemical contamination within the site is generally considered low and the site is suitable for the proposed residential subdivision development.

For the proposed residential subdivision development, the following contamination issues which need to be addressed prior to development of the site are as follows;

- The subject site appeared to have several buildings and sheds (ie Site Feature A to D and F). All demolition works of existing sheds and structures need to be undertaken by a licensed contractor and if asbestos sheetings are encountered, all asbestos removal should be undertaken complying with Safework requirements.

- Validation sampling and laboratory analysis should be carried out beneath the existing structures after demolition to ensure these areas are not affected by contamination. Should contamination be present, remediation and validation will be required to ensure the site is made suitable for the proposed development.

- All surface rubbish material not mentioned above and asbestos material where encountered on site should be appropriately disposed off-site to a NSW EPA approved landfill.

- Though buried rubbish fill was not encountered in this test pit investigation, it may still exist within the site in between test pit locations. All buried rubbish fill if encountered during construction should be excavated and disposed off-site to an NSW EPA approved landfill.

- Rubbish fill containing bonded asbestos may still be present elsewhere within the site in between test pit locations and should bonded asbestos be encountered during construction works, all works should cease and an "Unexpected Asbestos Finds Protocol" as outlined in Appendix H should be initiated. Should asbestos be encountered, the asbestos impacted fill should be disposed to a landfill as "Special Waste- Asbestos".

1. INTRODUCTION

This report presents the results of a Preliminary Site Investigation Report for the property referred to as Lot 437 DP 755242 No 1377 Hue Hue Road Wyee as shown in Drawing No 1. The investigation was commissioned by Ms Olga Masella of Topa Property. The scope of this assessment was carried out in general accordance with our proposal reference PC21018A dated 9th July 2021.

We understand the proposed development will include subdivision of the site into residential lots and construction of residential roads.

The objective of this study was to assess if significant land contamination is likely to exist on site that may present a risk to human health and/or the environment as a result of previous and current land use and to provide our assessment and recommendation on suitability of site for the proposed development.

This PSI was undertaken in conjunction with our geotechnical and salinity investigation in our report reference JC21405A-r2 dated September 2021.

2. SCOPE OF WORK

This contamination assessment was performed in general conformance with our understanding of the guidelines by the Australian and New Zealand Conservation Council (ANZECC) and NSW Environment Protection Authority (NSW EPA).

The scope of work conducted consisted of:

- A review of available information on the site history from aerial photographs and historical titles search from NSW Land and Property Information (LPI),
- A search of records on previous notices issued by NSW EPA.
- A search of information on Groundwater Test Pits in the area from the NSW Natural Resource Atlas (NRA)
- A review of Lake Macquarie Councils Section 10.7 (2) Zoning Certificates and a search of Council's records kept under GIPA.

- A review of published information on the subsurface conditions in the general area,
- An inspection of the site to identify apparent or suspected areas of contamination,
- Assessment of subsurface conditions encountered from our test pits for obvious signs of contamination,
- Develop a preliminary conception site model identifying potential sources of contamination and impacted areas.
- A site appraisal to identify apparent or suspected areas of contamination.

3. SITE INFORMATION

3.1 Site Location

The Subject Site is located on the southern side of Hue Hue Road and is referred to as No 1377 Hue Hue Road Wyee. The site is irregular in shape with a 150m frontage to Hue Hue Road by about 400m to the rear of the site. Total site area is approximately 4.5 hectares. Refer to Drawing No 1 for site locality.

The site is within the jurisdiction of Lake Macquarie Council. The site is situated within a semi-rural area with adjoining properties consisting mainly of semi-rural residential properties. A completed subdivision development with newly constructed houses occupies the adjoining eastern properties. Mannering Creek is situated immediately to the rear of the site.

3.2 Site Topography and Geological Setting

The site is situated on the upper slopes of a hill with Hue Hue Road following a ridgeline. Ground surface slopes down to the rear of the site to Mannering Creek at angles of between 4 to 8 degrees. Based on Google Earth, the site is situated at about 25m to 35m above sea level.

The 1:100,000 Soil Landscape Map of Gosford-Lake Macquarie (Reference 1) prepared by the Soil Conservation Services of NSW indicates the northern portion of the site to consist of erosional soil belonging to the Doyalson landscape group (do). This soil landscape group occurs on broad crests/ridges with gentle inclined slopes . The Doyalson Landscape Group is typically characterised to have localised shallow soils, sodic/dispersive in nature with low wet strength and very acidic.

The southern portion of the site to consist of alluvial soil belonging to the Wyong Landscape Group (wy) on poorly drained deltaic flood plains and alluvial flats of the Quaternary sediments on the Central Coast Lowlands. The Wyong Landscape Group is typically characterised to have seasonal waterlogging with localised stream bank erosion, foundation hazard, localised acid sulphate potential, strongly acid, very low fertility and saine soils. Refer to Drawing No 2 for the soil landscape map.

The 1:100,000 Geological Map of Gosford-Lake Macquarie (Reference 2) indicates the site to be situated predominantly on bedrock of the Tuggerah Formation consisting of grey to green-grey laminite, red-brown claystone and siltstone, interbedded with fine to medium grained green-grey sandstone.

3.3 Hydrogeology

Topography, surface cover and geology control the hydrogeology of the site. It is anticipated that the majority of rainfall runoff will flow south into Mannering Creek immediately to the rear of the site and eventually east into Mannering Lake

Groundwater is also expected to flow in a general direction towards the south of the site.

We expect permanent groundwater table to be at a significant depth (i.e. in excess of 3m from ground surface.) however localised perched water tables may be present in areas of fill or to the rear of the site towards Manning Creek.

Our search of the NSW Department of Primary Industries groundwater database for the region indicates no groundwater bores within 500m from the site.

3.4 Existing Site Conditions and Description

A site visit was carried out on the 11th August 2021 by an environmental engineer to observe existing site features and identify obvious or suspected areas of potential contamination. Reference should be made to Drawing No 1 for site locality and features plan.

At the time of the investigation, the site was mainly used for residential purposes with some dwellings and sheds towards the north-western corner of the site. There was a horse stabling area to the central western portion of the site with some containers and sheds. The majority of the site was vacant with grass cover except the rear portion of the site which was densely covered with trees.

Site Feature	Description
A	Single-storey fibro dwelling with a timber and metal carport.
B	Single-storey weatherboard dwelling with a timber and metal carport.
C	Fibro dwelling used as a storage shed/workshop.
D	Single-storey fibro dwelling with an attached metal carport and metal garden shed at the rear.
E	20 foot shipping container.
F	Horse stables with a storage container, metal and timber sheds, horse float/trailer and metal horse round yard/pen.
G	Sunken dam.
H	Sunken dam full of water (Possible Spring?)
I	Cleared area used for horse training.

4. SITE HISTORY

4.1 Aerial Photographs

A review of aerial photographs taken in 1966 to 2006 was carried out. Refer to Appendix C for copies of the aerial photos. The following is a summary of the observations made from the review;

Year	Description
1966	The eastern and western boundaries of the site were slightly evident although the site appeared to be part of a larger parcel of land with the majority of the site covered in trees. There were clearings within the trees at the southern and central portion of the site. The north-western portion of the site was also cleared and could also possibly had some market gardens evident. Hue Hue Road was formed and Mannering Creek was evident to the south. Surrounding properties were found to consist of semi-rural properties used for agricultural purposes with some bushland to the southern properties.
1971	The site boundaries were clearly evident and the majority of trees previously noted within the site were cleared except for the most southern portion. Land use was not evident within the site being mostly vacant with grass cover and some buildings appearing towards the north-eastern portion of the site which may have been used for residential purposes. Agricultural activities were still evident within the surrounding properties. There were some long rectangular sheds on the adjoining eastern property.
1976	The majority of the site remained similar since the 1971 photograph although market gardens were now evident over the majority of the site. The dwelling (Site Feature D) was clearly constructed to the north-eastern portion of the site. Surrounding properties remained the same since the early 1970s.
1984	The storage shed/workshop (Site Feature C) was constructed within the site. The remainder of the site remained largely the same since the 1970s. There appeared to be an increase in semi-rural residential properties although some agricultural activities were still present within the surrounding properties. The Pacific Motorway was under construction 100m west of the site.

Year	Description
1994	The site appeared similar to its current state with the all the current buildings (Site Feature A to E) constructed to the north-western portion of the site. The two dams (Site Feature G and H) were also constructed. Some market gardens were still evident to the north-eastern and central eastern portions of the site with the remainder vacant with grass cover and dense trees to the southern portion. Agricultural properties appeared to have decreased within the surrounding properties since the 1980s with the majority appearing to be mainly used for residential purposes.
2006-2020	The site appeared similar to its current state with the horse stables (Site Feature F) constructed at the central-western portion of the site. Market gardens had ceased within the site with land use being mainly for residential purposes. There were no agricultural properties evident within the surrounding properties. The adjoining eastern property was subdivided in the late 2010s with new dwelling constructed.

4.2 Historical Land Titles

Description of historical information on the previous owners of the site was obtained from NSW Land & Property Information (LPI). The information can often be linked to possible land uses and provides an indication of potential contamination on the site. Reference should be made to Appendix D for the Land Titles searches. The following is a summary of information obtained;

- Prior to the issue of Cert. of Title Vol. 14845 Fol. 80 on 20/8/1982, Lot 437 in DP755242 was a crown holding (S.H.P. 1957/35 Land District of Gosford) held by John Charles White of Wyee, Builders Labourer. John Charles White had been the holder from 29/9/1966. Without making enquiries through the Crown
- Lands Office, we are unable establish the devolution of the title prior to 29/9/1966.
- The title after 20/8/1982 evolved as follows:
    - 7/6/2007 -Transfer AD304922 from John Charles White to John Charles White & Bertha Rose White as
    - joint tenants
    - 5/11/2007-John Charles White died leaving Bertha Rose White as surviving joint tenant
    - Bertha Rose White remains the current owner

4.3 NSW EPA Contaminated Land and POEO Public Register

A search of NSW EPA's contaminated land register and licensing register indicate the site to have no records kept under the Contaminated Land Management Act 1997 and Environmentally Hazardous Chemical Act of 1985. Refer to Appendix E for details of the NSW EPA search.

A search for records under the NSW EPA Protection of Environment Operation Act 997 (POEO) was undertaken which includes;

- Environmental protection licences
- Applications for new licences and to transfer or vary existing licences
- Environment protection and noise control notices
- Penalty notices issued by the EPA.
- Convictions in prosecutions under the POEO Act
- The results of civil proceedings
- Licence review information
- Exemptions from the provisions of the POEO Act or regulation
- Approvals granted under Clause 9 of the POEO (Clean Air) Regulation
- Audits required to be undertaken in relation to a licence
- Pollution studies required by a condition of a licence
- Pollution reduction programs required by a condition of a licence
- Penalty notice issued in relation to a premise.

The searches indicated no records issued on the subject site under the POEO register. Refer to Appendix E for details.

4.4 Section 10.7 (2) Planning Certificate

Copies of the Section 10.7 (2) certificates were obtained from Lake Macquarie Council to determine conditions applicable to the site in relation to the Contaminated Land Management Act 1997 and Contaminated Land Management Amendment Act 2009. Reference may be made to the certificate attached in Appendix F.

The certificates indicate the following;

- The site is not defined as significantly contaminated land within the meaning of that Act.
- The site is not subject to a management order within the meaning of that Act.
- The site is not subject to an approved voluntary management proposal within the meaning of that Act.
- The site is not subject to an ongoing maintenance order within the meaning of that Act.
- The site is not subject to a site audit statement within the meaning of that Act.

4.1 Council's Records (GIPA)

A search of Council's records for previous development approvals for proposed land use/activities and erection of buildings and documents pertaining to environmental orders were carried out. No information was provided by Lake Macquarie Council pertaining to the site for an Informal Access to Information Application. Refer to Appendix F for GIPA searches.

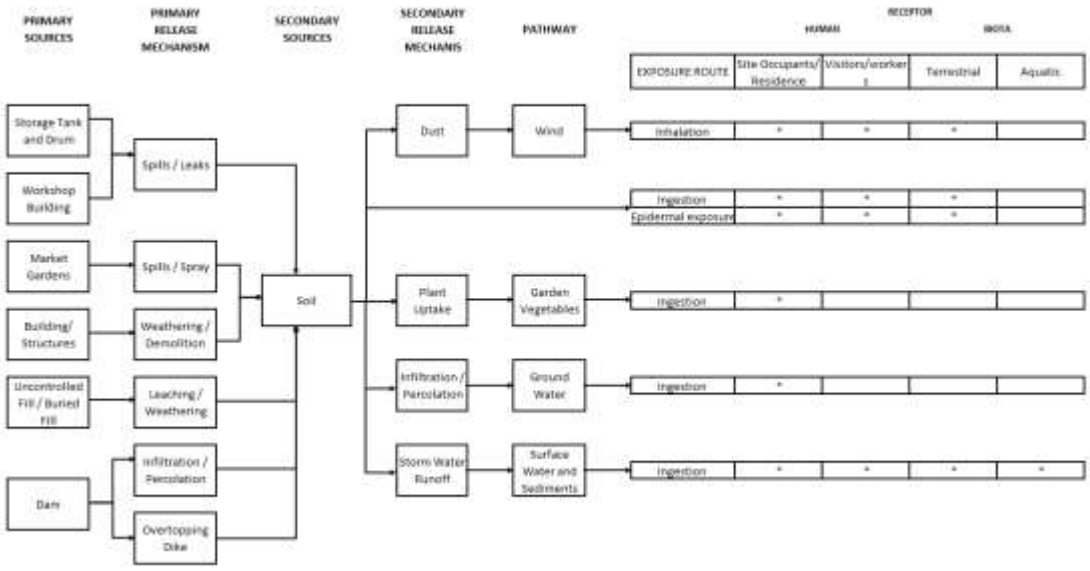
4.2 Underground Storage Tanks

There were no visible or obvious signs of underground storage tanks such as ventilation pipes, inlet pit and bowsers/refuelling pumps noted during our site inspection. A Workcover search for licenses to store dangerous goods was not carried out as it was not considered necessary.

5. PRELIMINARY CONEPTUAL SITE MODEL

5.1 Schematic CSM

Based on our preliminary desktop/historic review of the site and initial site inspection, our preliminary CSM for the subject site being used for agricultural activities and semi-rural residential may be illustrated on the following flow chart;



5.2 Potential Contamination Sources

5.2.1 On-Site Source

5.2.1.1.1 Agricultural Land Use

Based on aerial photographs and historical information, the site appeared to have been used for both residential purposes and agricultural purposes (ie market gardening) since at least the 1960s.

Common chemicals that are used in agricultural activities are Organochlorine Pesticides (OCP), Organophosphorus Pesticides (OPP), herbicides and fungicides. OCP is the most persistent of these chemicals, with residues lasting in the environment up to 20 years, whilst OPP, herbicides and fungicides are less persistent in the environment and therefore not considered significant. Fertilisers used in market gardens can also contain heavy metals which are more persistent in the environment

As the subject site has not been the subject of land cultivation within at least the last 20 years, there is a minimal risk of gross ground chemical contamination associated with agricultural activities.

5.2.1.2 Existing Buildings/Sheds

The subject site appeared to have several buildings and sheds (ie Site Feature A to D and F). In view of the age of some of these buildings, it is possible for these buildings to have been built using asbestos sheetings. Deterioration of asbestos board due to ageing and weathering may result in broken asbestos fragments impacting on the surface soil. It is also possible for old buildings to have deteriorating lead-base paint which may result in lead contamination of surface soil.

It is also possible for the sheds to have been used for maintenance of equipment and/or storage of chemical (eg paints, mechanical fluid etc) and contamination can arise from leakage and accidental spillage of chemicals. Possible contaminants associated with sheds include Heavy metals [ie Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Nickel (Ni), Lead (Pb), Mercury (Hg) and Zinc (Zn)], Hydrocarbons and solvents (Benzene, Toluene, Ethyl Benzene and Xylene).

On this basis, there is a risk of the existing building areas to be impacted by asbestos, hydrocarbon and other chemical contamination.

5.2.2 Off-Site Sources

The adjoining properties consisted of residential properties. As the site is situated on undulating terrain and is expected to be underlain by relatively impervious natural clay, the risk of off-site migration of contaminants into the subject site from runoff from the adjoining neighbouring properties is considered low.

5.3 Areas of Uncertainty & Data Gap Investigation

During our investigation, a number of areas were in-accessible at the site due to the ongoing residential use, the presence of existing structures/belongings preventing investigation (ie. dwellings, sheds, vehicles etc.). It was not considered practical/permissible to investigate these at the time. The area where data uncertainty has been identified are listed as follows;

- The building structure areas including building footprints, paved surfaces and domestic gardens;
- Areas identified as locations of on-site underground services (ie immediate surrounds of buildings);
- Beneath or immediately surrounding parked vehicles and belongings;

The above areas of uncertainty identified should be further investigation during the construction stage of the site to further assess the contamination status of these areas.

5.4 Potentially Contaminated Media

The potential for contaminated media for the subject site includes potential fill, natural soils and surface water.

Any fill encountered within the site has the potential to be contaminated with Heavy Metals, OCP, PCB, TRH, BTEX, PAH and asbestos (ACM, AF/FA). Some fill may be present in the existing driveways and underneath existing structures.

The potential leachability through rainfall and stormwater runoffs can lead to infiltration of the contaminated media through topsoil, fill and contaminating the underlying natural soil.

As the property was used for residential purposes and is situated from contaminating activities (e.g. industrial, workshop) and water bodies (e.g. creek drainage channel), contamination through groundwater media is considered low.

5.5 Exposure Pathways

Taking into consideration of the current land use, the potential contaminated in the above media has the potential to be mobilised through the following pathways;

- Dermal and oral contact to contaminated topsoil and surface fill (and associated dust) during excavation and construction works
- Leaching of lead and other contaminants into the ground and uptake of contaminants by vegetation (e.g. vegetables and fruit trees)
- Ingestion via eating edible plants (e.g. vegetables and fruit trees) by site occupants
- Direct ingestion of soil by children playing on the ground surface in unpaved areas
- Inhalation of dust (including asbestos) by site occupants and construction workers

5.6 Potential for Migration

Contaminants can migrate from site through wind, stormwater runoffs, infiltration of surface water and groundwater flows. The factors influencing the potential for contaminants to migrate include;

- Type of contaminants (eg mobility characteristics, bioavailability).
- Extent (eg localised or widespread) and concentrations of contaminants.
- Locality and source of contaminants
- Physical characteristics of the site (eg topography, geology, hydrology and hydrogeology).

The potential contaminants identified on this site are present in soil (eg impacted soil or fill and asbestos). There was no encountered free liquid within the site, therefore, there are no known liquid forms of contaminants on this site.

There is a potential for stormwater runoff infiltrating through the contaminated fill and leaching contaminants into the underlying natural soil. Excess stormwater runoffs have the potential to carry asbestos dust downstream and into adjoining sites.

As the site has a low probability of having buried underground storage tanks, there is low potential for vapours or ground gases associated with volatile contaminants generated from the site and impacting on adjoining sites.

5.7 Sensitive Receptors

Potential receptors of environmental impacts on the subject site include:

- Construction and maintenance workers during construction site redevelopment
- Future site users following development of the site with the most sensitive receptor being a child
- Land users in adjacent areas

6. INVESTIGATION METHODOLOGY

Field investigation included excavation of test pits on the 11th August 2021. A total of twelve test pits (TP 1 to TP 12) were excavated across the site using mainly a rubber tyred backhoe. The test pit locations are shown on Drawing No 4.

The test pits were excavated to depths varying from 1.4m to 3.1m below existing ground surface. The test pits were observed for groundwater during and upon completion of the excavation. The field results together with details of the strata encountered are presented in Table A.

The field investigation was supervised on a full-time basis by our geotechnical engineer. The locations of the test pits, which were established by offset measurement from site boundaries, are indicated on Drawing No 4.

The test pits were observed for groundwater seepage, during and upon completion of excavation. Groundwater monitoring was not possible during coring as water was used in the process.

Details of the subsurface profiles and field-testing results are summarised on the attached Table A.

7. SUBSURFACE CONDITIONS

Reference should be made to the attached Table A for a summary of subsurface profiles encountered from the test pit investigation. A summary of the subsurface profiles encountered are as follows;

Topsoil

Topsoil was encountered on the surface of all test pits consisting of Sandy Silt and Clayey Silt of low liquid limit. The topsoil was found to have thickness ranging from 200mm to 400mm.

Some Sandy Silt was encountered below the topsoil in TP 2, 7 and 8 with thickness ranging from 200mm to 250mm.

Natural Soil

Natural soil was encountered below the topsoil in all test pits consisting predominantly of medium to high plasticity Silty Clay over the majority of the site with relatively more sandy soil on the southern portion of the site. Some Sandy Clay/Clayey Sand of low to medium plasticity was encountered in TP 6 and 7 and some Gravelly Clayey Sand was encountered in TP 8, 9 and 10.

The natural soil on the southern portion of the site was found to have high moisture (ie moist to wet) and weak (ie Stiff) based on TP 1, 3 and 4 with interbedded sand and siltstone encountered at lower depths of between 1.9m and 2.8m below existing ground surface.

In the other test pits on the northern portion of the site, the natural clay was generally found to be stiff to very stiff. Relatively weak bands of clays were also encountered in TP 7 at between 0.5 and 1.60m and this clay was found to high moisture content. We note that TP 7 was excavated within close proximity to the existing dam and the slight water seepage encountered may be derived from a natural spring.

Bedrock

Bedrock consisting of Siltstone/Claystone and Sandstone was encountered in TP 5 and 9 to 12 at depths ranging from 1.2m to 1.9m below existing ground surface.

Groundwater

All test pits were found to be dry during and shortly after the test pit investigation except in TP 1 near Manning Creek to the rear where some seepage was encountered within the natural Sand layer at about 2.7m depth. Some minor groundwater seepage was also encountered in TP 7 at about 1.5m below existing ground surface.

8. PRELIMINARY CONTAMINATION ASSESSMENT

This report presents the results of a Preliminary Site Investigation comprising of a site history appraisal, test pit investigation and a visual site inspection to provide preliminary comments on potential subsurface soil contamination of the site. The conclusions presented in this report are professional opinions based solely upon visual observations of the site and its vicinity and our interpretation of the documentation made available. The quantitative level and extent of any contamination present could not be determined from this scope of work and the assessment has not undertaken any independent validation of the advice provided.

We understand the proposed development will include subdivision of the site into residential lots and construction of residential roads.

From our review of the historical information, the site has been used for both agricultural purposes and residential purposes since at least the 1960s with residential use being the main land use for at least the last 20 years.

Our test pit investigation revealed the site to be generally underlain by topsoil overlying varying natural soil including Silty Clay, Sand, Gravelly Silty Clay and Gravelly Clayey Sand. Some Siltstone/Claystone and Sandstone bedrock was encountered in TP 5 and 9 to 12 at depths ranging from 1.2m to 1.9m below existing ground surface.

Based on the foregoing, we are of the opinion that the risk of gross chemical contamination within the site is generally considered low and the site is suitable for the proposed residential subdivision development.

For the proposed residential subdivision development, the following contamination issues which need to be addressed prior to development of the site are as follows;

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- Validation sampling and laboratory analysis should be carried out beneath the existing structures after demolition to ensure these areas are not affected by contamination. Should contamination be present, remediation and validation will be required to ensure the site is made suitable for the proposed development.

- All surface rubbish material not mentioned above and asbestos material where encountered on site should be appropriately disposed off-site to a NSW EPA approved landfill.

- Though buried rubbish fill was not encountered in this test pit investigation, it may still exist within the site in between test pit locations. All buried rubbish fill if encountered during construction should be excavated and disposed off-site to an NSW EPA approved landfill.

- Rubbish fill containing bonded asbestos may still be present elsewhere within the site in between test pit locations and should bonded asbestos be encountered during construction works, all works should cease and an "Unexpected Asbestos Finds Protocol" as outlined in Appendix H should be initiated. Should asbestos be encountered, the asbestos impacted fill should be disposed to a landfill as "Special Waste- Asbestos".

9. LIMITATIONS

This report is solely for the use of the client or client's representative and relevant authorities and no responsibility is accepted for the use of this report or part by third parties. This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose

We have used a degree of care, skill and diligence normally exercised by consulting engineers in similar circumstances and locality. The findings contained in this report are the results of Discrete/specific sampling methodologies used in accordance with normal practices and standards. There is no investigation which is thorough enough to preclude the presence of material which presently, or in future, may be considered hazardous to the site.

As regulatory evaluation criteria are constantly updated, concentrations of contaminants presently considered low, may in the future fall short of regulatory standards that require further investigation/redemption.

The statements presented in these documents are intended to advise you of what should be your realistic expectations of this report, and to present you with recommendations on how to minimise the risks associated with the ground works for this project. The document is not intended to reduce the level of responsibility accepted by GeoEnviro Consultancy Pty Ltd, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing. Attached in Appendix I are documents entitled "Important Information about Your Environmental Site Assessment" and Explanatory Notes in conjunction with which this report must be read, as it details important limitations regarding the investigation undertaken and this report. No other warranty expressed or implied is made or intended

Subject to payment of all fees due for the investigation, the client alone has a licence to use this report. Copyright is this report is the property of GeoEnviro Consultancy Pty Ltd.

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REFERENCES

1. *1:100,000 Soil Landscape Map of Gosford-Lake Macquarie – Department of Environment, Climate Change and Water; Soil Landscape Series – Sheet 9131-9231*
2. *1:100,000 Geological Map of Gosford-Lake Macquarie – Geological Survey of New South Wales – Sheet 9131 & part sheet 9231*
3. *Australian & New Zealand Guidelines for the Assessment and Management of Contaminated Sites, Australian and New Zealand Conservation Council and National Health and Medical Research Council, 1992.*
4. *Assessment of Orchard and Market Garden Contamination – Contaminated Sites Discussion Paper, NSW EPA 1999.*
5. *Health Based Soil Investigation Levels, National Environmental Health Forum Monographs Soil Series No. 1 – 1996*
6. *National Environment Protection (Assessment of Site Contamination) Measure 1999(including updated Schedule B1 – 2014*
7. *Guidelines for Assessment Service Station-sites – NSW EPA 1994*
8. *Guidelines for the NSW Auditor Scheme, NSW EPA*
9. *Part 1 – Classifying Waste – 2015, NSW EPA*
10. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 – ANZECC.*
11. *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – Department of Health -May 2009*

Site Feature	Description
A	Single-storey fibro dwelling with a timber and metal carport.
B	Single-storey weatherboard dwelling with a timber and metal carport.
C	Fibro dwelling used as a storage shed/workshop.
D	Single-storey fibro dwelling with an attached metal carport and metal garden shed at the rear.
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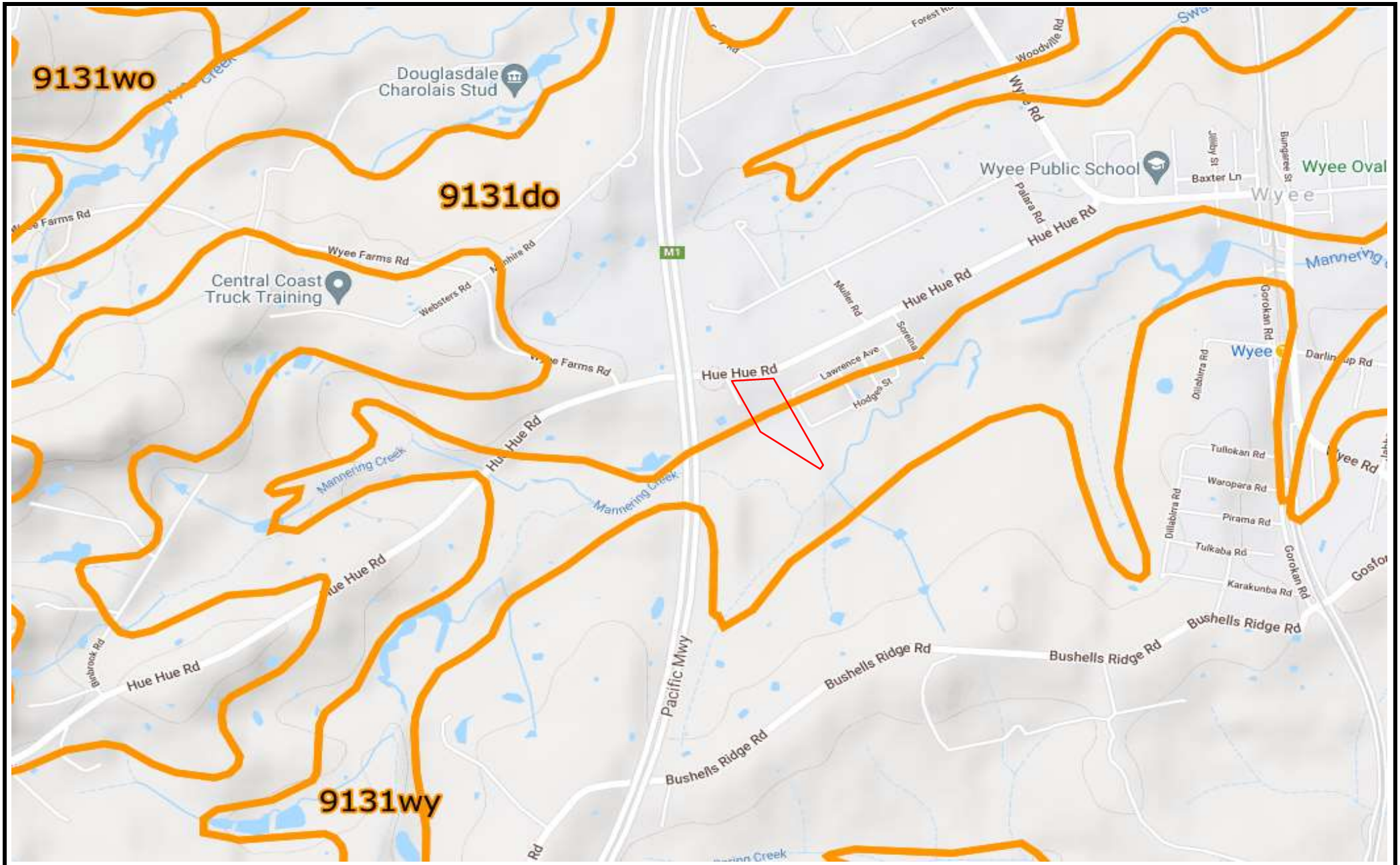
G	Sunken dam.
H	Sunken dam.
I	Cleared area used for horse training.
J	Mannering Creek

Legend

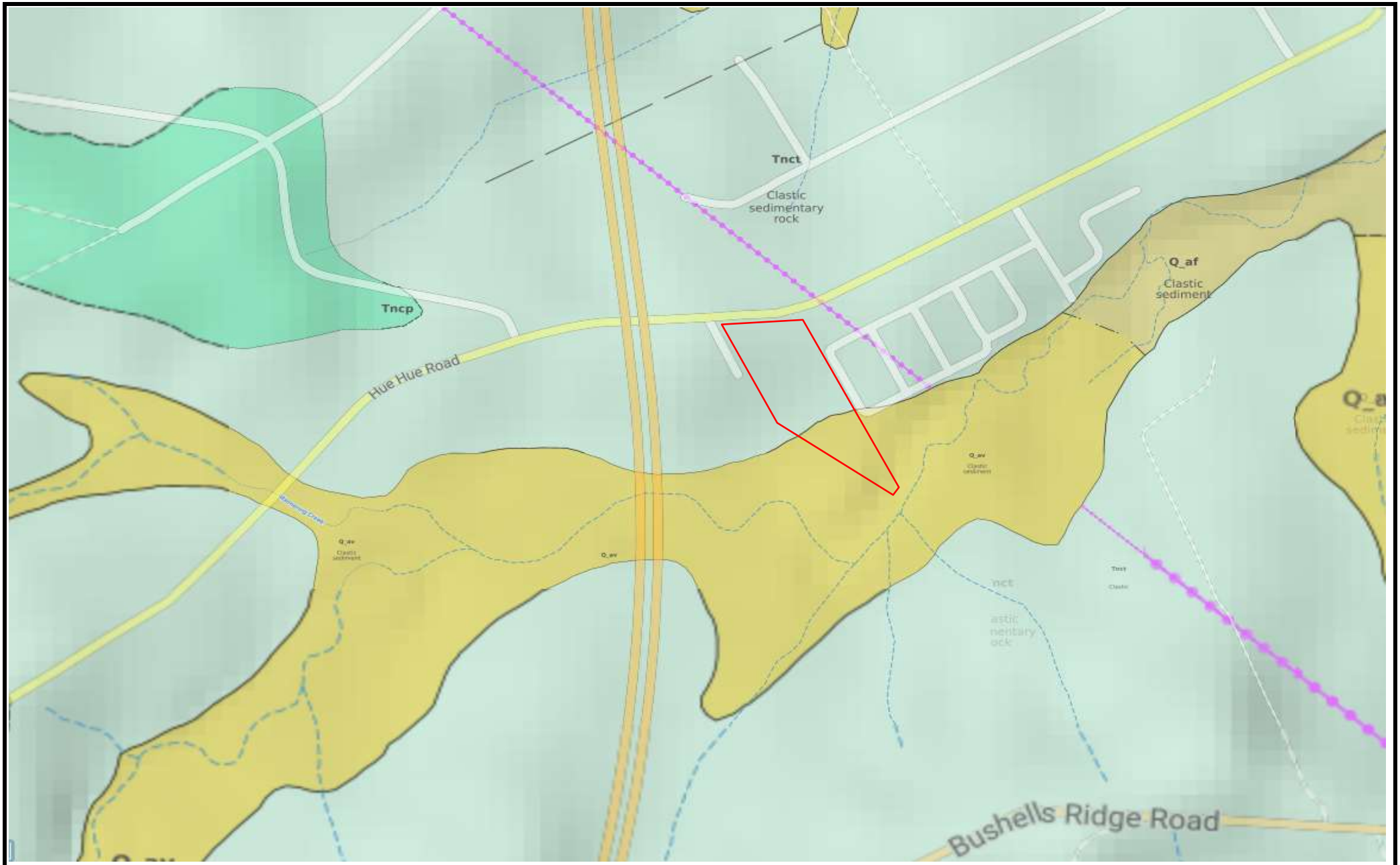
A Site Feature

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 9679 8733 Fax: (02) 9679 8744

Drawn By:	Date: 30/8/21	**Topa Property**	
Checked By: SL	Date: 30/8/21	**No 1377 Hue Hue Road Wyee**	
Revision By:	Date:	**Site Locality and Site Features Plan**	
Scale: Not to Scale	A3	**Project No: JC21405A**	**Drawing No: 1**



GeoEnviro Consultancy Pty Ltd Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia Tel: (02) 9679 8733 Fax: (02) 9679 8744	**Drawn By:**	**Date: 30/8/21**	**Topa Property** **No 1377 Hue Hue Road Wyee** **Soil Landscapes Map**
	Checked By: SL	**Date: 30/8/21**	
	Revision By:	**Date:**	
	Scale: Not to Scale	**A3**	**Project No: JC21405A** / **Drawing No: 2**



GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 9679 8733 Fax: (02) 9679 8744

Drawn By:	Date: 30/8/21	**Topa Property**	
Checked By: SL	Date: 30/8/21	**No 1377 Hue Hue Road Wyee**	
Revision By:	Date:	**Geological Map**	
Scale: Not to Scale	A3	**Project No: JC21405A**	**Drawing No: 3**

Site Feature	Description
A	Single-storey fibro dwelling with a timber and metal carport.
B	Single-storey weatherboard dwelling with a timber and metal carport.
C	Fibro dwelling used as a storage shed/workshop.
D	Single-storey fibro dwelling with an attached metal carport and metal garden shed at the rear.
E	20 foot shipping container.
F	Horse stables with a storage container, metal and timber sheds, horse float/trailer and metal horse round yard/pen.
G	Sunken dam.
H	Sunken dam.
I	Cleared area used for horse training.
J	Mannering Creek

Legend

Test Pit

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 9679 8733 Fax: (02) 9679 8744

Drawn By:	Date: 30/8/21	**Topa Property**
Checked By: SL	Date: 30/8/21	**No 1377 Hue Hue Road Wyee**
Revision By:	Date:	**Test Pit Location Plan**
Scale: Not to Scale	A3	Project No: JC21405A / Drawing No: 4

APPENDIX A

Site Photographs

North-western portion of the site with dwelling and storage shed/workshop. Gravel driveway in the foreground.

Dwellings at the north-western portion of the site.

Horse stables at the central-western portion of the site with containers and sheds.

North-eastern portion of the site with sunken dam with reeds.

Middle of the site looking south, vacant with grass cover and no land use.

Sunken dam in the middle of the site.

Rear of the site looking south towards the densely treed southern portion of the site.

Middle of the site looking north with vacant grass. Dwellings in the background to the north-west.

Cleared area in the treed southern portion of the site used for horse training.

APPENDIX C

Aerial Photographs

1966

1971

1976

1984

1990

1994

2001

2006

APPENDIX D

Land Title Searches

SEARCH REPORT

NSW LAND REGISTRY SERVICES RECORDS BRANCH

20th July 2021

SUBJECT PREMISES: 1377 Hue Hue Road, Wyee NSW 2259

(Lot 437 in DP755242)

Prior to the issue of Cert. of Title Vol. 14845 Fol. 80 on 20/8/1982, Lot 437 in DP755242 was a crown holding (S.H.P. 1957/35 Land District of Gosford) held by John Charles White of Wyee, Builders Labourer. John Charles White had been the holder from 29/9/1966. Without making enquiries through the Crown Lands Office, we are unable establish the devolution of the title prior to 29/9/1966.

The title after 20/8/1982 evolved as follows:

7/6/2007 - Transfer AD304922 from John Charles White to John Charles White & Bertha Rose White as joint tenants

5/11/2007 – John Charles White died leaving Bertha Rose White as surviving joint tenant

Bertha Rose White remains the current owner.

Leases – Nil

Dye & Durham

per

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted]L PROPERTY ACT, 1900

14845080

Vol. 14845 Fol. 80

No. 201610

EDITION ISSUED

CANCELLED 8 1982

I certify that the person named in the First Schedule is the registered proprietor of an estate in fee simple (or such other estate or interest as is set out below) in the land described subject to the recordings appearing in the Second Schedule and to the provisions of the Real Property Act, 1900.

SEE AUTO FOLIO

Registrar General.

14845 Fol. 80

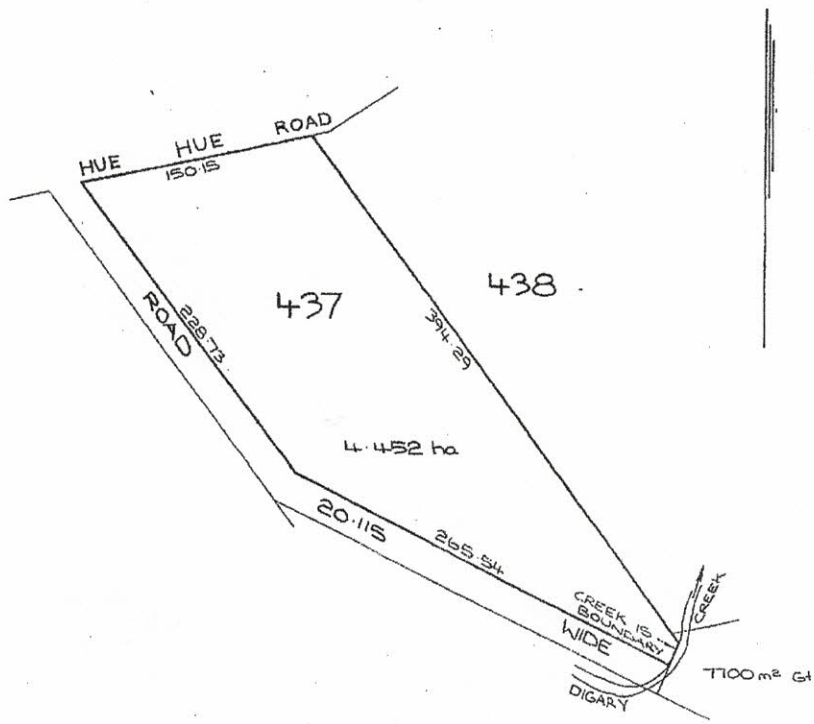
(Page 1) Vol.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



P

LAND REFERRED TO

Portion 437 in the Municipality of Lake Macquarie Parish of Morisset and County of Northumberland.

FIRST SCHEDULE

~~STATE BANK OF NEW SOUTH WALES.~~ AS MORTGAGEE

GSB

SECOND SCHEDULE

XL 1. Excepting land below a depth from the surface of 15.24 metres.

2. Land excludes minerals and is subject to reservations and conditions in favour of the Crown - See Memorandum S700000B.

AA 3. As to boundaries to rivers - see section 235A Crown Lands Consolidation Act, 1913.

AB 4. Restrictions on dealings - see section 129B Crown Lands Consolidation Act, 1913 (S.H.P. 1957/35 Gosford).

~~5. Q1 Caveat by the Registrar General. Mortgage dated 29-9-1966: mortgagor John Charles White.~~
Withdrawn V133846

JOHN CHARLES WHITE
AS MORTGAGOR (HOLDER)

RG 2/64

Vol 14845 Fol 80

99346D 8.81 D. West, Government Printer

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR | Registrar General

John Charles White by Transfer V133846. Registered 1-6-1984.

BY WAY OF DISCHARGE OF MORTGAGE

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

PARTICULARS | Registrar General | CANCELLATION

V133847 Mortgage to The Lakes Power Station Employees Credit Union Limited. Registered 1-6-1984.

NOTATIONS AND UNREGISTERED DEALINGS

V133846 TOR TMK

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

LAND REGISTRY SERVICES

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
20/7/2021 3:48PM

FOLIO: 437/755242

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14845 FOL 80

Recorded	Number	Type of Instrument	C.T. Issue
14/12/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
3/2/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
16/4/1991		AMENDMENT: TITLE DIAGRAM	
15/12/1998	5465187	DEPARTMENTAL DEALING	
29/6/2005	AB589189	CHANGE OF NAME	
29/6/2005	AB589250	VARIATION OF MORTGAGE	EDITION 1
28/7/2007	AD304921	DISCHARGE OF MORTGAGE	
28/7/2007	AD304922	TRANSFER	
28/7/2007	AD304923	MORTGAGE	EDITION 2
14/12/2010	AF942499	DEPARTMENTAL DEALING	
21/1/2011	AG16238	NOTICE OF DEATH	EDITION 3
10/7/2013	AH867690	DISCHARGE OF MORTGAGE	EDITION 4

*** END OF SEARCH ***

jennfib PRINTED ON 20/7/2021

Form: 01T
Release: 3.0
www.lands.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900

AD304922E

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises th... by this form for the establishment and maintenance of the Real Propert... the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Office of State Revenue use only (T)

NEW SOUTH WALES DUTY
12-06-2007 0004323890-001
SECTION 67-ORIGINAL
NO DUTY PAYABLE

(A) TORRENS TITLE Folio Identifier 437/755242

(B) LODGED BY

Document Collection Box	Name, Address or DX and Telephone	CODES
270S	ELDN 123 First Title Secure ... Box Q1115 ... Post Shop NSW 1230 ... 8267 8130	T
	Reference: FTV WHITE	TW (Sheriff)

(C) TRANSFEROR JOHN CHARLES WHITE

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of $ 1.00 and as regards

(E) ESTATE the land specified above transfers to the transferee an estate in fee simple

(F) SHARE TRANSFERRED

(G) Encumbrances (if applicable):

(H) TRANSFEREE JOHN CHARLES WHITE & BERTHA ROSE WHITE

(I) TENANCY: Joint Tenants

DATE 7.6.07

(J) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: Michael Anthony Nash
Address of witness: Solicitor
2/66 Tenth Avenue Budgewoi

Certified correct for the purposes of the Real Property Act 1900 by the transferor.

Signature of transferor:

Certified correct for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: Michael Anthony Nash
Signatory's capacity: transferees' solicitor

Form: 02ND
Licence: 05-11-652
Licensee: Softdocs
AUBREY BROWN

NOTICE OF DEATH

New South Wales
Section 101 Real Property Act 190

AG16238Y

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

(A) **TORRENS TITLE**	Folio Identifier 437/755242		
(B) **REGISTERED DEALING**	Number	Torrens Title	
(C) **LODGED BY**	Document Collection Box: 945L	Name, Address or DX, Telephone, and Customer Account Number if any: BOX 945L AUBREY BROWN C/- LJ KANE & CO LLPN 123859R Reference (optional): 2021373	CODE: ND
(D) **DECEASED JOINT TENANT**	JOHN CHARLES WHITE		
(E) **SURVIVING JOINT TENANT**	BERTHA ROSE WHITE		

(F) I, the abovementioned surviving joint tenant, apply to be registered as proprietor of the interest of the deceased joint tenant (who died on 5 November 2007 as stated in the copy of the death certificate No. 142195/2007 accompanying this application) in the above land

DATE 12/01/2011

(G) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: CHRISTOPHER NEIL MANNING

Address of witness: 30-32 Holy St. W Yorrg

Certified correct for the purposes of the Real Property Act 1900 by the surviving joint tenant.

Signature of surviving joint tenant: B R L White

Office use only –
Evidence sighted/sighted and returned:

All handwriting must be in block capitals.

Number additional pages sequentially

CT – 659M

APPENDIX E

NSW EPA and POEO, and Groundwater Borehole Search

Search results

Your search for:LGA: LAKE MACQUARIE CITY COUNCIL

Matched 72 notices relating to 9 sites.

Search Again

Refine Search

Suburb	Address	Site Name	Notices related to this site
BOOLAROO	Off Creek Reserve ROAD	Cockle Creek and Cockle Bay Sediments	2 current and 1 former
BOOLAROO	13 Main STREET	Incitec Pivot	8 former
BOOLAROO	Lake ROAD	Pasminco Cockle Creek Smelter	3 current and 34 former
CHARLESTOWN	273 Charlestown ROAD	7-Eleven Charlestown	2 former
CHARLESTOWN	81 Pacific HIGHWAY	Caltex Service Station	2 current and 3 former
CHARLESTOWN	91-93 Pacific HIGHWAY	Caltex Woolworths (Former BP)	5 former
CRANGAN BAY	555 and 565 Pacific HIGHWAY	Big T Roadhouse	2 current
MARKS POINT	770-772 Pacific HIGHWAY	Former Mobil Service Station (now 7-Eleven)	6 former
TERALBA	21 Racecourse ROAD	Lucky's Scrap Metal Yard	1 current and 3 former

20 July 2021

Search results

Your search for: **General Search** with the following criteria

Suburb - Wyee

returned 17 results

Export to excel

1 of 1 Pages

Search Again

Number	Name	Location	Type	Status	Issued date
1023719	ARTHUR YATES & CO LIMITED	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	16 Dec 2002
11470	DULUXGROUP (AUSTRALIA) PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	POEO licence	Issued	02 Jul 2002
1100334	DULUXGROUP (AUSTRALIA) PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	02 Feb 2010
1520401	DULUXGROUP (AUSTRALIA) PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	18 Jun 2015
1532496	DULUXGROUP (AUSTRALIA) PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	22 Sep 2015
1571174	DULUXGROUP (AUSTRALIA) PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	08 Nov 2018
1576540	DULUXGROUP (AUSTRALIA) PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	05 Mar 2019
1502	FLYASH AUSTRALIA PTY LIMITED	GOROKAN ROAD, WYEE, NSW 2259	POEO licence	Surrendered	01 Nov 2000
1025766	FLYASH AUSTRALIA PTY LIMITED	GOROKAN ROAD, WYEE, NSW 2259	s.80 Surrender of a Licence	Issued	19 Mar 2003
1026565	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	10 Nov 2003
1034071	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	03 Feb 2004
1035824	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	08 Jul 2004
1040465	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	08 Oct 2004
1048909	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	23 Jun 2005
1055465	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	06 Mar 2006
1062026	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	12 Sep 2006
1099114	ORICA AUSTRALIA PTY LTD	34 WYEE ROAD, WYEE, NSW 2259	s.58 Licence Variation	Issued	26 Mar 2009

20 July 2021

For business and industry

For local government

Contact us

131 555 (tel:131555)

Online (https://yoursay.epa.nsw.gov.au/epa-website-feedback)

info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)

EPA Office Locations (https://www.epa.nsw.gov.au/about-us/contact-us/locations)

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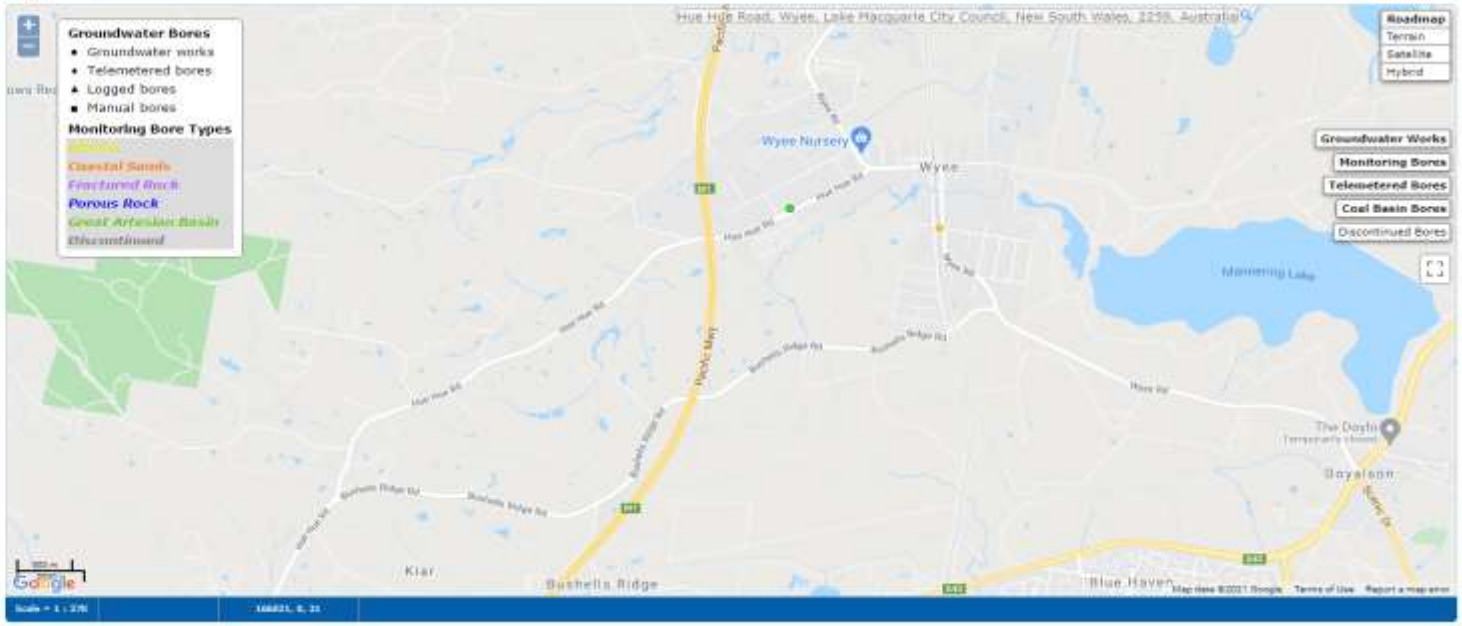


APPENDIX F

Council's S10.7 Certificates

GEOENVIRO
UNIT 5, 39-41 Fourth Av
BLACKTOWN NSW 2148

Our Ref:144347
Your Ref:
JC21405A:126476
ABN 81 065 027 868

31 August 2021

PLANNING CERTIFICATE UNDER THE

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Fee Paid: 53.00

Receipt No: 11697014

Receipt Date: 30 August 2021

DESCRIPTION OF LAND

Address: 1377 Hue Hue Road, WYEE NSW 2259

Lot Details: Lot 437 DP 755242

Parish: Morisset

County: Northumberland

For: MORVEN CAMERON
GENERAL MANAGER

126 – 138 Main Road T 02 4921 0333
Speers Point NSW 2284 E council@lakemac.nsw.gov.au
BOX 1906 HRMC NSW 2310 W lakemac.com.au

lakemac lakemaccity ourlakemac

ABN: 81 065 027 868

ADVICE PROVIDED IN ACCORDANCE WITH SUBSECTION (2)

1 Names of Relevant Planning Instruments and Development Control Plans

(1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Lake Macquarie Local Environmental Plan 2014

State Environmental Planning Policy - (Housing for Seniors or People with a Disability) 2004 (This SEPP applies to the land to the extent provided by Clause 4 of the SEPP)

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Concurrences) 2018

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Koala Habitat Protection) 2021

State Environmental Planning Policy (Koala Habitat Protection) 2020

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Primary Production and Rural Development) 2019

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (State Significant Precincts) 2005

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

State Environmental Planning Policy No. 19 – Bushland in Urban Areas

State Environmental Planning Policy No. 21 – Caravan Parks

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

State Environmental Planning Policy No. 50 – Canal Estate Development

State Environmental Planning Policy No. 55 – Remediation of Land

State Environmental Planning Policy No. 64 – Advertising and Signage

State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development

State Environmental Planning Policy No. 70 – Affordable Housing (Revised Schemes)

(2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Nil

(3) The name of each development control plan that applies to the carrying out of development on the land.

Lake Macquarie Development Control Plan 2014

(4) In this clause, proposed environmental planning instrument includes a planning proposal for a Local Environmental Plan or a Draft environmental planning instrument.

2 Zoning and land use under relevant Local Environmental Plans

(1) The following answers (a) to (h) relate to the instrument (see 1(1) above).

(a) (i) The identity of the zone applying to the land.

E2 Environmental Conservation

under Lake Macquarie Local Environmental Plan 2014

(ii) The purposes for which the Instrument provides that development may be carried out within the zone without the need for development consent.

Exempt development as provided in Schedule 2; Home occupations

(iii) The purposes for which the Instrument provides that development may not be carried out within the zone except with development consent.

Bed and breakfast accommodation; Boat sheds; Building identification signs; Business identification signs; Car parks; Community facilities; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Emergency services facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Home-based child care; Home businesses; Information and education facilities; Recreation areas; Roads; Water recreation structures

(iv) The purposes for which the Instrument provides that development is prohibited within the zone.

Business premises; Hotel or motel accommodation; Industries; Multi dwelling housing; Recreation facilities (major); Residential flat buildings;

Restricted Premises; Retail premises; Seniors housing; Service stations;

Warehouse or distribution centres; and any other development not specified in item (ii) or (iii)

(i) The identity of the zone applying to the land.

RU2 Rural Landscape

under Lake Macquarie Local Environmental Plan 2014

(ii) The purposes for which the Instrument provides that development may be carried out within the zone without the need for development consent.

Exempt development as provided in Schedule 2; Extensive agriculture; Home occupations; Horticulture

(iii) The purposes for which the Instrument provides that development may not be carried out within the zone except with development consent.

Air transport facilities; Airstrips; Animal boarding or training establishments; Aquaculture; Bed and breakfast accommodation; Boat sheds; Building identification signs; Business identification signs; Camping grounds; Cellar door premises; Cemeteries; Community facilities; Crematoria; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Farm stay accommodation; Flood mitigation works; Forestry; Freight transport facilities; Funeral homes; Garden centres; Health consulting rooms; Helipads; Home-based child care; Home businesses; Home industries; Industrial training facilities; Information and education facilities; Intensive livestock agriculture; Intensive plant agriculture; Landscaping material supplies; Mortuaries; Passenger transport facilities; Plant nurseries; Recreation areas; Recreation facilities (outdoor); Resource recovery facilities; Roads; Roadside stalls; Rural industries; Rural supplies; Veterinary hospitals; Water recreation structures; Water supply systems

(iv) The purposes for which the Instrument provides that development is prohibited within the zone.

Any development not specified in item (ii) or (iii)

NOTE: **The advice in sections (a) above relates only to restrictions that apply by virtue of the zones indicated. The Lake Macquarie LEP 2014 includes additional provisions that require development consent for particular types of development, or in particular circumstances, irrespective of zoning.**

(b) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed.

Yes, there are development standards applying to the land that fix minimum land dimensions for the erection of a dwelling house.

Minimum lot size of 20 ha. Refer to Clause 4.2A of LMLEP 2014 for further information.

Minimum lot size of 40 ha. Refer to Clause 4.2A of LMLEP 2014 for further information.

(c) Whether the land includes or comprises critical habitat.

No

(d) Whether the land is in a conservation area (however described).

Yes

(e) Whether an item of environmental heritage (however described) is situated on the land.

Local Environmental Plan 2014 Schedule 5 Part 1 Heritage Items

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 1 Heritage items.

Local Environmental Plan 2014 Schedule 5 Part 2 Heritage conservation areas

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 2 Heritage conservation areas.

Local Environmental Plan 2014 Schedule 5 Part 3 Archaeological sites

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 3 Archaeological sites.

Local Environmental Plan 2014 Schedule 5 Part 4 Landscape Items

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 4 Landscape items.

Local Environmental Plan 2004 Schedule 4 Part 1 Heritage Items

There are no heritage items listed for this land within Local Environmental Plan 2004 Schedule 4 Part 1.

Local Environmental Plan 2004 Part 11 Clause 150 Environmental Heritage

There are no heritage items listed for this land within Local Environmental Plan 2004 Part 11 Clause 150 – South Wallarah Peninsula.

NOTE: **An item of environmental heritage, namely Aboriginal heritage, listed within the Aboriginal Heritage Information Management System (AHIMS), may affect the land. Aboriginal objects are protected under the National Parks and Wildlife Act 1974. If Aboriginal objects are found during development, works are to**

stop and the Office of Environment and Heritage (OEH) contacted immediately. For further information and to access the AHIMS registrar, refer to http://www.environment.nsw.gov.au

(2) The following answers relate to the Draft Instrument (see 1(2) above).

(a) Nil

NOTE: **The advice in section (a) above relates only to restrictions that apply by virtue of the zones indicated. The Draft instrument may include additional provisions that require development consent for particular types of development, or in particular circumstances, irrespective of zoning.**

(b) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed.

There are no development standards applying to the land that fix minimum land dimensions for the erection of a dwelling house.

(c) Whether the land includes or comprises critical habitat.

No

(d) Whether the land is in a conservation area (however described).

No

(e) Whether an item of environmental heritage (however described) is situated on the land.

No

3 Complying development

The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), and 1.18 (1) (c3) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

Housing Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Housing Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Housing Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

The land is excluded land being land identified by an environmental planning instrument as being environmentally sensitive or within an ecologically sensitive area.

Low Rise Housing Diversity Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Low Rise Housing Diversity Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Low Rise Housing Diversity Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

The land is excluded land being land identified by an environmental planning instrument as being environmentally sensitive or within an ecologically sensitive area.

Housing Alterations Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Housing Alterations Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

Commercial and Industrial Alterations Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Commercial and Industrial Alterations Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

Commercial and Industrial (New Buildings and Additions) Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Commercial and Industrial (New Buildings and Additions) Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

The land is excluded land being land identified by an environmental planning instrument as being environmentally sensitive or within an ecologically sensitive area.

Subdivisions Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Subdivisions Code **MAY NOT** be carried out on

part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

Rural Housing Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Rural Housing Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Rural Housing Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

The land is excluded land being land identified by an environmental planning instrument as being environmentally sensitive or within an ecologically sensitive area.

Greenfield Housing Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Greenfield Housing Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Greenfield Housing Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

The land is excluded land being land identified by an environmental planning

instrument as being environmentally sensitive or within an ecologically sensitive area.

General Development Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the General Development Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

Demolition Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Demolition Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

Fire Safety Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Fire Safety Code **MAY NOT** be carried out on part of the land because the lot is partly affected by specific lot exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

Container Recycling Facilities Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 437 DP 755242

Complying development under the Container Recycling Facilities Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high biodiversity significance.

4 Coastal Protection

(Repealed 3 April 2018)

4A Information relating to beaches and coasts

(Repealed 3 April 2018)

4B Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

Whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Nil

NOTE: **"Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.**

5 Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 20 of the Coal Mine Subsidence Compensation Act 2017.

The land IS NOT WITHIN a Mine Subsidence District declared under section 20 of *the Coal Mine Subsidence Compensation Act 2017*.

NOTE: **The advice in section (5) above relates only to a Mine Subsidence District. Further information relating to underground mining which may occur outside Mine Subsidence Districts should be sought. Underground mining information can be found on the Subsidence Advisory NSW website.**

6 Road widening and road realignment

Whether the land is affected by any road widening or realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993.

No

(b) any environmental planning instrument.

No

(c) any resolution of the Council.

No, other road widening proposals may affect this land and if so, will be noted on the Section 10.7 Subsection (5) certificate.

7 Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

(i) adopted by the Council, or

(ii) adopted by any other public authority and notified to the Council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the Council,

that restricts the development of the land because of the likelihood of:

(a) land slip or subsidence

Yes

Relevant sections of Lake Macquarie Development Control Plan 2014 and Lake Macquarie Development Control Plan No.1 apply when development is proposed on land covered by Council's geotechnical areas map. The map is available for viewing at the Council. If you require any further clarification on the policy and how it may affect any possible development contact the Council on 02 4921 0333.

(b) bushfire

Yes

(c) tidal inundation

No

(d) acid sulfate soils

Yes

Relevant sections of Lake Macquarie Development Control Plan 2014 and Lake Macquarie Development Control Plan No.1 apply when development is proposed on land covered by the Acid Sulfate Soils Map. If you require any further clarification on the policy and how it may affect any possible development contact the Council on 02 4921 0333.

(e) contaminated or potentially contaminated land

Yes

Council has adopted a policy that may restrict the development of Contaminated or Potentially Contaminated land. This policy is implemented when zoning, development, or land use changes are proposed. Council does not hold sufficient information about previous use of the land to determine whether the land is contaminated. Consideration of Council's adopted Policy located in the applicable DCP noted in Clause 1(3) above, and the application of provisions under relevant State legislation is recommended.

(f) any other risk (other than flooding).

No

NOTE: **The absence of a council policy restricting development of the land by reason of a particular natural hazard does not mean that the risk from that hazard is non-existent.**

7A Flood related development controls information

(1) If the land or part of the land is within the flood planning area and subject to flood related development controls.

Yes

(2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.
No

(3) In this clause -

flood planning area has the same meaning as in the Floodplain Development Manual.
Floodplain Development Manual means the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005.
probable maximum flood has the same meaning as in the Floodplain Development Manual.

ADVICE: Further information on the development restriction mentioned, may be obtained from Council's *Property Flooding Information Summary* Flood Report Web Tool, which provides information about the flood hazard for a specified property (lot) in Lake Macquarie City. Flood Report Tool - Lake Macquarie City Council

8 Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in Clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

No

9 Contributions Plans

The name of each contributions plan applying to the land.

Lake Macquarie City Council Development Contributions Plan - Morisset Contributions Catchment - 2012

The Lake Macquarie City Council Section 7.12 Contributions Plan – Citywide 2019

9A Biodiversity Certified Land

This land is not biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016.

10 Biodiversity stewardship sites

The land is not a biodiversity stewardship site under a biodiversity stewardship

agreement under Part 5 of the Biodiversity Conservation Act 2016.

10A Native vegetation clearing set asides

The land does not contain a set aside area under section 60ZC of the Local Land Services Act 2013.

11 Bush Fire Prone Land

Note: If a lot is not specifically listed in this section then, **NONE** of that lot is bush fire prone land.

Lot 437 DP 755242 **-** SOME of the land is bush fire prone land.

12 Property Vegetation Plans

The land IS NOT subject to a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force).

13 Orders under Trees (Disputes Between Neighbours) Act 2006

Has an order been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

The land IS NOT subject to an order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

14 Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

Nil

15 Site compatibility certificates and conditions for seniors housing

(a) Whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land.

Council is not aware of any site capability certificate for any proposed development on the land.

(b) Any terms of a kind referred to in clause 18 (2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

Nil

16 Site compatibility certificates for infrastructure, schools or TAFE establishments

Whether there is a valid site compatibility certificate (infrastructure, schools or TAFE establishments), of which the council is aware, in respect of proposed development on the land.

Council is not aware of any site capability certificate for any proposed development on the land.

17 Site compatibility certificates and conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land.

Council is not aware of any site capability certificate for any proposed development on the land.

(2) Any terms of a kind referred to in clause 17 (1) or 38 (1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land.

Nil

18 Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

Nil

(2) The date of any subdivision order that applies to the land.

Not Applicable

Note: Words and expressions used in this clause have the same meaning as they have in Part 16C of Environmental Planning and Assessment Regulation 2000.

19 Site verification certificates

Whether there is a current site verification certificate, of which the council is aware, in respect of the land.

No

(a) The matter certified by the certificate

Not Applicable

(b) The date on which the certificate ceases to be current

Not Applicable

(c) A copy of the certificate (if any) may be obtained from the head office of the Department of Planning and Infrastructure.

Note: A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land—see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

20 Loose-fill asbestos insulation

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the *Home Building Act 1989*) that are listed on the register that is required to be maintained under that Division

No. Council **has not** been notified that a residential premises erected on this land has been identified in the NSW Fair Trading Loose-Fill Asbestos Insulation Register as containing loose-fill asbestos ceiling insulation.

21 Affected building notices and building product rectification orders

(1) Whether there is any affected building notice of which the council is aware that is in force in respect of the land.

No, Council **has not** been notified that an affected building notice is in force in respect of this land.

(2) (a) Whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and

A building rectification order **is not** in force in respect of this land.

(b) Whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.

A notice of intention to make a building product rectification order **has not** been given in respect of this land.

(3) In this clause:

Affected building notice has the same meaning as in Part 4 of the Building Products (Safety) Act 2017

Building product rectification order has the same meaning as in the Building Products (Safety) Act 2017

NOTE: The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

Matters arising under the Contaminated Land Management Act 1997 (s59 (2))

(a) The land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No

(b) The land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No

(c) The land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No

(d) The land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No

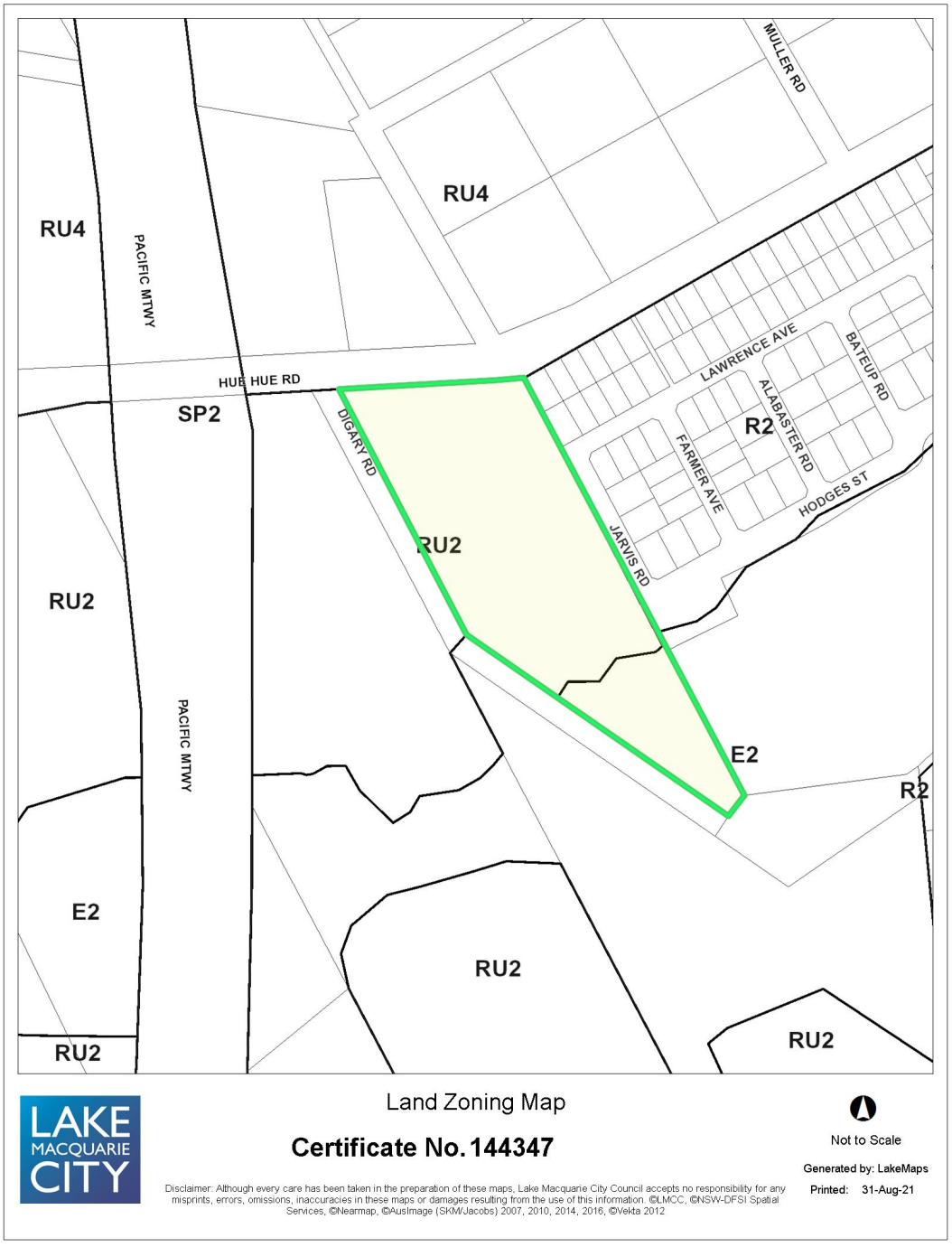
(e) The land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No

ATTACHMENTS:

Land Zoning Map

ATTACHMENT: Land Zoning Map



APPENDIX G

Test Pit And DCP Reports

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 9679 8733 Fax: (02) 9679 8744

Table A : Summary of Test Pit Profile

Client: Topa Property — Job Number: JC21405A

Project: Proposed Residential Subdivision Development — Logged By: AT

Location: No 1377 Hue Hue Road Wyee — Date: 11/8/21

Test Pit Number	Depth (m) From	Depth (m) To	Material Description
1	0.00	0.35	Topsoil: Sandy Silt: low liquid limit, grey with fine to medium grained sand, dry to moist
	0.35	2.60	(CL-CI) Silty Clay: low to medium plasticity, grey brown with heavy ironstaining and some fine grained sand, moist to wet PP 160kPa
	2.60	3.10	(SP) Sand: fine to medium grained, grey with ironstaining and some siltstone gravel, moist to wet , Groundwater Seepage at 2.7m
2	0.00	0.20	Topsoil: Sandy Silt: low liquid limit, grey with fine to medium grained sand, moist
	0.20	0.40	Clayey Silt: low liquid limit, grey, moist
	0.40	2.30	(CL-CI) Silty Clay: low to medium plasticity, grey brown with heavy ironstaining and some fine grained sand, dry to moist, hard PP>600kPa
	2.30	2.90	(CL-CI) Gravelly Silty Clay: low to medium plasticity, grey brown red with ironstone gravel, dry to moist
3	0.00	0.40	Topsoil: Sandy Silt: low liquid limit, grey with fine to medium grained sand, moist
	0.40	1.90	(CL-CI) Silty Clay: low to medium plasticity, grey brown with heavy ironstaining and some fine grained sand, moist, very stiff to hard PP=380-600kPa
	1.90	2.80	As above but dark grey, moist, stiff PP=170-220 kPa
	2.80	3.00	As above but with interbedded sand and siltstone bands, moist , appears medium densere
4	0.00	0.40	Topsoil: Sandy Silt: low liquid limit, brown with fine to medium grained sand, moist
	0.40	1.90	(CL-CH) Silty Clay: medium to high plasticity, grey brown with heavy ironstaining and some bands ofr sand, moist to wet, stiff to very stiff PP=160-210kPa
	1.90	3.00	As above but dark grey with interbedded sand and siltstone , moist, very stiff PP=310-350kPa
5	0.00	0.30	Topsoil: Sandy Silt: low liquid limit, brown with fine to medium grained sand, moist
	0.30	1.00	(CH) Silty Clay: high plasticity, light brown, moist, very stiff PP=310kPa
	1.00	1.40	(CI) Silty Clay: medium plasticity, grey with ironstone gravel, moist
	1.40	1.60	Siltstone/Claystone: grey (near refusal)
6	0.00	0.40	Topsoil: Sandy Silt: low liquid limit, brown with fine to medium grained sand,, moist
	0.40	1.80	(SC/CI) Sandy Clay: low to medium plasticity, light brown red with heavy ironstaining, moist, very stiff PP=260-320kPa
	1.80	2.80	(CI) Silty Clay: medium plasticity, grey with abundant ironstone, dry, very stiff PP=360-400kPa
7	0.00	0.25	Topsoil: Sandy Silt: low liquid limit, brown with fine to medium grained sand,, moist
	0.25	0.50	Sandy Silt: low liquid limit, grey, moist
	0.50	1.60	(SC/CI) Clayey Sand/Sandy Clay: low to medium plasticity, light brown red with heavy ironstaining, moist to wet , stiff to very stiff PP=140-210kPa, slight groundwater seepage at 1.5m
	1.60	2.90	As above but grey red with ironstone gravel, moist
			Notes:
			MC = Moisture Content.
			PL = Plastic Limit.
			PP = Pocket Penetrometer.

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown NSW 2148, Australia
Tel: (02) 9679 8733 Fax: (02) 9679 8744

Table A : Summary of Test Pit Profile

Client: Topa Property — Job Number: JC21405A

Project: Proposed Residential Subdivision Development — Logged By: AT

Location: No 1377 Hue Hue Road Wyee — Date: 11/8/21

Test Pit Number	Depth (m) From	Depth (m) To	Material Description
8	0.00	0.20	Topsoil: Sandy Silt: low liquid limit, brown with fine to medium grained sand,, moist
	0.20	0.40	Sandy Silt: low liquid limit, grey, moist
	0.40	1.10	(CL-CI) Silty Clay: low to medium plasticity, grey brown with heavy ironstaining and some fine grained sand, moist, very stiff PP=270kPa
	1.10	2.50	(CH) Silty Clay: high plasticity, grey with some ironstone gravel, dry to moist, very stiff PP=280-310kPa
	2.50	3.00	As above but with abundant ironstone gravel, dry to moist
9	0.00	0.30	Topsoil: Sandy Silt: low liquid limit, brown with fine to medium grained sand,, moist
	0.30	1.90	(SP) Gravelly Clayey Sand: fine to coarse grained, grey brown red with sandstone gravel and bands, moist
	1.90	2.00	Sandstone (refusal)
10	0.00	0.25	Topsoil: Clayey Silt: low liquid limit, brown with sand, moist
	0.25	1.40	(SP) Gravelly Clayey Sand: fine to coarse grained, grey brown red with sandstone gravel and bands, moist
	1.40	1.90	Sandstone (refusal)
11	0.00	0.30	Topsoil: Clayey Silt: low liquid limit, brown with sand, moist
	0.30	1.10	(CH) Silty Clay: high plasticity, light brown, dry to moist, very stiff PP=300-320kPa
	1.10	1.80	(CI) Silty Clay: medium plasticity, grey with siltstone/claystone bands, dry, hard PP=410Kpa
	1.80	2.30	Siltstone/Claystone: grey (near refusal)
12	0.00	0.25	Topsoil: Clayey Silt: low liquid limit, brown with sand, moist
	0.25	0.70	(CH) Silty Clay: high plasticity, light brown, moist, stiff to very stiff PP=190-280kPa
	0.70	1.10	(CI) Silty Clay: medium plasticity, grey, moist, very stiff PP=240kPa
	1.10	1.20	As above but with siltstone/claystone bands, dry to moist
	1.20	1.40	Siltstone/Claystone: grey (refusal)

Notes:
MC = Moisture Content.
PL = Plastic Limit.
PP = Pocket Penetrometer.

APPENDIX H

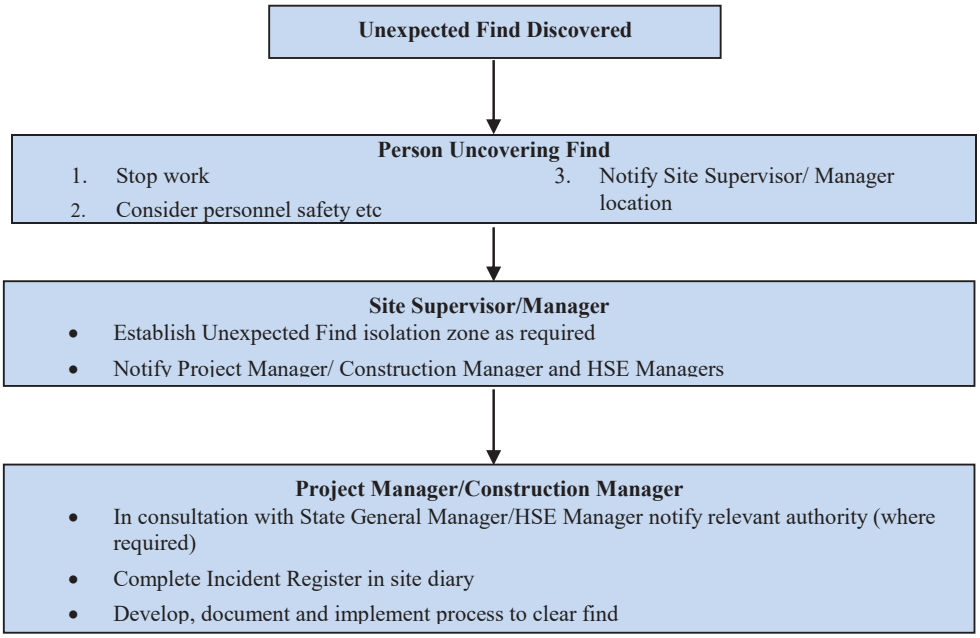
Unexpected Finds Protocol

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown, NSW 2148, Australia
PO Box 1543, Macquarie Centre. North Ryde, NSW 2113

ABN 62 084 294 762
Tel : (02) 9679 8733
Fax : (02) 9679 8744

UNEXPECTED FINDS PROTOCOL

ITEM	REQUIREMENTS	
DEFINITION	An unexpected find may be identified as a result of site activity, for example through earthworks and movement of plant on site including preparatory site works.	
SITE SUPERVISOR	On being notified of an **Unexpected Find**, the Principal Contractor must: • Stop work & notify the site manager/HSE coordinator as soon as practically possible. • Ensure the find is not further disturbed. • Ensure all personnel are removed from the area with the exception of personnel required to isolate or make safe the area. • Establish an "unexpected find" isolation zone as required to prevent or minimise exposure risks for site personnel, members of the public, fauna or flora. Note: Persons are not to expose themselves to further risk whilst establishing isolation zone. • Assess the requirement to evacuate areas or the entire site. • Co-ordinate site or area evacuation as assessed. Note: It is preferable to evacuate the whole site if there is any doubt as to the safety of personnel or the environment. • As soon as the safety of personnel, environment & the site is secured the Site Manager/Supervisor should notify their relevant HSE Manager, Project Manager & Construction Manager. • As soon as practically possible record the events associated with the unexpected find.	
PROJECT MANAGER	The Project Manager and/or HSE Manager in consultation with the relevant General Manager notify regulatory authorities as required. Establish a risk based process for managing clearance of the unexpected find & establishing incident investigation.	
	The Project Manager or HSE Manager must also ensure that the find is reported to the Principal. This may be by verbal communication.	
UNEXPLODED ORDNANCE	• Do not touch or disturb. • Contact Police immediately.	
UNEXPECTED SERVICES **(LIVE OR DISUSED)**	• This may include power, gas or fuel. • Do not touch or further disturb. • The area must be immediately designated a non-smoking and "no naked flames" area. • All nearby machinery should be turned off. • Contact relevant governing authority. • Contact appropriate trade supervisor.	
ASBESTOS OR OTHER CONTAMINANTS	Products made from asbestos cement not only include fibro sheeting (flat and corrugated), but items such as water, drainage and flue pipes, roofing shingles and gutters. • Do not touch or further disturb. • Isolate area (10 metre isolation zone required for asbestos). • Contact hygienist. • Implement hygienist's recommendations. • If persons have been exposed arrange medical advice/consultation i.e. possible asbestos fibre exposure will require lung function test & chest x-ray. Note: This applies more specifically to friable type asbestos rather than non friable asbestos containing material however if any doubt exists treat as friable. • Obtain clearance from hygienist prior to re-entering area.	
	Non-Friable Asbestos Over 97% of the products in Australia were non-friable material in which the Asbestos fibres were bonded by cement, vinyl, resin or other similar material.	**Friable Asbestos** The hazardous friable asbestos is material which can be crumbled, pulverised, or reduced to powder by hand pressure. This may also include previously non-friable material which becomes broken or damaged by mechanical force.

ITEM	REQUIREMENTS
HUMAN REMAINS	• Do not touch or disturb. • Contact Police immediately. Please note that aboriginal burial objects (such as bark coffins) are defined by legislation as human remains.
HERITAGE ITEMS	• Do not touch or disturb. • Contact Heritage Office or relevant State or Local Government Authority.
OBJECTS OF POSSIBLE CULTURAL SIGNIFICANCE	• Do not touch or disturb. Contact Department of Indigenous Affairs or relevant State or Local Government Authority.
UNEXPECTED FIND PROCESS	

APPENDIX I

Important Information about your Environmental Site Assessment
Explanatory Notes

GeoEnviro Consultancy Pty Ltd
Unit 5, 39-41 Fourth Avenue, Blacktown, NSW 2148, Australia
PO Box 1543, Macquarie Centre. North Ryde, NSW 2113
ABN: 62 084 294 762
Tel: (02) 9679 8733
Fax: (02) 9679 8744
Email: geoenviro@exemail.com.au

IMPORTANT INFORMATION REGARDING YOUR ENVIRONMENTAL SITE ASSESSMENT

This Environmental Assessment Report was performed in general conformance with our understanding of the guidelines by the Australian and New Zealand Conservation Council (ANZECC), the Office of Environment and Heritage (OEH) and the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (amended 2013).

These accompanying notes have been prepared by GeoEnviro Consultancy Pty Ltd, using guidelines prepared by ASFE; The Association of Engineering Firms Practising in the Geosciences. The notes are offered as an aid in the interpretation of your environmental site assessment report.

REASONS FOR AN ENVIRONMENTAL SITE ASSESSMENT

Environmental site assessments are typically, though not exclusively, performed in the following circumstances:

- As a pre- acquisition assessment on behalf of either a purchaser or a vendor, when a property is to be sold
- As a pre-development assessment, when a property or area of land is to be redeveloped, or the land use has change, eg from a factory to a residential subdivision
- As a pre-development assessment of greenfield sites, to establish baseline conditions and assess environmental, geological and hydrological constraints to the development of, eg, a landfill
- As an audit of the environmental effects of previous and present site usage

Each circumstance requires a specific approach to the assessment of soil and groundwater contamination. In all cases the objective is to identify and if possible, quantify the risks which unrecognised contamination poses to the ongoing or proposed activity. Such risk may be both financial (clean-up costs or limitations in site use) and physical (health risks to site users or the public).

ENVIRONMENTAL SITE ASSESSMENT LIMITATIONS

Although information provided by an environmental site assessment can reduce exposure to the risk of the presence of contamination, no environmental site assessment can eliminate the risk. Even a rigorous professional assessment may not detect all contamination within a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which did not show signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant which may occur, only the most likely contaminants are screened.

AN ENVIRONMANTAL SITE ASSESSMENT REPORT IS BASED ON A UNIQUE SET OF PROJECT SPECIFIC FACTORS

Your environmental assessment report should not be used;

- When the nature of the proposed development is changed, eg, if a residential development is proposed, rather than a commercial development
- When the size or configuration of the proposed development is altered, eg, if a basement is added
- When the location or orientation of the proposed structure is modified
- When there is a change of land ownership, or
- For application to an adjacent site

In order to avoid costly problems, you should ask your consultant to assess any changes in the project since the assessment and the implications, if any, to recommendations made in the assessment.

ENVIRONMENTAL SITE ASSESSMENT FINDINGS ARE PROFESSIONAL ESTIMATES

Site assessment identifies actual sub-surface conditions only at those points where samples are taken, when they are taken. Data obtained from the sampling and subsequent laboratory analyses are interpreted by geologists, engineers or scientist and opinions are drawn about the overall subsurface conditions, the nature and extent of contamination, the likely impact on any proposed development and appropriate remediation measures. Actual conditions may differ from those inferred, because no professional, no matter how qualified and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, however, steps can be taken to help minimise the impact. For this reason, site owner should retain the services of their consultants throughout the development stage of the project in order to identify variances, conduct additional tests which may be necessary and to recommend solutions to problems encountered on site.

Soil and groundwater contamination is a field in which legislation and interpretation of legislation by government departments is changing rapidly. Whilst every attempt is made by GeoEnviro Consultancy Pty Ltd to be familiar with current policy, our interpretation of the investigation findings should not be taken to be that of the relevant authority. When approval from a statutory authority is required for a project, that approval should be directly sought.

STABILITY OF SUB-SURFACE CONDITIONS

Sub-surface conditions can change by natural processes and site activities. As an environmental site assessment is based on conditions existing at the time of the investigation, project decisions should not be based on environmental site assessment data which may have been affected by time. The consultant should be requested to advise if additional tests are required.

ENVIRONMENTAL SITE ASSESSMENTS ARE PERFORMED FOR SPECIFIC PURPOSES AND CLIENTS

Environmental site assessments are prepared in response to a specific scope of work required to meet the specific needs or specific individuals. An assessment prepared for a consulting civil engineer may not be adequate to a construction contractor or another civil engineer.

An assessment should not be used by other persons for any purpose, or by the client for a different purposes. No individual, other than the client, should apply an assessment, even for its intended purposes, without first conferring with the consultant. No person should apply an assessment for any purposes other than that originally contemplated, without first conferring with the consultant.

MISINTERPRETATION OF ENVIRONMENTAL SITE ASSESSMENTS

Costly problems can occur when design professionals develop plans based on misinterpretation of an environmental site assessment. In order to minimise problems, the environmental consultant should be retained to work with appropriate design professionals, to explain relevant findings and to review the adequacy of plans and specifications relative to contamination issues.

LOGS SHOULD NOT BE SEPARATED FORM THE REPORT

Borehole and test pit logs are prepared by environmental scientists, engineers or geologist, based upon interpretation of field conditions and laboratory evaluation of field samples. Field logs normally provided in our reports and these should not be redrawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however, contractors can still misinterpret the logs during bid preparation if separated from the test of the assessment. Should this occur, delays and disputes , or unanticipated costs may result.

To reduce the likelihood of boreholes and test pit logs misinterpretation, the complete assessment should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of sub-surface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations, such as contractors.

READ RESPONSIBILITY CLAUSES CLOSELY

An environmental site assessment is based extensively on judgement and opinion, therefore, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claim being lodged against consultants. In order to aid in prevention of this problem, model clauses have been developed for use in written transmittals. These are definitive clauses, designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site assessment and you are encouraged to read them closely. Your consultant will be happy to give full and frank answers to any questions you may have.

EXPLANATORY NOTES

Introduction

These notes have been provided to amplify the geotechnical report with regard to investigation procedures, classification methods and certain matters relating to the Discussion and Comments sections. Not all notes are necessarily relevant to all reports.

Geotechnical reports are based on information gained from finite sub-surface probing, excavation, boring, sampling or other means of investigation, supplemented by experience and knowledge of local geology. For this reason they must be regarded as interpretative rather than factual documents, limited to some extent by the scope of information on which they rely.

Description and Classification Methods
The methods the description and classification of soils and rocks used in this report are based on Australian standard 1726, the SSA Site investigation Code, in general descriptions cover the following properties - strength or density, colour, structure, soil or rock type and inclusions. Identification and classification of soil and rock involves to a large extent, judgement within the acceptable level commonly adopted by current geotechnical practices.

Soil types are described according to the predominating particle size, qualified by the grading or other particles present (eg sandy clay) on the following bases:

Soil Classification	Particle Size
Clay	Less than 0.002mm
Silt	0.002 to 0.6mm
Sand	0.6 to 2.00mm
Gravel	2.00m to 60.00mm

Soil Classification	Particle size
Clay	less than 0.002mm
Silt	0.002 to 0.06mm
Sand	0.06 to 2.00mm
Gravel	2.00mm to 60.00mm

Cohesive soils are classified on the basis of strength, either by laboratory testing or engineering examination. The strength terms are defined as follows:

Classification	Undrained Shear Strength kPa
Very Soft	Less than 12
Soft	12 - 25
Firm	25 - 50
Stiff	50 - 100
Very Stiff	100 - 200
Hard	Greater than 200

Non-cohesive soils are classified on the basis of relative density, generally from the results of standard penetration tests (SPT) or Dutch cone penetrometer test (CPT), as below:

Relative Dense	SPT 'N' Value (blows/300mm)	CPT Cone Value (q_c-Mpa)
Very Loose	Less than 5	Less than 2
Loose	5 - 10	2 - 5
Medium Dense	10 - 30	5 - 15
Dense	30 - 50	15 - 25
Very Dense	> 50	> 25

Rock types are classified by their geological names, together with descriptive terms on degrees of weathering strength, defects and other minor components. Where relevant, further information regarding rock classification, is given on the following sheet.

Sampling
Sampling is carried out during drilling to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provided information on plasticity, grained size, colour, type, moisture content, inclusions and depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin walled sample tube (normally know as U_{50}) into the soil and withdrawing a sample of the soil in a relatively undisturbed state. Such Samples yield information on structure and strength and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils. Details of the type and method of sampling are given in the report.

Field Investigation Methods
The following is a brief summary of investigation methods currently carried out by this company and comments on their use and application.

Hand Auger Drilling
The borehole is advanced by manually operated equipment. The diameter of the borehole ranges from 50mm to 100mm. Penetration depth of hand augered boreholes may be limited by premature refusal on a variety of materials, such as hard clay, gravels or ironstone.

Test Pits
These are excavated with a tractor-mounted backhoe or a tracked excavator, allowing close examination of the insitu soils if it is safe to descend into the pit. The depth of penetration is limited to about 3.0m for a backhoe and up to 6.0m for an excavator. A potential disadvantage is the disturbance caused by the excavation.

Care must be taken if construction is to be carried out near, or within the test pit locations, to either adequately recompact the backfill during construction, or to design the structure or accommodate the poorly compacted backfill.

Large Diameter Auger (eg Pengo)
The hole is advanced by a rotating plate or short spiral auger generally 300mm or larger in diameter. The cuttings are returned to the surface at intervals (generally of not more than 05m) and are disturbed, but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers and is usually supplemented by occasional undisturbed tube sampling.

Continuous Spiral Flight Augers
The hole is advanced by using 90mm - 115mm diameter continuous spiral flight augers, which are withdrawn at intervals to allow sampling or insitu testing. This is a relatively economical means of drilling in clays and in sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the augers flights, but they are very disturbed and may be highly mixed with soil of other stratum.

Information from the drilling (as distinct from specific sampling by SPT or undisturbed samples) is of relatively low reliability due to remoulding, mixing or softening of samples by ground water, resulting in uncertainties of the original sample depth.

Continuous Spiral Flight Augers (continued)
The spiral augers are usually advanced by using a V - bit through the soil profile refusal, followed by Tungsten Carbide (TC) bit, to penetrate into bedrock. The quality and continuity of the bedrock may be assessed by examination of the recovered rock fragments and through observation of the drilling penetration resistance.

Non - core Rotary Drilling (Wash Boring)
The hole is advanced by a rotary bit, with water being pumped down the drill rod and returned up the annulus, carrying the cuttings, together with some information from the "feel" and rate of penetration.

Rotary Mud Stabilised Drilling
This is similar to rotary drilling, but uses drilling mud as a circulating fluid, which may consist of a range of products, from bentonite to polymers such as Revert or Biogel. The mud tends to mask the cuttings and reliable identification is again only possible from separate intact sampling (eg SPT and U_{50} samples).

Continuous Core Drilling
A continuous core sample is obtained using a diamond tipped core barrel. Providing full core recovery is achieved (which is not always possible in very weak rock and granular soils) this technique provides a very reliable (but relatively expensive) method of investigation. In rocks an NMLC triple tube core barrel which gives a core of about 50mm diameter, is usually used with water flush.

Portable Proline Drilling
This is manually operated equipment and is only used in sites which require bedrock core sampling and there is restricted site access to truck mounted drill rigs. The boreholes are usually advanced initially using a tricone roller bit and water circulation to penetrate the upper soil profile. In some instances a hand auger may be used to penetrate the soil profile. Subsequent drilling into bedrock involves the use of NMLC triple tube equipment, using water as a lubricant.

Standard Penetration Tests
Standard penetration tests are used mainly in non-cohesive soils, but occasionally also in cohesive soils, as a means of determining density or strength and of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289 "Methods of testing Soils for Engineering Purpose"- Test F31.

The test is carried out in a borehole by driving a 50mm diameter split sample tube under the impact of a 63Kg hammer with a free fall of 769mm. It is normal for the tube to be driven in three successive 150mm increments and the "N" value is taken as the number of blows for the last 300mm. In dense sands, very hard clays or weak rocks, the full 450mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form:

- In a case where full penetration is obtained with successive blows counts for each 150mm of, say 4, 6, and 7 blows.

  as 4, 6, 7
  N = 13

- In a case where the test is discontinued short of full penetration, say after 15 blows for the first 150mm and 30 blows for the next 40mm.

  as 15,30/40mm

The results of the tests can be related empirically to the engineering properties of the soil. Occasionally the test methods is used to obtain samples in 50mm diameter thin walled samples tubes in clays. In these circumstances, the best results are shown on the bore logs in brackets.

Dynamic Cone Penetration Test
A modification to the SPT test is where the same driving system is used with a solid 60^0 tipped steel cone of the same diameter as the SPT hollow sampler. The cone can be continuously driven into the borehole and is normally used in areas with thick layers of soft clays or loose sand. The results of this test are shown as 'N_c' on the bore logs, together with the number of blows per 150mm penetration.

Cone Penetrometer Testing and Interpretation
Cone penetrometer testing (sometimes referred to as Dutch Cone-CPT) described in this report, has been carried out using an electrical friction cone penetrometer and the test is described in Australian Standard 1289 test F5.1.

In the test, a 35mm diameter rod with cone tipped end is pushed continuously into the soil, the reaction being provided by a specially designed truck or rig, which is fitted with a hydraulic ram system. Measurements are made of the end bearing resistance on the cone and the friction resistance on a separate 130mm long sleeve, immediately behind the cone. Transducer in the tip of the assembly are connected by electrical wires passing through the centre of the push rods to an amplifier and recorder unit mounted on the control truck.

As penetration occurs (at a rate of approximately 20mm per second) the information is output on continuous chart recorders. The plotted results in this report have been traced from the original records. The information provided on the charts comprises:

- Cone resistance - the actual end bearing force divided by the cross sectional area of the cone, expressed in Mpa.
- Sleeve friction - the frictional force on the sleeve divided by the surface area, expressed in kPa.
- Friction ratio - the ratio of sleeve friction to cone resistance, expressed in percentage.

There are two scales available for measurement of cone resistance. The lower "A" scale (0-5Mpa) is used in very soft soils where increased sensitivity is required and is shown in the graphs as a dotted line. The main "B" scale (0-50Mpa) is less sensitive and is shown as a full line.

The ratios of the sleeve resistance to cone resistance will vary with the type of soil encountered, with higher relative frictions in clays than in sands. Friction ratios of 1% to 2% are commonly encountered in sands and very soft clays, rising to 4% to 10% in stiff clays.

In sands, the relationship between cone resistance and SPT value is commonly in the range:

$$q_c \text{ (Mpa)} = (0.4 \text{ to } 0.6)\ N \text{ (blows per 300mm)}$$

In clays the relationship between undrained shear strength and cone resistance is commonly in the range:

$$q_c = (12 \text{ to} 18)\ C_u$$

Interpretation of CPT values can also be made to allow estimate of modulus or compressibility values to allow calculation of foundation settlements. Inferred stratification, as shown on the attached report, is assessed from the cone and friction traces, from experience and information from nearby boreholes etc.

Cone Penetrometer Testing and Interpretation continued
This information is presented for general guidance, but must be regarded as being to some extent interpretive. The test method provides a continuous profile of engineering properties and where precise information or soil classification is required, direct drilling and sampling may be preferable.

Portable Dynamic Cone Penetrometer (AS1289)
Portable dynamic cone penetrometer tests are carried out by driving a rod in to the ground with a falling weight hammer and measuring the blows per successive 100mm increments of penetration.

There are two similar tests, Cone Penetrometer (commonly known as Scala Penetrometer) and the Perth Sand Penetrometer. Scala Penetrometer is commonly adopted by this company and consists of a 16mm rod with a 20mm diameter cone end, driven with a 9kg hammer, dropping 510mm (AS 1289 Test F3.2).

Laboratory Testing
Laboratory testing is carried out in accordance with Australian Standard 1289 "Methods of Testing Soil for Engineering Purposes". Details of the test procedures are given on the individual report forms.

Engineering Logs
The engineering logs presented herein are an engineering and/or geological interpretation of the sub-surface conditions and their reliability will depend to some extent on frequency of sampling and the method of drilling. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, however, this is not always practicable or possible to justify economically. As it is, the boreholes represent only a small sample of the total sub-surface profile. Interpretation of the information and its application to design and construction should take into account the spacing of boreholes, frequency of sampling and the possibility of other than "straight line" variations between the boreholes.

Ground water
Where ground water levels are measured in boreholes, there are several potential problems:

- In low permeability soils, ground water although present, may enter the hole slowly, or perhaps not at all, during the investigation period.
- A localised perched water table may lead to a erroneous indication of the true water table.
- Water table levels will vary from time to time, due to the seasons or recent weather changes. They may not be the same at the time of construction as indicated in the report.
- The use of water or mud as a drilling fluid will mask any ground water inflow. Water has to be blown out of the hole and drilling mud must be washed out of the hole if any water observations are to be made.

More reliable measurements can be made by installing stand pipes, which are read at intervals over several days, or weeks for low permeability soils. Piezometers sealed in a particular stratum may be interference from a perched water table or surface water.

Engineering Reports
Engineering reports are prepared by qualified personnel and are based on the information obtained and on current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal is changed, say to a twenty storey building. If this occurs, the company will be pleased to review the report and sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of sub-surface conditions, discussions of geotechnical aspects and recommendations or suggestions for design and construction. However, the company cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on bore spacing and sampling frequency.
- Changes in policy or interpretation of policy by statutory authorities.
- The actions of contractors responding to commercial pressures.

If these occur, the company will be pleased to assist with investigation or advice to resolve the matter.

Site Anomalies
In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, the company request immediate notification. Most problems are much more readily resolved when conditions are exposed than at some later stage, well after the event.

Reproduction of Information for Contractual Purposes
Attention is drawn to the document “Guidelines for the Provision of Geotechnical Information trader Documents”, published by the Institute of Engineers Australia. Where information obtained for this investigation is provided for tender purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. The Company would be pleased to assist in this regard and/or make additional copies of the report available for contract purpose, at a nominal charge.

Site Inspection

The Company will always be pleased to provide engineering inspection services for geotechnical aspect of work to which this report is related. This could range from a site visit to confirm that the conditions exposed are as expected, to full time engineering presence on site

Review of Design
Where major civil or structural developments are proposed, or where only a limited investigation has been completed, or where the geotechnical conditions are complex, it is prudent to have the design reviewed by a Senior Geotechnical Engineer.