

Acanthus Limited  
c/- Civix  
PO Box 5204  
Victoria Street  
Auckland 1141

Attention: Nick Mattison

Dear Nick

1 Sels Road, Papatoetoe

Preliminary contamination assessment in support of fast-track consenting

## 1 Introduction

Acanthus Limited has engaged Tonkin & Taylor Ltd (T+T) to provide a preliminary (desktop) assessment of its proposal to construct some 115 dwelling units and lots at 1 Sels Road, Papatoetoe (the site).

This assessment was prepared in accordance with our proposal dated 19 February 2021<sup>1</sup> and approval provided on 7 April 2021<sup>2</sup>.

## 2 Development proposal

We understand that Acanthus Limited is seeking approval via the COVID-19 Recovery (Fast-track Consenting) Act 2020 to construct some 115 dwelling units and lots on the site. Preliminary development plans are provided in Appendix A. The proposal will involve benching into the existing slope to form level generally northeast-southwest oriented building platforms stepping up from Sels Road. The building platforms will be supported by a combination of low retaining walls and batters. Cut depths and retained heights will be subject to detailed design but are currently anticipated to be less than approximately 2 m, and typically less than 1 m.

## 3 Scope of work

T+T undertook the following to provide a preliminary assessment of ground contamination conditions at the site:

- 1 Obtained and reviewed Council property files for relevant ground contamination information;

<sup>1</sup> 1 Sels Road, Papatoetoe. Geological, geotechnical and contamination assessments in support of fast-track consenting. Letter to Andrew Fawcett at Myland Partners, dated 19 February 2021.

<sup>2</sup> Email from Andrew Fawcett at Myland Partners to Shane Moore at Tonkin & Taylor Ltd, dated 7 April 2021.

- 2 Reviewed information relating to the history of the site:
  - a Historic aerial photographs, both vertical and oblique, available from online sources (for example Auckland Council's GeoMaps<sup>3</sup>, Retrolens<sup>4</sup>, Digital New Zealand<sup>5</sup> and the National Library<sup>6</sup>); and
  - b Geometria Limited, 2015. Archaeological Assessment of Self Farm / Crater Hill Papatoetoe, Auckland. Report prepared for Self Family Trust.
- 3 Reviewed published geological maps for the site and T+T's records and the New Zealand Geotechnical Database<sup>7</sup> of geotechnical data from nearby sites;
- 4 A Principal Environmental Scientist undertook a walkover of the subject site, parts of the wider Crater Hill/Ngā Kapua Kohuora volcano (Selfs Farm) and immediate surrounds; and
- 5 Preparation of this report.

#### 4 Site description

The site location is shown in Figure 4.1. The site is legally described as Lot 1 DP 503731 and comprises an area of some 3.6 hectares. The following section provides a summary of the site setting, with particular focus on features of ground contamination relevance, further information is provided in the geological assessment prepared concurrently by T+T<sup>8</sup>.

The site is bordered by Portage and Selfs roads, to the north and east respectively, with existing residential properties beyond, except where Aorere College is located opposite the site along Selfs Road. Vacant lands, owned by Waka Kotahi NZ Transport Agency, border the site to its south and west, with the South Western Motorway beyond. A former quarry, now being filled, is located opposite the South Western Motorway from the site, within the Crater Hill/Ngā Kapua Kohuora volcanic centre (refer to further discussion below).

The site is currently occupied by two residential dwellings, associated ancillary structures (garages and sheds) and landscaping. A tennis court, large barn/equipment shed and stock pens are also located adjacent to the central dwelling (Selfs Homestead). The remainder of the site is being used for pastoral grazing.

Auckland Council GeoMaps indicates:

- Stormwater and wastewater are generally reticulated to the north and east of the site. Mains are not indicated to be installed along Selfs Road.
- No overland flow paths or flood prone areas are indicated to be present on the subject site.

<sup>3</sup> <https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html>

<sup>4</sup> <https://retrolens.co.nz/>

<sup>5</sup> <https://digitalnz.org/>

<sup>6</sup> <https://natlib.govt.nz/>

<sup>7</sup> [www.nzgd.org.nz](http://www.nzgd.org.nz), accessed on 8 April 2021.

<sup>8</sup> 1 Selfs Road, Papatoetoe. Geological assessment in support of fast-track consenting application. Report prepared for Acanthus Limited by Tonkin & Taylor Ltd, dated 10 September 2021.



Figure 4.1: Layout of site (blue outline) and immediate surrounds (source: Auckland Council GeoMaps)

The site is located on the north-eastern flank of the tuff ring derived from the Crater Hill/Ngā Kapua Kohuora volcanic centre. The geological setting is summarised (from Edbrooke 2001<sup>9</sup>) in Figure 4.2. A steep slope is present beyond the south-western boundary of the site, formed by a combination of cutting undertaken to create the South Western Motorway (State Highway 20) and the original inner slope of the tuff ring/explosion crater. The site itself generally slopes at a moderate gradient to the north-east towards Selfs Road.

<sup>9</sup> Edbrooke, S.W. (compiler) 2001: Geology of the Auckland area: scale 1:250,000. Lower Hutt: Institute of Geological & Nuclear Sciences Limited. Institute of Geological & Nuclear Sciences 1:250,000 geological map 3. 74 p. + 1 folded map

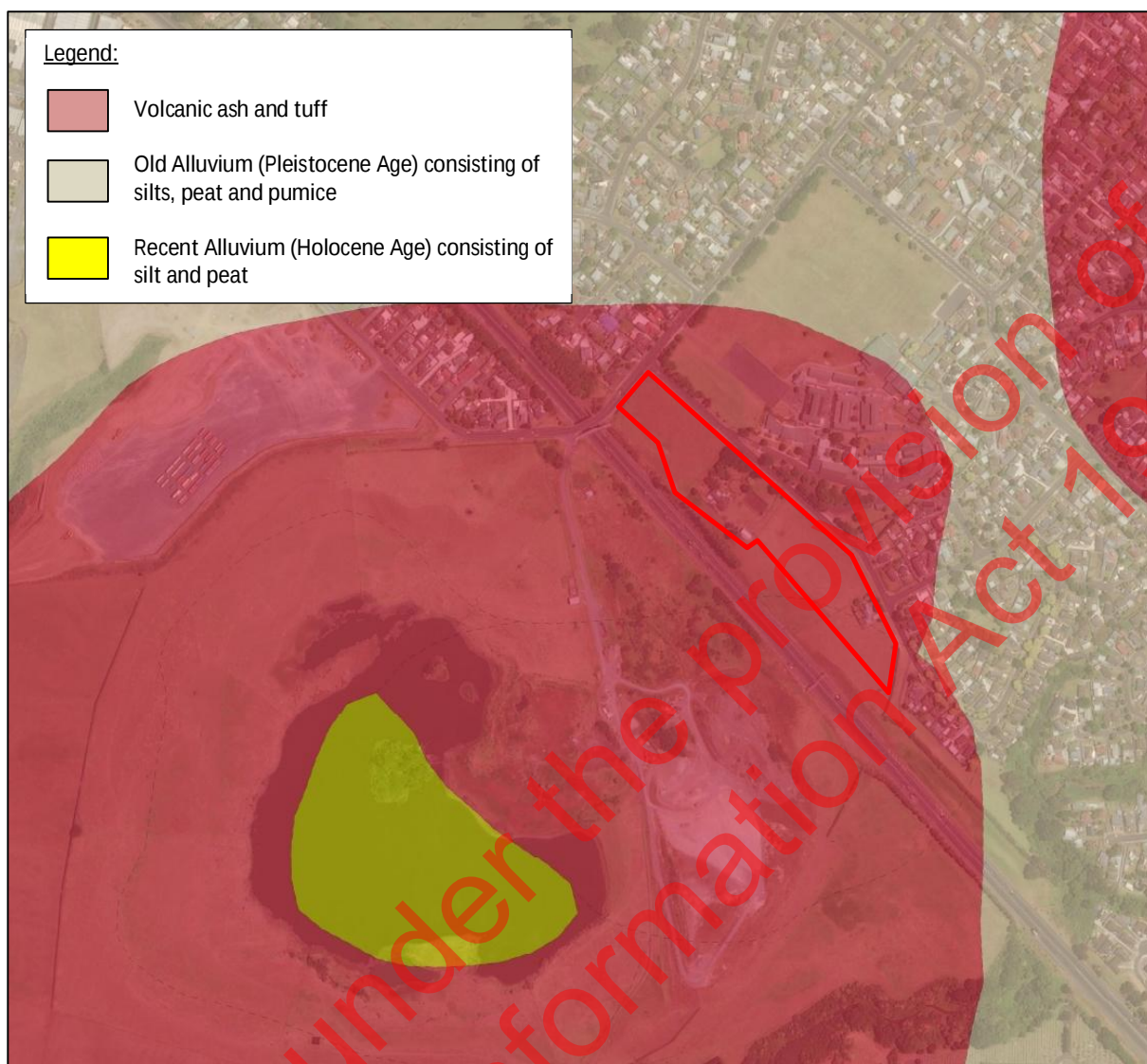


Figure 4.2: Mapped geology (after Edbrooke<sup>9</sup>) showing approximate site location (red outline)

## 5 Site history

Review of the property file, historical aerals and pervious archaeological assessment identified that the site has largely been used for pastoral farming purposes, with supporting residences, throughout its European history. The historic use and layout of the site is summarised in Figure 5.1.

With the exception of rebuilding of the Selfs Homestead in the 1920s (after it was destroyed by fire), later additions to the dwelling, and the addition or removal of ancillary structures/features such as a small milking shed, barns and tennis court, use of the site has not changed materially since.

However, the north-western portion of the site was historically used for horticultural purposes (evident in aerial photographs from 1944). At that time market gardens on the wider Selfs Farm were being used to supply United States military camps, such as the large Cambria Park base located off Puhinui Road (Geometria, 2015).

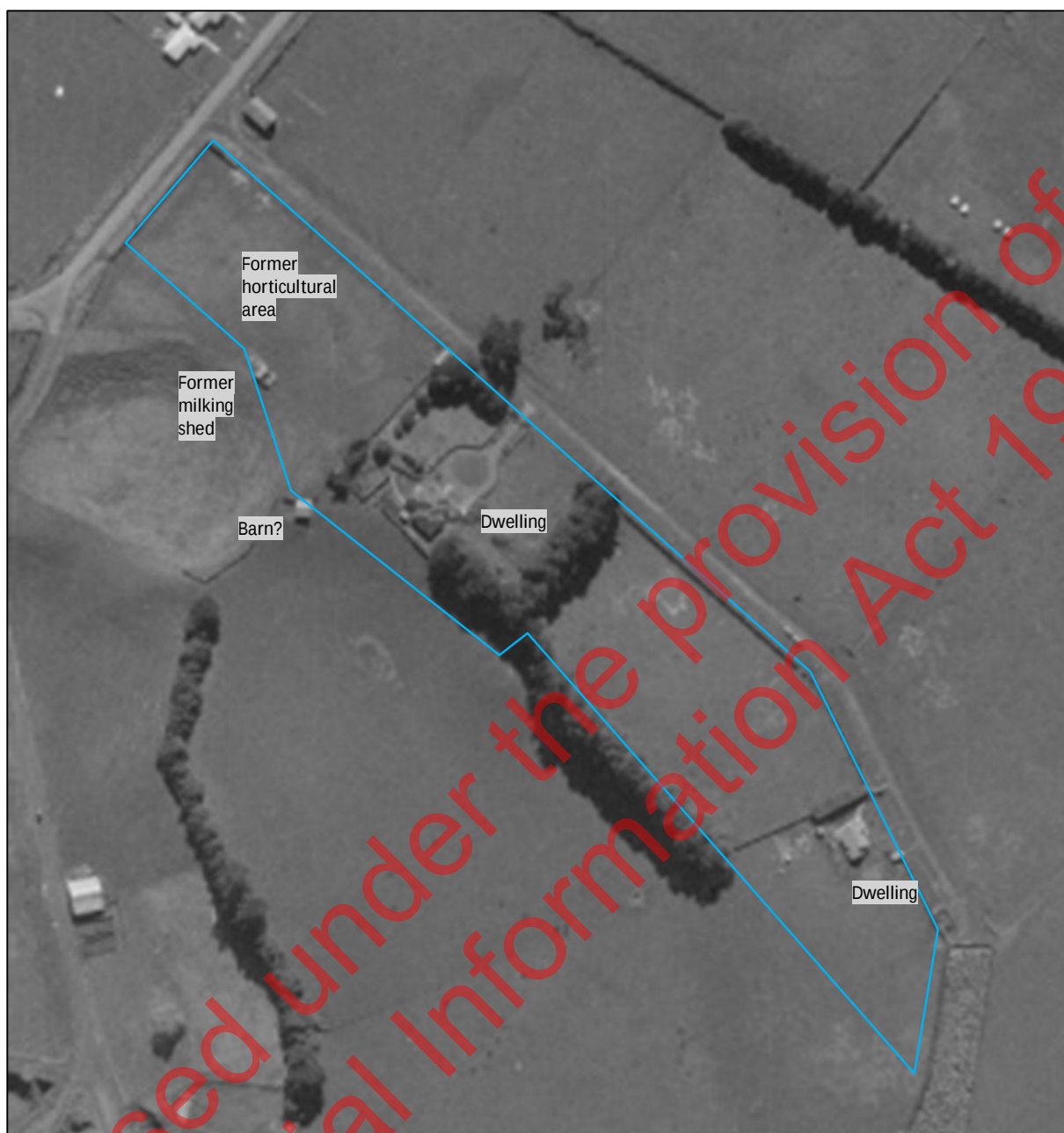


Figure 5.1: Site (approximate blue outline) in 1960 showing key features (source: Retrolens)

## 6 Potential for contamination

This assessment has identified that the site has been used predominately for pastoral farming purposes, with supporting residences and infrastructure, substantially developed before the 1960s. However, the north-western portion of the site was historically used for horticultural purposes.

Horticultural activities have the potential to result in soil contamination (typically limited to shallow soils, <0.5 m depth) resulting from the application of pesticides and herbicides. Contaminants typically include arsenic, lead, copper and organochlorine pesticide compounds (although use of the latter is less likely as horticultural use of the site appears to have ceased by the late 1950s, or earlier).

Typical small scale contamination sources associated with residential and farming activities are also anticipated, such as the examples below:

- Buildings constructed with asbestos-containing materials (ACM) and/or painted with lead-based paints;
- Storage of fuel in small quantities for use in garden/lawn equipment, tractors, farm bikes etc.;
- Storage of oils/paints/solvents etc. for farm and home maintenance purposes; and
- Some localised waste disposal to ground (e.g. burning of rubbish).

Effects from these activities (if any) are expected to be localised and typically limited to shallow soils.

## 7 Ground contamination considerations

### 7.1 Regulatory implications

The rules and associated assessment criteria relating to the control of contaminated sites in the Auckland region are specified in the following documents:

- The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NES Soil);
- The Auckland Unitary Plan – Operative in part (AUP)
- Health and Safety at Work (Asbestos) Regulation 2016 (Asbestos Regulations).

The NES Soil considers issues relating to land use and the protection of human health while the AUP has regard to issues relating to the protection of the general environment. The management of asbestos in soils is regulated under Asbestos Regulations.

#### 7.1.1 NES Soil and AUP

Horticultural use is as an activity identified on the HAIL<sup>10</sup>. As a result, we expect that Council will require that:

- Investigations be conducted (soil sampling) to confirm the level of contamination;
- Consent be secured under the NES Soil (and possibly, subject to soil testing results, ground contamination rules of the AUP) for any future site works that include soil disturbance, or change the land use, above permitted activity thresholds. The current development proposal will exceed permitted activity thresholds; and
- The consent application(s) are supported by a Site Management Plan (SMP) which describes how any potential ground contamination effects will be managed during the proposed works.

#### 7.1.2 Asbestos Regulations

The asbestos regulations only apply to future excavation works or redevelopment if asbestos is present in buildings or soils at the site at the time of the works. Soil testing therefore needs to be undertaken to determine the application of these regulations to groundworks. Asbestos is likely to be limited to the immediate vicinity of current and former structures (or areas of onsite waste disposal).

The Asbestos Guidelines define the level of oversight and controls (including personal protective equipment, decontamination etc.) that are required to be implemented dependent on the concentration of asbestos fibres/fines or fragments that are present in the soils. In the absence of soil sampling data it is not possible to confirm the level of control (if any) that will be required in

<sup>10</sup> Under category A10 of the Ministry for the Environment's Hazardous Activities and Industries List.

relation to this site but it is not likely to be materially different from the controls which would be required for development on any of the surrounding residential properties of similar age and building types.

As consent is required under the NES Soil the presence of asbestos in soil and its management should not require additional consent. The SMP required to support the consent application under the NES Soil can simply include measures to address any asbestos contamination identified in soils.

Due to the age of the buildings an asbestos demolition survey will be required to be undertaken prior to the removal of these structures. If present, removal of asbestos will likely need to occur under the supervision of an appropriately licensed removalist. Depending on the extent and nature of asbestos the removalist may need to prepare an Asbestos Removal Control Plan.

## 7.2 Construction implications

This assessment has only identified sources of ground contamination associated with horticultural use (i.e. diffuse contamination) or that are typical in urban residential settings. As a result, except where asbestos controls are required to be implemented, only standard health, safety and environmental controls (i.e. typical earthworks control measures) are expected to be required during future excavation/soil disturbance works. Asbestos controls are expected to be limited to the immediate vicinity of current and former structures (or areas of onsite waste disposal). However, we recommend that this interpretation is confirmed by soil sampling.

If offsite disposal of surplus spoil is required topsoil and fill materials may need to be disposed to managed fill. Spoil derived from the immediate vicinity of current or former buildings may contain asbestos. If so, these materials would need to be disposed to a facility that can receive asbestos contaminated soils, incurring some additional handling and disposal costs.

## 8 Conclusions

This assessment has not identified any ground contamination conditions that would prevent its redevelopment for more intensive residential use.

Localised contamination, typical in urban residential settings, is expected around current and former structures. Diffuse contamination, resulting from previous horticultural use, may also be present across the north-western portion of the site.

Consents for ground contamination matters will be required to authorise the disturbance of soil at and change the use of the site. The consents will need to be informed by soil sampling and suitable management plans. However, a well-defined process exists for managing the types of ground contamination expected at the site. As a result, the investigation, approval and management of ground contamination are not expected to present a material constraint to the current development proposal.

## 9 Applicability

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

We understand and agree that our client will submit this report as part of an application for resource consent and that the consenting authority will use this report for the purpose of assessing that application.

Recommendations and opinions in this report are based on our review of historic records. The nature and continuity of ground and contamination conditions are inferred and it must be appreciated that actual conditions could vary from the assumed model.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:



Shane Moore  
Principal Environmental Scientist



Gerard Bird  
Project Director

SRMM

p:\1016494\issueddocuments\srmm.20210910.prelimcontam.v1.docx

## Appendix A: Preliminary development plans

---

Released under the provision of  
the Official Information Act 1982



# SELFS ROAD HOUSING PROPOSAL

1 SELFS ROAD, OTAHUHU  
AUCKLAND

CASA  
Collingridge And Smith Architects (UK) Ltd | Beautiful Human Spaces



**NOTES**

-All survey information shown supplied from **CIVIX**. CASA accept no liability for the accuracy of this information.

-Landscaping and planting shown is indicative only. Refer to Boffa Miskell landscape masterplan for accurate information



|             |                  |
|-------------|------------------|
|             | TYPE A           |
|             | TYPE B           |
|             | TYPE D           |
|             | TYPE E           |
|             | TYPE F           |
|             | TYPE G           |
|             | TYPE H           |
|             | TYPE I           |
|             | TYPE J           |
|             | TYPE K           |
|             | TYPE L           |
|             | TYPE M           |
| -----       | SITE BOUNDARY    |
| - - - - -   | SETBACKS         |
| - . - . - . | APPROX TUFF RING |

| 01 - WIP | Contents Page |           |             | Work in Progress |
|----------|---------------|-----------|-------------|------------------|
| REV      | DESCRIPTION   | CHANGE ID | CHANGE NAME | DATE             |
| FOR THIS |               |           |             |                  |

**MYLAND PARTNERS**

ADDRESS  
**1 SELFS ROAD, PAPATOETOE  
AUCKLAND**

DRAWING TITLE  
**TYPOLGY SITE PLAN**

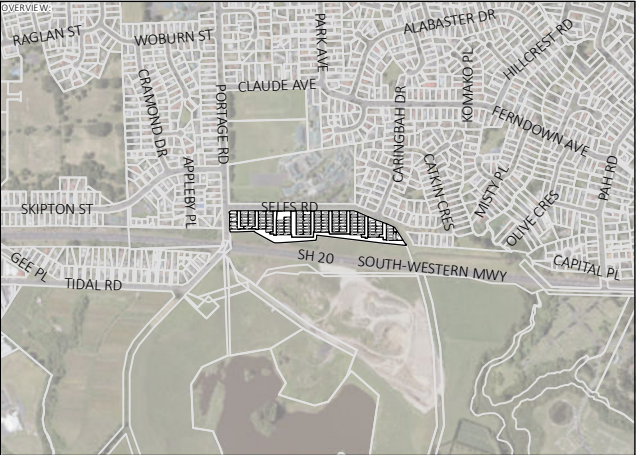
|       |             |             |          |                |
|-------|-------------|-------------|----------|----------------|
| SCALE | A1 - 1:1000 | A3 - double | FOR NO.  | <b>PN-0372</b> |
| DRAWN | DP          |             | SHEET    | 102            |
| DATE  | 7/09/2021   |             | 01 - WIP |                |

CASA

Collingridge And Smith Architects (UK) Ltd | Beautiful Human Spaces

Level 2, 2 Walton Street, Remuera, Auckland, NEW ZEALAND 1050 | 09 522 2555

The contractor shall check and verify all dimensions, levels and angles on site prior to commencing any work. The copyright of these drawings and all parts thereof remain the property of COLLINGRIDGE AND SMITH ARCHITECTS (UK) LTD. Dimensions must not be scaled from the drawings.



LEGEND:

RETAINING WALLS W DRAINAGE (H=HEIGHT, C=CHAINAGE, ARROWS SHOW FALL DIRECTION)

----- EARTHWORKS SECTIONS **CUT(-) FILL(+)**

--- EX. KERBLINES

rw top and bottom levels

EARTHWORKS EXTENT

PROPOSED PAVEMENTS

PROPOSED BUILDINGS

NEW PARCELS

EXISTING PARCELS

|           |
|-----------|
| 4.0--3.0m |
| 3.0--2.0m |
| 2.0--1.0m |
| 1.0-0.0m  |
| 0.0-1.0m  |
| 1.0-2.0m  |
| 2.0-3.0m  |
| 3.0-4.0m  |

CUT FILL VOLUMES

| ITEM                | UNITS          | TOTAL   | EW01    |
|---------------------|----------------|---------|---------|
| AREA                | m <sup>2</sup> | 28,328  | 28,328  |
| CUT                 | m <sup>3</sup> | 31,143  | 31,143  |
| FILL                | m <sup>3</sup> | 575     | 575     |
| FILL + 15% BULK F.  | m <sup>3</sup> | 661     | 661     |
| CUTFILL BALANCE     | m <sup>3</sup> | -30,482 | -30,482 |
| EST. CUT EXPORT     | TRUCKS         | 5,081   | -       |
| BULK CF VOLUME      | m <sup>3</sup> | 31,718  | 31,718  |
| MAX CUT DEPTH       | m              | 3.1     | 3.1     |
| MAX FILL HEIGHT     | m              | 1.3     | 1.3     |
| TOPSOIL TO STRIP    | m <sup>3</sup> | 0       | -       |
| TOPSOIL TO PLACE    | m <sup>3</sup> | 2,066   | -       |
| TOPSOIL BALANCE     | m <sup>3</sup> | 2,066   | -       |
| TOPSOIL VOLUME      | m <sup>3</sup> | 2,066   | -       |
| TOTAL EW VOLUME     | m <sup>3</sup> | 33,785  | -       |
| EST. TOPSOIL IMPORT | TRUCKS         | 345     | -       |

CUTFILL ANALYSIS NOTES:

A. Ex. Surf is existing ground level

B. Pr. Surf. is to Building, Pavement and Grass Subgrade

NOTES:

1. ALL WORK TO COMPLY WITH COUNCIL AND PUBLIC NETWORK OPRTOR STANDARDS. ANY AMBIGUITY BETWEEN DRAWINGS AND STANDARDS TO BE REPORTED TO THE ENGINEER FOR CLARIFICATION

2. THE CONTRACTOR IS TO PEG INFRASTRUCTURE LOCATIONS AND EARTHWORKS LEVELS PRIOR TO ORDERING MATERIALS.

3. UNDERFILL DRAINAGE IS TO BE INSTALLED AT THE DIRECTION OF THE ENGINEER. IF THE CONTRACTOR ENCOUNTERS SPRINGS OR OTHER SOURCES OF WATER, THEY ARE TO NOTIFY THE ENGINEER.

4. EARTHWORKS ARE NOT TO BE EXTENDED INTO ADJOINING SITES UNLESS THE ENGINEER HAS ISSUED SPECIFIC INSTRUCTIONS

5. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND PROTECTING EXISTING SERVICES AND DRAINAGE ON SITE

6. THE CONTRACTOR SHALL CLARIFY THE AREAS AND EXTENT OF CLEARING WITH THE ENGINEER BEFORE COMMENCEMENT AND CONFIRM THAT ALL NECESSARY CONSENTS ARE IN PLACE.

7. EARTHWORKS TOLERANCES ARE TO BE +25mm

8. ALL VOLUMES ARE SOLID MEASURE, NO BULKING FACTOR APPLIED

9. RETAINING WALL SETOUT - EXACT SETTING OUT POSITION OF RETAINING WALLS IN RELATION TO LOT BOUNDARIES AND BUILDINGS TO BE OBTAINED FROM ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION COMMENCING.

|              |           |                                |                       |                              |
|--------------|-----------|--------------------------------|-----------------------|------------------------------|
| DESIGNED: MO |           | PROJECT: 7 SELFS ROAD, MANGERE | TITLE: CUT FILL PLANS | STATUS: FOR RESOURCE CONSENT |
| DRAWN: MO    |           | DRAWING NO: 1100               |                       |                              |
| RELEASED: SB |           | SCALE & SIZE: 1:2,000 A3       |                       | REV: 25/06/2021              |
| REVISION     | AMENDMENT | BY                             |                       |                              |