Land Information Memorandum L240870

Application

Hamish Wheelans
GW Wilfield Ltd
PO Box 9301
Tower Junction
Christchurch 8149

No.	L240870
Application date	8/05/24
Issue date	20/05/24
Phone	021433467

Property

Valuation No.	2354134595
Location	Ridgeland Way, West Melton
Legal Description	Lot 300 DP 588622
Owner	GW Wilfield Ltd
Area (hectares)	17.2850

No certificate of title was submitted with this application, a copy can be obtained from Land Information New Zealand 112 Tuam Street, such as to check for covenants, easements, etc.

Rates

Rateable Value

The date of Selwyn's last General Revaluation was 1/09/21. For further information please contact Council's Rates Department.

Revaluation Year	2021
Land	$ 6,300,000
Capital Value	$ 6,300,000
Improvements	$ 0

Current Rates Year 2023 to 2024

Annual Rates	$ 0.00
Current Instalment	$ 0.00
Current Year - Outstanding Rates	$ 0.00
Arrears for Previous Years	$ 0.00
Next Instalment Due	15/06/24

Next Revaluation Due 2024.

The rates listed for this property are correct as at the date of this report being issued.

If this property is vacant land, and the applicant intends building a house or making other improvements, additional rates and charges will be added. Such rates and charges are for the

operation of the District libraries, local community centre and recreation reserves, sewerage and water systems and refuse collections and recycling.

If a ratepayer in the district purchases additional properties, that ratepayer maybe eligible for certain rating exemptions due to multiple ownership. The exemptions would only apply to uniform library charges on bare land blocks and an exemption from the uniform annual general charge if contiguous or same use land is purchased.

Please contact the Councils rates team if you require clarification on 0800 SELWYN (735 996).

Note: Rates are charged in four equal instalments for the period commencing 1 July and ending 30 June each year.

Planning/Resource Management

Partially Operative District Plan: GRZ/LLRZ

Operative District Plan Zoning: West Melton Living WM (South)

The Council has undertaken a review of the Operative District Plan and through this process it has developed a New District Plan ('The Partially Operative District Plan') which provides clear objectives, policies and rules to manage the effects of land use activities on the environment, but also sets a clear direction for our district's development and reflects our communities' needs and expectations. It also incorporates any changes in legislation, national and regional policy statements, environmental standards and other regulations.

The period for lodging appeals against decisions on the Partially Operative District Plan closed on the 6th of October 2023 and the Council released the Appeals Version of the Partially Operative District Plan on 27th November 2023. Many provisions in Partially Operative District Plan are now beyond challenge and are operative/treated as operative (pursuant cl 103 of Schedule 1 and s86F of the Resource Management Act (1991). The Operative District Plan now only applies where a relevant provision in the Partially Operative District Plan remains subject to appeal. For more information visit https://selwyn.govt.nz/property-And-building/planningstrategies-and-plans/selwyn-district-plan/selwyn-district-plan-review

27/02/24	Resource Consent 245111
	Change Of Conditions To Change Condition 15 Of RC235637
	Decision Notified 23/04/24
	Granted By Independent Commissioner(S) 18/04/24
31/10/23	Resource Consent 235637
	To Undertake A Subdivision To Create 234 Residential Lots, Including The Cancellation Of Consent Notices.
	Decision Notified 16/02/24
	Granted By Local Authority Officer 16/02/24

31/10/23	Resource Consent 235639 To Undertake Earthworks Associated With RC235637, And For Non-Complying Roading, Accessway, And Vehicle Crossings And Consent Required Under The Nes-Cs. Decision Notified 16/02/24 Granted By Local Authority Officer 16/02/24
1/08/23	Resource Consent 235400 To Change Conditions 2, 3, 21, 38, 40, 59 And 68 Of Resource Consent RC225425 Decision Notified 4/09/23 Granted By Local Authority Officer 4/09/23
18/04/23	Resource Consent 235207 Variation: To Change Condition 2 Of RC215227 And Cancel An Amalgamation Condition Imposed By RC185376 215227. Decision Notified 27/04/23 Granted By Local Authority Officer 27/04/23
23/06/22	Resource Consent 225425 To Subdivide Three Titles To Create 179 Residential Lots In Ten Stages, With Associated Roads And Reserves. Decision Notified 24/11/22 Granted By Local Authority Officer 24/11/22
23/06/22	Resource Consent 225426 For Earthworks Associated With RC225425, Non-Compliant Road Formation, Non-Compliances Relating To Vehicle Crossings And Accessways, A Consent Under Nes For Assessing And Managing Contaminants In Soil, And To Alter Or Cancel Consent Notices. Decision Notified 24/11/22 Granted By Local Authority Officer 24/11/22

29/03/21	Resource Consent 215227 To Undertake A Subdivision To Create 92 Residential Allotments, Two Road Allotments, Two Reserve Allotments And A Balance Rural Lot Section 224 Issued 9/06/23 Granted By Local Authority Officer 3/06/21
29/03/21	Resource Consent 215228 To Undertake Earthworks Associated With RC215227 Decision Notified 3/06/21 Granted By Local Authority Officer 3/06/21
12/11/18	Resource Consent Pc180059 Rezoning Of Existing Living 2 And Living 2a Zones In The Wilfield Subdivision Rezoned To Living West Melton (Living Wm) South. Decision Notified 7/04/21 Granted By Council 10/03/21
17/07/18	Resource Consent 185376 To Subdivide To Create 11 Residential Lots Section 224 Issued 11/03/21 Granted By Local Authority Officer 15/08/18
17/07/18	Resource Consent 185377 To Erect A Dwelling On Each Lot Created By Subdivision 185376 Breaching Site Coverage. Decision Notified 15/08/18 Granted By Local Authority Officer 15/08/18
4/07/18	Resource Consent 185357 To Undertake A Subdivision To Create Two Lots Decision Notified 18/07/18 Granted By Local Authority Officer 18/07/18

18/12/17	Resource Consent 175703 To Undertake An Amalgamation To Create Lots 270 And 271 (Wilfield Stage 8) Section 224 Issued 22/06/18 Granted By Local Authority Officer 7/02/18
18/12/17	Resource Consent 175715 To Undertake A Subdivision To Create Eight Lots Section 224 Issued 20/12/18 Granted By Local Authority Officer 3/05/18
10/02/17	Resource Consent 175068 To Undertake A Subdivision To Create 29 Residential Lots. Stage 6 Wilfield. See L/U 175069 Withdrawn 17/07/17
10/02/17	Resource Consent 175069 Roading Non-Compliances. See S/D 175068 Withdrawn 17/07/17
12/12/16	Resource Consent 165672 Variation To Rc155110 Stage 4 Of Gw Wilfield Subdivision. See RC145470 Stg 1-3, RC165427 Stg 5 Section 224 Issued 2/05/17 Granted By Local Authority Officer 22/12/16
4/03/15	Resource Consent 155110 To Undertake Stage 4 Of Gw Wilfield Subdivision. See RC145470 Stg 1-3, RC165672 Stg 4 Variation, RC165427 Stg 5 Section 224 Issued 2/05/17 Granted By Local Authority Officer 9/09/15

Planning Notes

The information provided on this LIM has come from the information lodged against the property file/information and GIS at the time of processing. Please note that the resource consents, fill certificates and other relevant property files listed are based on what is available on our general property information, and that there may be other documents for the property which have not yet been added to the property record.

Resource Consents often contain a multitude of information and reports that are not ordinarily separately referenced or included in the LIM itself. Information identifying each (if any) special feature or characteristic of the land concerned, including but not limited to potential erosion, falling debris, subsidence, slippage, alluvion, or inundation, or likely presence of hazardous contaminants.

Preliminary Site Investigation Reports, Detailed Investigation Site Reports and Geotechnical Reports are submitted as part of the subdivision Resource Consent Process it is not likely to be currently of relevance in relation to the "land concerned", otherwise it would be elsewhere noted on the LIM to the extent any issues still apply following subdivision).

Any resource applications or consents that may contain information relating to the land which is not otherwise included in the LIM, including Geotechnical, Environmental and other expert reports, can be obtained via Selwyn District Council Information Management team on information.management@selwyn.govt.nz

DEV: WM1: This property has been identified in the Partially Operative District Plan as being located within a Development Area which spatially identifies and manages an area where additional place-based provisions may apply to subdivision and development. For further information visit https://eplan.selwyn.govt.nz/review or contact the duty planner on 0800 SELWYN (0800735996)

No residential unit can be established until a Section 224(c) Completion Certificate is issued for the underlying subdivision.

There is a consent notice on the Record of Title to this property. This records a condition/s of a subdivision consent which must be complied on an ongoing basis.

Building

There are no known buildings sited on this property at the time of issuing this report.

Buildings erected prior to 1965 may not have a building permit record or had inspections carried out.

All building products and materials have a designed life, and must be maintained in accordance with the manufacturer’s specifications.

In the case of building permits and building consents no further inspections have been carried out by the council since these structures were completed.

Any concerns of this nature should be referred to an organization that carries out property checks or the product manufacturers.

Schedule 1 Exempt Building Work

Under section 42A of the Building Act 2004 building owners can carry out certain types of building work specified in Schedule 1 of the Building Act 2004 without need to obtain building consent approval. Where Council holds any information provided by a property owner in relation to exempt works undertaken on the property it is important to note that Council do not check or review the documentation for compliance, it is simply filed for record keeping purposes and not to satisfy any statutory obligation. Any information held of this nature has been provided at Councils discretion under Section 44A (3) of the Local Government Official Information and Meetings Act 1987 without any representation or warranty.

Services

Water

Council water scheme is not available.

Own potable water supply required.

For those properties not connected to a Council reticulated water supply, it is encouraged that the quality of the domestic water supply be regularly tested to ensure that it is to a potable standard. If the same water supply is also used for irrigation or stock water, check that there is a backflow protection device to prevent any contamination of water supply.

Please be aware that West Melton is located in an area with low annual rainfall and relatively free draining soils. To help conserve our precious water resource please insist on drought tolerant species when developing your garden and lawn. So that you are prepared for summer water restrictions, Council recommends the installation of a programmable timer as part of any irrigation system installed.

Council is purchasing lot 318 Wilfield for a new drinking water supply site. The site will include below ground bores, surface pumpstation and above ground reservoir (minimum 1000m3 approximately 8 metres tall).

Sewer

Council sewer scheme is not available.

On-site sewage treatment and disposal.

The property is not serviced through Council sewer network. Any onsite wastewater treatment or changes to it will require Environment Canterbury consent.

If there is an existing domestic onsite wastewater treatment system on this property, the owner is responsible for ensuring regular maintenance and servicing is carried to ensure it continues to function satisfactorily.

Any new or replacement of domestic onsite wastewater treatment system will need to meet the requirements of Rule 5.8 of the Canterbury Land and Water Regional Plan to be considered a permitted activity and will require a building consent from Selwyn District Council prior to installation.

Any property with onsite sewage treatment and disposal, animal effluent disposal or water extraction for irrigation may have or require consent from Environment Canterbury and may require consent from the surrounding properties for a variety of discharges. This could have an adverse effect on the neighbouring property in relation to odour, potable water supply quality, or be of a general nuisance factor.

Information regarding what consents have been granted for this or surrounding properties can be obtained by contacting the issuing authority Environment Canterbury.

Land used to dispose of waste or to spread effluent or treated sewage, may be contaminated due to the concentrations or mix of material deposited onto the land over time. If any soil tests have been carried out, please forward a copy to the Council in order for the records to be updated.

For those properties not connected to a Council reticulated sewer system, it is important that the effluent system is regularly checked and maintained. You should also be aware of the limits on what can and should not be disposed of through these systems. Any concerns should be referred to an organization that carries out checks and maintenance or to the product manufacturers.

Stormwater

Stormwater to soak hole.

This property may be located within an area covered by Environment Canterbury stormwater consent. It is the responsibility of the property owner to contact Environment Canterbury customer services to ensure that any activity undertaken on site complies with the relevant consent conditions.

Note – the above describes the current roof water disposal type and does not reflect the future situation, which should be determined as part of the subdivision (if applicable). For more information please contact Council.

If you have any questions about the Water, Sewage or Stormwater information above please contact the Selwyn District Council Water Department at 0800 SELWYN or contactus@selwyn.govt.nz

Water Races

There is a closed water race on this property, the channel may or may not have been filled by the property owners. Council is not responsible for maintenance of any remaining channels.

Kerbside Waste Collections

Council refuse, organic and recycling collection is available on Wednesday.

The Council provides refuse and recycling collection services for most residential and rural residential properties where these properties occur alongside maintained public roads. Private roads and Right of Ways (as maybe referenced in the Transportation Notes pertaining to this LIM) will not be directly serviced as these access ways are not usually of a sufficient standard to be used safely and efficiently by the collection vehicles. This could also apply to other public roads or streets that are narrow and/or have a lack of vehicle turning facilities. Rural and high country areas and settlements are not covered by regular collection services however localised refuse drop off facilities maybe available for use in specific areas. For further details and advice on refuse collection and recycling services as they may pertain to the property please phone the Council's Asset department on phone 3472 800.

Land and Building Classifications

Energy Infrastructure and Transport

None known

Hazard and Risk

Reference: Plains Flood Management Overlay

This property is identified in the Partially Operative District Plan as being located within a Natural Hazard Overlay. For further information visit https://apps.canterburymaps.govt.nz/SelwynNaturalHazards/ or contact the duty planner on 0800SELWYN (0800735996)

Reference: Liquefaction Unlikely Overlay

This property is identified in the Partially Operative District Plan as being located within a Natural Hazard Overlay. For further information visit http://eplan.selwyn.govt.nz/review or contact the duty planner on 0800SELWYN (0800735996)

Culture and Heritage

None known

Natural Environment

None known

District-wide matters

Land Notes: This property is within the Observatory Lighting Control Overlay. There are restrictions for non-residential artificial outdoor lighting to manage sky glow effects. For further information visit https://eplan.selwyn.govt.nz/review or contact the duty planner on 0800 SELWYN (0800735996).

Area-specific matters

None known

Land Notes

Land Notes: This property is within the area encompassed by the 2007 Christchurch, Rolleston and Environs Transportation Study (CRETS). The published Strategy outlines a range of strategic transportation initiatives to cater for long term growth in this area of the district. This includes the upgrading of existing roads and the provision of new roads which may affect private property. Further information on this Study can be viewed on the Councils website www.selwyn.govt.nz under “Transportation and Roading”.

Land Notes: This property is located within the area encompassed by the Greater Christchurch Urban Development Strategy (UDS). The UDS is a joint initiative to plan and manage the growth of the Greater Christchurch Region over the next 35 years and is a partnership between the Christchurch City Council, Environment Canterbury, the Waimakariri District Council, Selwyn District Council, and Waka Kotahi NZ Transport Agency.

The Selwyn District Council is developing several strategic documents that seek to implement the UDS that may have an impact on this property in the future. Further information on Council projects can be found on the Council’s website www.selwyn.govt.nz or by contacting the planning department on 0800 SELWYN (0800735996).

The following reports have been added:

- BUILDING NOTES Fill Cert - Site Solutions - 3 July 2023
- BUILDING NOTES Fill Report - Site Solutions - 9 May 2023

Listed Land Use Register (LLUR):

Hazardous activities and industries involve the use, storage or disposal of hazardous substances. These substances can sometimes contaminate the soil. Environment Canterbury identifies land that is used or has been used for hazardous activities and industries. This information is held on a publicly available database administered by Environment Canterbury called the Listed Land Use Register (LLUR). The Selwyn District Council may not hold information that is held on the LLUR, therefore, it is recommended that you check Environment Canterbury’s online database at www.llur.ecan.govt.nz.

Residential Swimming Pool

No pool registered to this property.

Land Transport Requirement

Coopworth Mews and Ridgeland Way are formed and sealed local roads maintained by Selwyn District Council.

Special Land Features

	NZS3604:2011	AS/NZS1170:2002
Wind Region	A	A7
Snow Zone	N4	N4 Sub-alpine
Earthquake	Zone: 2	Z Factor: 0.3
Approximate Altitude (Amsl)	84m	-
Exposure Zone	B	-

Exposure Zone Descriptions

Zone B: Low

Inland areas with little risk from wind blown sea-spray salt deposits

Zone C: Medium

Inland coastal areas with medium risk from wind blown sea-spray salt deposits. This zone covers mainly coastal areas relatively low salinity. The extent of the affected area varies significantly with factors such as winds, topography and vegetation.

Zone D: High

Coastal areas with high risk wind blown sea-spray salt deposits. This is defined as within 500 m of the sea including harbours, or 100 m from tidal estuaries and sheltered inlets.

Flooding

Flood Management Area - 500 year event

The Council is undertaking a District Plan Review and through this process the Council has obtained and holds information showing that this property may be susceptible to flooding from the Selwyn River and/or in heavy rainfall events. The two reports are outlined below and can be found at https://apps.canterburymaps.govt.nz/SelwynNaturalHazards/:

ECan report R19/41 – Selwyn River/Waikirikiri floodplain investigation. The report identifies areas that may be affected by flooding from the Selwyn River/Waikirikiri.

DHI Water and Environment Ltd report – Regional Policy Statement Modelling for SDC – District Plan. The report identifies areas that may be affected by flooding in heavy rainfall events in the Selwyn District. For more information please contact the Selwyn District Council: phone: 0800 SELWYN (735 996), email contactus@selwyn.govt.nz or visit 2 Norman Kirk Drive, Rolleston.

Alluvion

None known

Avulsion

None known

Erosion

None known

Land Fill

None known

Slippage

None known

Ground Water Level

Less than 30m below ground

Soil Type

Eyre shallow sandy loam

Templeton deep sandy loam on sand

Templeton moderately deep fine sandy loam + Eyre shallow fine sandy loam

Templeton moderately deep fine sandy loam + Halkett sand

Halkett deep sand

Liquefaction and Subsidence

Council does not hold site specific information on subsoil classifications or ground bearing capacities. Therefore the applicant will need to carry out site subsoil investigations to verify 'Good Ground' can be achieved on the site and to determine the subsoil classification in accordance with NZS1170. Verification of site investigation data will need to be submitted as part of the documentation for Building Consent.

The definition of 'Good Ground' can be found in the Definitions section of the NZ Building Code Handbook, and appropriate test methods are detailed in either NZS3604, or NZBC B1/VM4.

Licences/Environmental Health

No information located.

Network Utility Operators

Information related to the availability of supply, authorisations etc. (e.g. electricity or gas) can be obtained from the relevant Network Utility Operator.

Other Information

1. The applicant is advised that the Environment Canterbury may have other information in relation to this property including, but not limited to:

   a) Discharge consents.

   b) Well permits.

   c) Consents to take water.

   d) The existence of contamination and/or hazardous sites.

   e) Flooding.

   f) Clean air discharge compliance.

   Further information may be obtained from Environment Canterbury by requesting a Land Information Request (LIR). To find out more contact the Environment Canterbury on 0800 ECINFO (0800 324 636) or at http://www.ecan.govt.nz/

2. The following further information is supplied on the basis set out in note 2 below.

Notes

1. The information supplied in the sections of this report, other than 'Other Information', is made available to the applicant pursuant to Section 44A(2) of the Local Government and Official Information Act 1987 by reference to Council files and records. No property inspection, or title search, has been undertaken. To enable the Council to measure the accuracy of this LIM document based on our current records we would appreciate your response should you find any information contained herein which may be considered to be incorrect or omitted. Please telephone the Council on 0800 SELWYN (375 996).
2. The information or documents supplied to the applicant and referred to in the 'Other Information' section of this report has been supplied to the Council by property owners, their agents and other third parties. That information is made available pursuant to section 44A(3) of the Local Government and Official Information Act 1987 on the basis that:

   a) The information may be relevant to the purposes for which this report is obtained;

   b) The Council does not warrant or represent the accuracy or reliability of the information. If the subject matter of that information is important to the applicant it is recommended that relevant professional advice should be taken before reliance is placed upon that information.

3. The information included in the LIM is based on a search of Council records only and there may be other information relating to the land which is unknown to the Council. Council records may not show illegal or unauthorised building or works on the property. The applicant is solely responsible for ensuring that the land is suitable for a particular purpose.
4. Schedule 1 Exempt Building Work

Building owners can carry out certain types of building work without needing to obtain a building consent. This exempt building work is listed in Schedule 1 of the Building Act 2004.

It is the owners' responsibility to ensure that any exempt building work done complies with the Building Code and fits within the provisions of the schedule before they carry out the work.

Please note that Council do not check or review documentation for compliance where information on exempt work has been provided by a property owner to Council. This information is simply filed for record keeping purposes and not to meet any statutory obligation.

Any information of this nature held by Council has been provided at Councils discretion under Section 44A (3) of the Local Government Official Information and Meetings Act 1987 without any representation or warranty.

5. The Council has used its best endeavors to ensure that all information provided in this LIM report is correct and complete in all material respects. In the event that a material error or omission can be proven the Council's liability, whether in contract or in tort shall be limited to the fee paid to Council to obtain this report.
6. This information reflects the Selwyn District Council's current understanding of the site, which is based only on the information thus far provided to it and held on record concerning the site. It is released only as a copy of those records and is not intended to provide a full, complete or totally accurate assessment of the site. As a result the Council is not in a position to warrant that the information is complete or without error and accepts no liability for any inaccuracy in, or omission from, this information.
7. The information contained in this Land Information Memorandum is current at the date the memorandum is issued. Further relevant information may come into the Council's possession subsequent to the date of issue.

Information Management Team

Date: 20 May 2024

LIM Report Legend

Base Layers

Road
- Road

Railway
- Railway

District Boundary
- District Boundary

Township Boundary
- Township Boundary

Ratepayer Information
- Ratepayer Information

Parcels
- Parcels

PODP - Zones and Precincts

Precincts
- Commercial Precincts
- Industrial Precincts
- Airfield Precincts
- Rural Precincts

Zones
- Large lot residential zone
- Low density residential zone
- General residential zone
- Medium density residential zone
- Settlement zone
- General rural zone
- Neighbourhood centre zone
- Local centre zone
- Large format retail zone
- Town centre zone
- General industrial zone
- Special purpose zone

Zone and Water Services

Water_pt
- EQUIPMENT - BORE
- EQUIPMENT _ GENERATOR
- EQUIPMENT - SAMPLE TAP
- EQUIPMENT - OTHER
- FACILITY
- FIRE PLANT
- HYDRANT
- IRRIGATION
- NODE
- OBSOLETE
- SUPPLY POINT
- TANK
- VALVE

Water_ln
- DIM LINE
- DUCT
- IRRIGATION
- NON SDC SERVICE
- OBSOLETE
- OUTLINE
- PIPE - TREATED
- PIPE - UNTREATED
- PIPE - SEWER
- SITE_BOUNDARY

Sewer_pt
- CHAMBER
- EQUIPMENT
- FACILITY
- MANHOLE
- NODE
- VALVE

Sewer_ln
- OUTLINE
- DIM LINE
- DUCT
- IRRIGATION
- NON SDC SERVICE
- OBSOLETE
- OUTLINE
- PIPE_GRAVITY
- PIPE_RISINGMAIN
- SITE_BOUNDARY

Storm_pt
- CHAMBER
- EQUIPMENT
- FACILITY
- INLET/OUTLET
- MANAGEMENT
- MANHOLE
- NODE
- SOAKHOLE
- SUMP
- VALVE

Storm_ln
- CHANNEL
- DIM LINE
- MANAGEMENT
- NON SDC SERICE
- OBSOLETE
- OUTLINE
- PIPE
- SITE_BOUNDARY
- Soakhole w/Hoz Soakage
- StopBank

Storm_py
- CATCHMENTS
- CONSENT AREA
- GROUNDWATER LESS 6M
- OUTLINE OF BASIN
- RATED AREA

Stormwater Management Area
- Stormwater Management Area

West Melton Observatory Zone
- West Melton Observatory Zone

Planning Zones
- High Country
- Port Hills
- Existing Devlopment Area
- Living 1
- Living 2
- Living 3
- Living X
- Living West Melton (North)
- Living Z
- Deferred Living
- Business 1
- Business 2
- Business 3
- Inner Plains
- Outer Plains
- Malvern Hills
- Key Activity Centre
- Living West Melton (South)

Liquefaction Drains and Water Race

CDrain_pt
- GATE
- Site
- WEIR

CDrain_ln
- DRAIN
- ECan
- OUTLINE
- StopBank
- Site Boundary

WRace_pt
- DISCHARGE
- DIVIDE
- EQUIPMENT
- GATE
- GRILL
- HEADWALL
- MANHOLE
- NODE
- POND
- SITE
- SHAFT
- SOAKHOLE

WRace_ln
- AQUEDUCT
- CULVERT
- DIM LINE
- EMERGENCY DISCHARGE
- INTAKE
- LATERAL
- LOCAL
- MAIN
- OBSOLETE
- OUTLINE
- SIPHON
- TUNNEL

SDC Cleaned
- SDC Cleaned

Project Extent
- Project Extent

Boundary Between Liquefaction Assessment Zones
- Boundary Between Liquefaction Assessment Zones

Liquefaction Susceptibility
- DBH TC Zoned Area
- Damaging liquefaction unlikely
- Liquefaction assessment needed

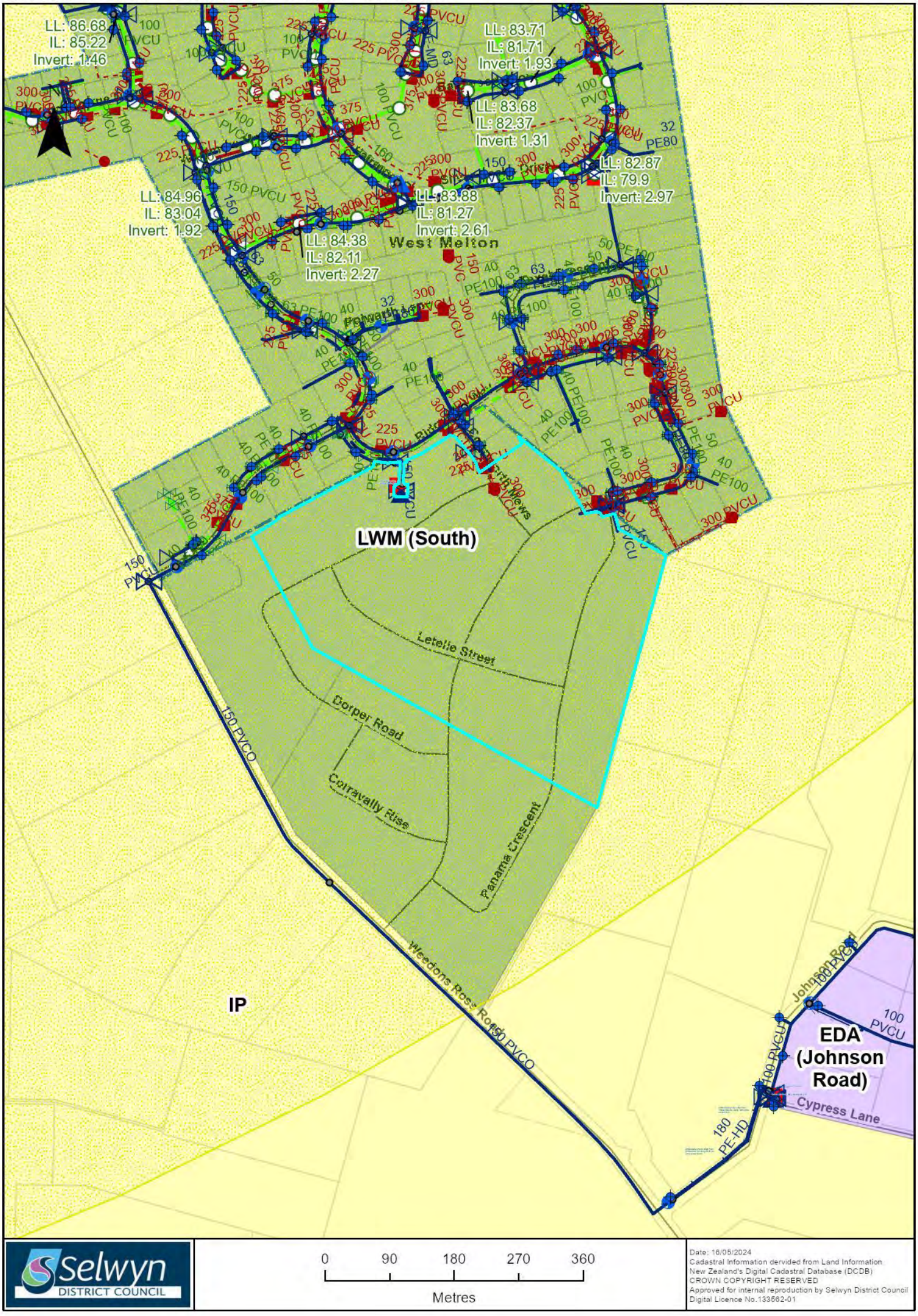
Ecan River Protection Scheme
- Properties Beside Rivers
- Halswell Staff Gauges
- Halswell Floodgates
- Halswell Drainage

Greendale Fault
- Greendale Fault 50m Buffer
- Fault Lines (GNS 2013)
- Folds (GNS 2013)

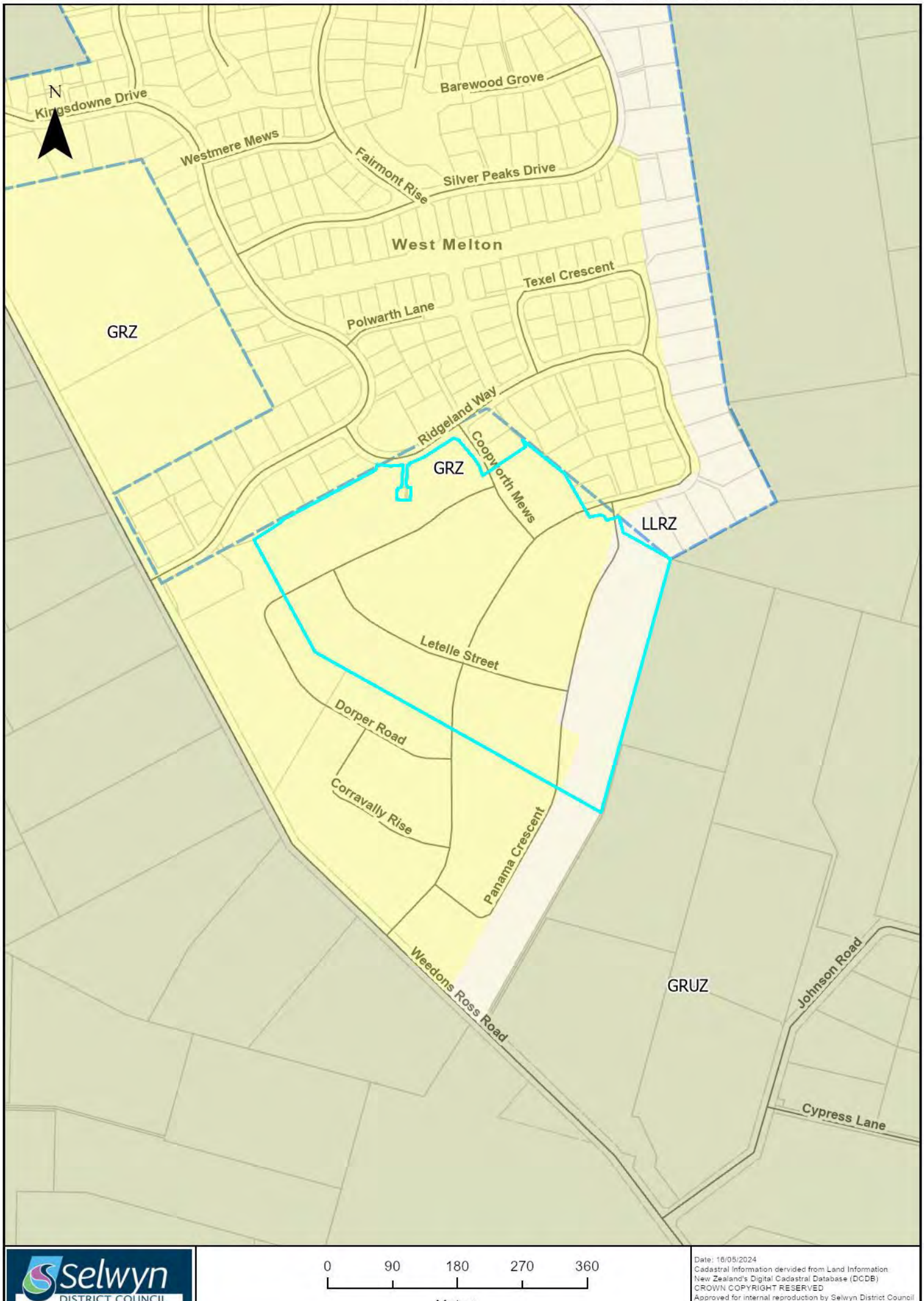
Biodiversity
- Canterbury Plains SDC AB and C Classes
- Endangered Flora and Fauna
- Potentially Significant Sites
- Confirmed SNA Sites
- Significant Natural Areas (Final 115)

LIM REPORT - Liquefaction, Drains and Water Races

LIM REPORT - Zone and Water Services



LIM REPORT - PODP Zone and Precinct



RESOURCE CONSENT INFORMATION

This document is one of three pages titled “Resource Consent Information” which should be read together.

- Because of the large number of resource consents only consents which fall within the red buffer as identified on the map have been included with this report.

- If further information is required please contact the Council’s Planning Department – Phone Direct 03 3472 868.

- Every effort is made by the Council to identify resource consent in proximity to the property subject to this LIM application. However, it is suggested that a site inspection be undertaken by prospective purchasers to identify any land uses of interest. These may include uses which have existing use rights or other uses which are permitted under the Council’s District Plan.

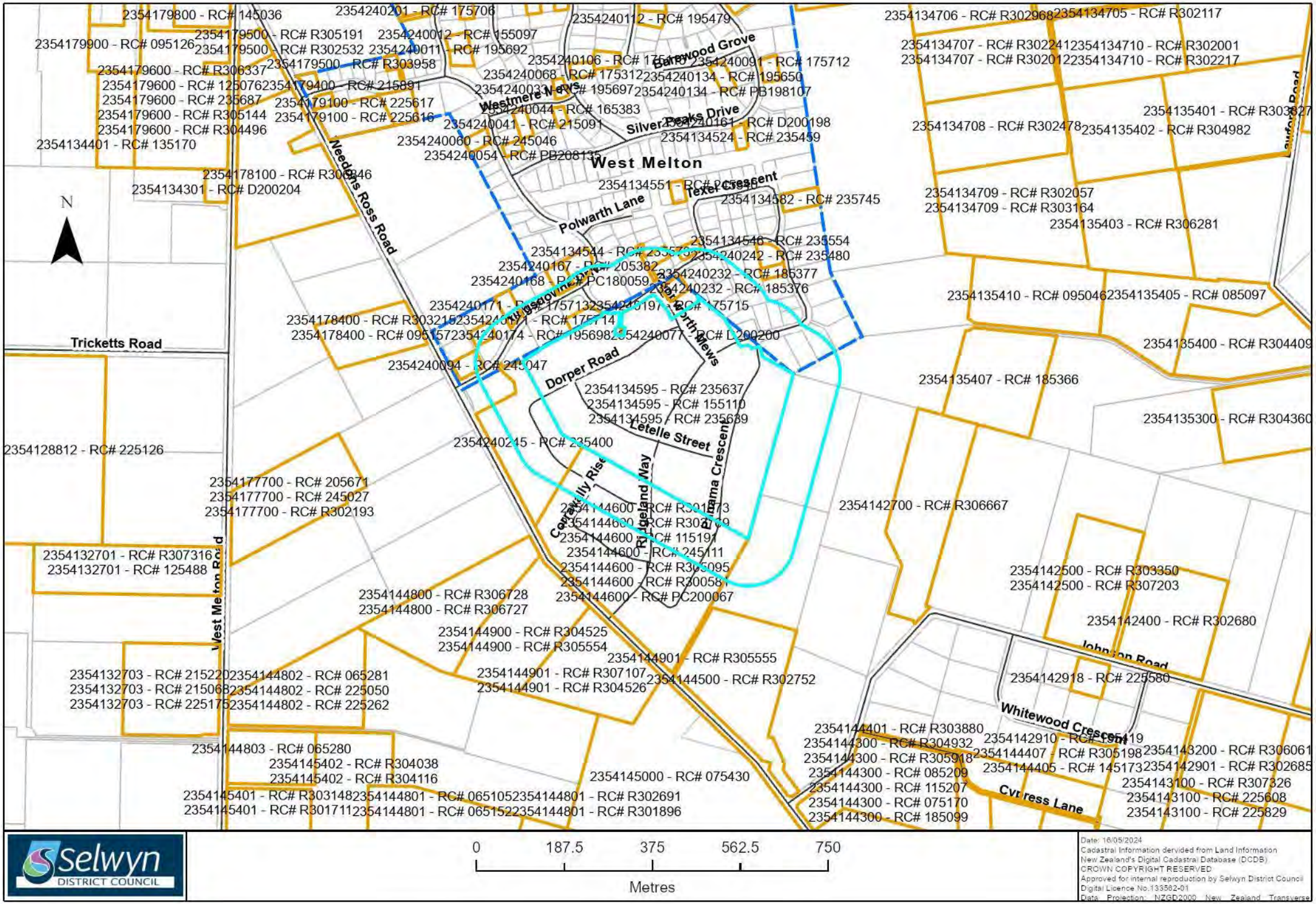
Resource Consent Status Codes:

GHP	Granted by Hearing
GEC	Granted by Environment Court
GDEL	Granted by Delegation
GCOM	Granted by Commissioner
DCOM	Declined by Commissioner
DHP	Declined by Hearing
WD	Withdrawn application
AP	Approved
DC	Declined
Blank	No decision issued
DN	Decision Notified

ADN	Appeal Decision Notified
AE	Appeal expiry
AEC	Appeal Heard by Environment
AN	Abatement Notice
AR	Appeal received
ARI	Application returned incomplete
AWD	Appeal withdrawn
CC	Cancelled
CCI	Certificate Compliance Issued
D37	Deferred under s.37
D37E	s.37 deferral ends
D91	Deferred under s.91
D91E	s.91 deferral ends
ECDN	Environment Court Decision notified
FI	Further Information
FICR	Further Information request - no clock restart
FR	Formally received
HD	Hearing Date
HH	Hearing held
INV	Invoiced
IR	Information received
LAPS	Lapsed
LD	Lodged
LN	Limited Notified
LS	Lapsed
ODN	Objection decision notified
OH	On Hold
OR	Objection received

PA	Pre- application
PN	Publically notified
PS	Process suspended
RAD	Recommendation adopted by Council
RRA	Recommendation to required authority
S223	Section 223
S224	Section 224
SC	submissions closed
WAR	Written Approval Requested
WARE	Written Approvals Received

2354134595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Texel Crescent
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Tricketts Road
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Dorper Road
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Letelle Street
2354128812 - RC# 225126
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Ridgeland Way
Panama Crescent
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2354142500 - RC# R307203
2354144800 - RC# R306728
2354144800 - RC# R306727
2354142400 - RC# R302680
Johnson Road
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2354144900 - RC# R305554
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N
0
187.5
375
562.5
750
Metres
Selwyn DISTRICT COUNCIL
Date: 16/05/2024
Cadastral Information dervided from Land Information New Zealand's Digital Cadastral Database (DCDB)
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Approved for internal reproduction by Selwyn District Council
Digital Licence No.133562-01
Data Projection: NZGD2000 New Zealand Transverse

Assessment_ID	RC Number	Proposal	Decision Date
2354134544	235573	To erect a new dwelling with non-complying site coverage under the Operative District Plan	2023-11-24
2354134546	235554	To construct a new dwelling. Consent triggers include non-compliance with the fencing along a secondary road boundary, a breach of the required road boundary setback, and an infringement of the minimum vehicle crossing distance	2023-11-10
2354134595	235637	To undertake a subdivision to create 234 residential lots, including the cancellation of consent notices.	2024-02-16
2354134595	235639	To undertake earthworks associated with RC235637, and for non-complying roading, accessway, and vehicle crossings and consent required under the NES-CS.	2024-02-16
2354134595	155110	To undertake Stage 4 of GW Wilfield subdivision. See RC145470 Stg 1-3, RC165672 Stg 4 variation, RC165427 Stg 5	2015-09-09
2354240077	D200200	To designate land as SDC-191 West Melton (W) Ridgeland Way Well for Water Well purposes.	
2354240094	245047	To erect a minor residential unit further than 10m from the principal residential unit, with non-complying site coverage and pedestrian entry.	2024-05-01
2354240167	205382	To construct a vehicle crossing in a non-complying position in relation to an intersection	2020-07-22
2354240168	PC180059	Rezoning of existing Living 2 and Living 2A zones in the Wilfield subdivision rezoned to Living West Melton (Living WM) South.	2021-03-10
2354240171	175714	To exceed site coverage and construct a non-complying accessway. S/D175713	2018-05-03

2354240171	175713	To undertake a subdivision to create eight allotments (Wilfield Stage 8F). L/U 175174	2018-05-03
2354240174	195698	To erect a dwelling and detached garage that exceeds site coverage.	2019-11-19
2354240197	175715	To undertake a subdivision to create eight lots	2018-05-03
2354240232	185376	To subdivide to create 11 residential lots	2018-08-15
2354240232	185377	To erect a dwelling on each lot created by subdivision 185376 breaching site coverage.	2018-08-15
2354144600	115191	EXTENSION OF TIME TO R305095 FOR THREE YEARS TO EXPAND AN EXISTING INTENSIVE POULTRY OPERATION	2011-07-29
2354144600	R305095	TO EXTEND EXISTING POULTRY SHED AND TO ERECT & OPERATE TWO FURTHER SHEDS ALSO SEE 115191 FOR EXTENSION OF TIME.	2002-04-29
2354144600	R301973	TO EXTEND 1 BROILER SHED & ERECT 2 FURTHER SHEDS OF 1379 SQ METRES EACH IN NON-COMPLYING POSITION	1996-01-12
2354144600	R303769	EXTENSION TO R301973	
2354144600	245111	Change of conditions to change condition 15 of RC235637	2024-04-18
2354144600	PC200067	To rezone approximately 33.4 hectares of Rural Zone, to Living WM South Zone, at West Melton.	2022-02-09
2354144600	R300581	TO CONSTRUCT A 2ND CHICKEN BROILER SHED ON THE PROPERTY	1993-12-15
2354240245	235400	To change conditions 2, 3, 21, 38, 40, 59 and 68 of resource consent RC225425	2023-09-04

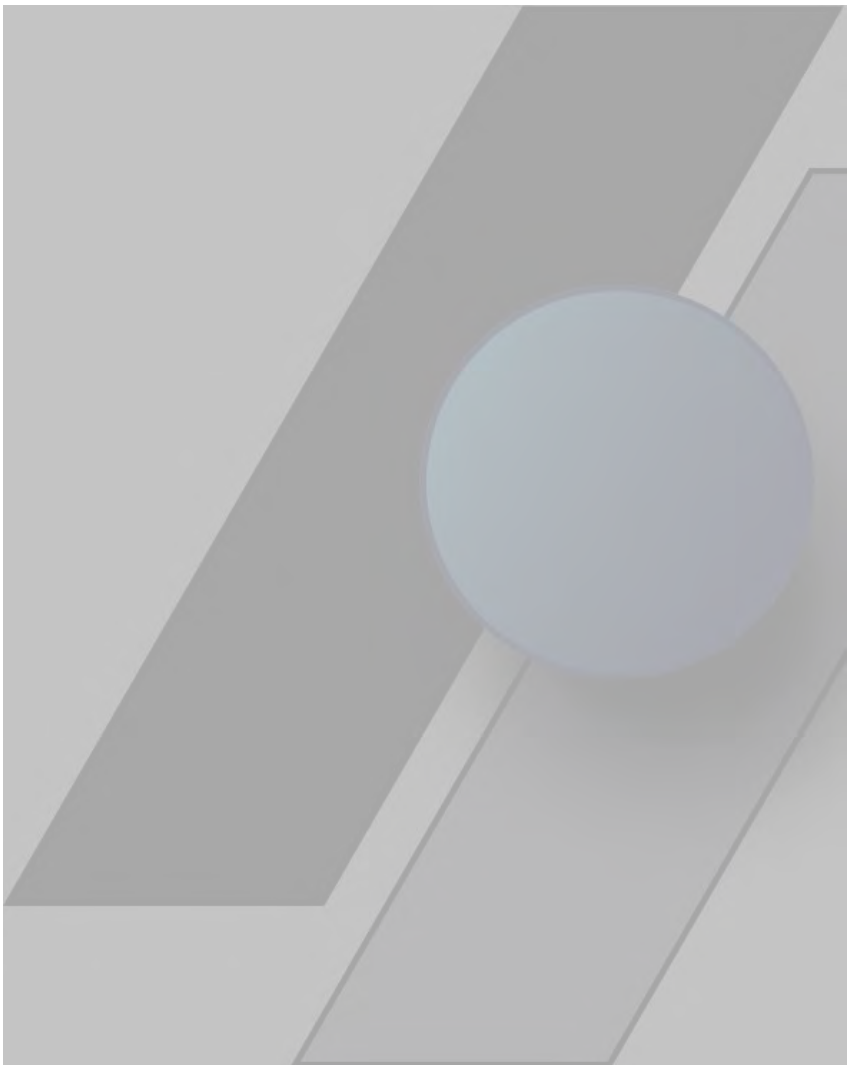
Project No:	2803	Issue Date	9 May 2023

Fill Report

Stages 11 - 20
Wilfield Subdivision
Ridgeland Way, West Melton

for

GW Wilfield Ltd



Contents

This report has been:
Approved by:

(Designer) John Bannock, 9 May 2023

1. Project Personnel and Design Management

1.1. Developer:

Name:	GW Wilfield Ltd (Attention: Dean Gregory)
Address:	PO Box 9301, Tower Junction Christchurch 8149
Contact (ph):	(03) 963 1288
Contact (mob)	(021) 433 457
Email:	dean@gwlimited.co.nz

1.2. Engineer:

Name:	Site Solutions (2018) Ltd (Attention: John Bannock)
Address:	61 Cambridge Terrace Christchurch
Contact (mob)	(0274) 343 343
Email:	john@sitesolutionsltd.co.nz

The following key personal have been involved in this design:

Name	Position Title	Responsibility
John Bannock	Principal Engineer	Overall Design and Internal Review
K Baxter	Engineer's Representative	Design and supervision

2. Introduction

GW Wilfield has engaged Site Solutions (2018) Ltd to design, supervise and certify the earthworks located within Stages 11 - 20 of the Wilfield subdivision located off Ridgeland Way, West Melton.

Stage 10 of the development comprises of 93 residential lots identified as Lots 1 – 92 & 100 as indicated in the plans within Appendix A. The stages are adjacent to Kingsdowne Drive, Ridgeland Way and Silver Peaks Drive – West Melton, and to the south-east (of Ridgeland Way). The stages are bounded by existing residential development to the north, west and south and rural land to the east and south.

Additional areas of filling have been carried out along the boundary transitions with neighbouring properties, and the form of this filling is as agreed between the respective two landowners. Filling has also been carried out within the ecological corridor but is not subject to this report.

This report is applicable only to the areas that have been filled in excess of 250mm. No comment or assessment as to areas below this threshold has been made.

Site Solutions (2018) Ltd was responsible for:

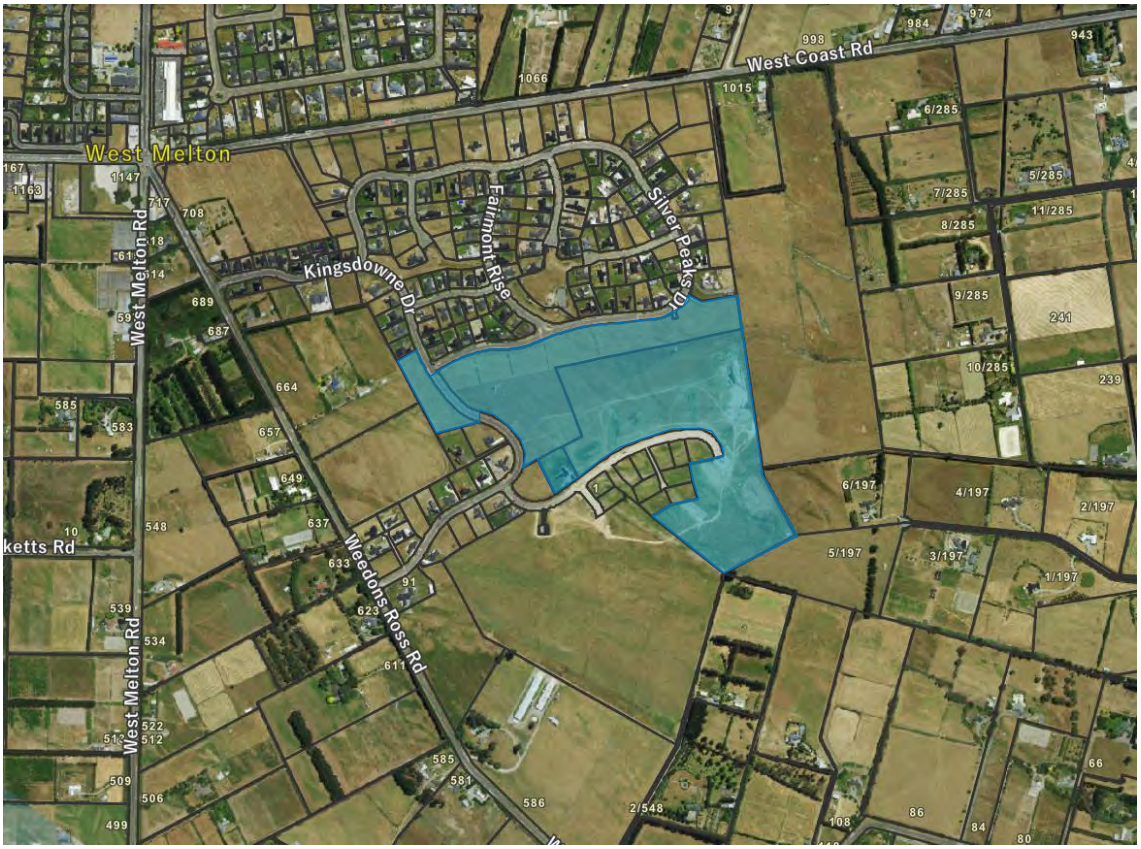
- Design of earthworks scope
- Advice to the Contractor during construction
- Earthworks construction monitoring (testing by others)
- Civil works construction monitoring

This report covers earthworks including clearing and forming new site levels,

3. Development Description

3.1. Site Location and Location of Earthworks

The wider Wilfield subdivision lies to the south of State Highway 73 and to the east of Weedons Ross Road. Stages 11 - 20 of the development consists of a redesigned stage that has increased the density of development. This stages are located on an extension of Ridgeland Way and comprises of 92 new lots.



Location of Stages 11 - 20 (*image Canterbury Maps)*

3.2. Site Description

The site of Stages 11 - 20 was original open farmland prior to being subdivided. The land was gently undulating with localised drainage paths. A number of shelter belts were placed along fence lines and property boundaries. A number of shelter belts and fence lines have been removed as part of the development process over the construction of Wilfield. The main use of the land has been grazing.

Davie Lovell Smith Ltd issued a site geotechnical report dated August 2014 which noted the following underlying ground conditions across the majority of the development site.

Soil Type	Depth of Layer
Topsoil	200mm – 300mm
Silt	200mm – 400mm
Gravel	>90m

It is noted that the ground water level is considered to be at least 20m below existing ground level.

4. Earthworks

4.1. Introduction

The construction of the earth-fill was carried out during May 2022 and October 2022.

The initial work was carried out by Maugers Contracting Ltd under the direction of the main Contractor – On Grade Ltd. under the project management and site supervision of Site Solutions Ltd.

The earthworks were designed to grade new allotments towards the roads and to provide sufficient elevation to meet the development requirements for servicing.

The earth-fill was constructed in line with the guidelines contained within NZS4431.

Fills in excess of 200mm in depth were tested (in layers) and are identified as Engineered Fill on the drawing in Appendix A.

Areas identified as Non-Engineered Fill are fills less than 300mm in total depth and may include areas where topsoil has been used to dress the surface. Where fill has been placed in these areas all the topsoil has been removed prior to the placement of fill material.

Re-contouring has occurred across the site and as a result most of the top 200mm of the site has been modified in some way this has included shallow fills and adjustment of in-situ topsoil depths.

It is important to note that the depth of topsoil across the site varies and where there has been minimal change in the original ground levels topsoil depths of approximately 500mm could be expected (as per the site prior to development)

This report relates to fill areas identified by survey as being in excess of 250mm.

The lots affected by section filling are:

Stage	Lots
11	N/A
12	4 - 6
13	9 - 16
14	18 - 24
15	25, 26
16	30 – 33, 37 – 41
17	50, 51, 60 – 62, 67, 68, 80 - 84
18	71 – 76, 86 - 92
19	Reserve
20	N/A

Note: Some of the above lots have minimal areas of fill or fill placed outside the likely building areas. These zones have been filled at the same time as the bulk areas of the earthworks but may not have been individually tested.

4.2. Construction Plant

The following plant were used for the earthworks operation

Plant	Task
Excavators	Cut to fill Cut to truck Localised digouts
Trucks	Stockpile to Fill
Rollers (sheep's foot and drum)	Compaction of Fill
Grader	Trimming of Fill Conditioning of Fill
Watercart K-Line Sprinklers	Moisture Control

4.3. Methodology

The bulk earthworks included:

- Stripping of the site topsoil (stockpiled on site) from cut and fill areas
- Excavation of cut material and carted to fill areas
- Compaction of earth-fill
- Placement of topsoil (from stockpile)
- Grading of topsoil

Where shelter belt trees were removed, the stumps were removed and the area compacted with clean material in layers as per specification.

The fill was sourced from the site and from the balance of the Wilfield development. This was associated with the cutting of roads, service trenches and the recontouring for the proposed allotments.

In general, the fill material was at optimum in-situ and minimal additional water was required. Water was introduced into the fill material by water tankers when required.

5. Testing and Supervision

5.1. Lab Testing

Lab tests of the differing materials were carried out by Fulton Hogan Ltd as listed below.

These documents are attached in Appendix B

The majority of the filling was with the site SILTS and Clay Silt

Material Type	Max DD t/m3	Opt MC %	Compaction DD t/m3
On-site silts (1)	1.81	14.0	1.72
Gravelly Sand (2)	2.22	5.0	2.04

1 Cohesive Soils – 95% of Maximum DD
2 Non-cohesive soils – 92% of Maximum DD

5.2. Site Testing

Site testing of the fill was carried out on each layer where the total fill depth (excluding topsoil placement) exceeded 250mm.

The testing of the first period of earth-fill was carried out by Maugers Contracting and SGNT Ltd using a Nuclear Densometer. The results of the site testing are enclosed in Appendix C.

Regular site inspections were carried out during the construction process at a minimum interval of 1 week during earthworks construction or when deemed prudent. The inspections were generally associated with weekly site meetings and meeting minutes recorded the scope of works and plant used. These records are available upon request.

A final inspection of the site was carried out 18 April 2023 where the site had all earthworks completed and the site was substantially grassed.

6. Conclusion and Recommendations

6.1. Site Testing

Considering the construction methodology, the spread of compliant test data and supervision throughout the construction we consider that the residential sites as noted as being filled in the enclosed certification are considered suitable for residential development as defined in NZS 4431.

6.2. Recommendations

We consider that the following recommendations should be considered with the development of any of the new lots

- The location of the cut/fill interface is to be identified on-site in relation to the impact of the proposed residential development and foundations designed to take this into account when assessing foundation performance.
- The areas identified as 'non-engineered fill' may include the placement of topsoil in addition to the natural topsoil.
- The provision of any fill certification does not forgo the requirement to test the ground for suitability for the founding of buildings

6.3. Limitation of Certification

Recommendations and opinions expressed in the report are based on the field test results carried out by the Contractor. The nature and continuity of subsurface conditions away from the test conditions are inferred and it must be appreciated that the actual conditions may vary from the assumed model.

Where there has been limited change in ground levels (defined as being <200mm) no investigation has been carried out and excess depth of topsoil or unsuitable buried material may be present

7. Certification

All the engineered fills greater than 250mm have been placed in accordance with NZS4431:1989 – Code of Practice for Earth Fill for Residential Development.

Earth-fill Certification is included in Appendix D

APPENDIX 1

Earthworks Plan (indicating depth of cuts and fills)

DATE: 9 May 2023

AMENDMENTS :		
AMENDMENT	DATE	DESCRIPTION
R1	4.02.21	LAYOUT UPDATED
R2	18.2.21	LAYOUT UPDATED
R3	25.2.21	LOTS 1-3, 36-45, 100 & 153 AMENDED , STAGING

NOTES :

1) Areas and dimensions are approximate only and are subject to final survey and deposit of plans.

2) Service easements to be created as required.

3) This plan has been prepared for subdivision consent purposes only. No liability is accepted if the plan is used for any other purposes.

Legend

- Swale subject to a Consent Notice .
- Existing Consent Notice
- Zone boundary
- Stage boundary

PROPOSED AMALGAMATION CONDITIONS

1/ Lot 150 (Access Lot) hereon be held as to 2 undivided one half shares by the owners of Lots 26 & 27.

2/ Lot 151 (Access Lot) hereon be held as to 8 undivided one eighth shares by the owners of Lots 30, 31, 32, 33, 34, 35, 36 & 37.

3/ Lot 152 (Access Lot) hereon be held as to 2 undivided one half shares by the owners of Lots 50 & 51.

4/ Lot 153 (Access Lot) hereon be held as to 5 undivided one fifth shares by the owners of Lots 41, 42, 43, 44 & 100.

5/ Lot 154 (Access Lot) hereon be held as to 2 undivided one half shares by the owners of Lots 34 & 35.

Proposed Memorandum of Easements

Nature	Servient Tenement (Burdened Land)		Dominant Tenement (Benefited Land)
	Lot No	Shown	
Right of way, rights to drain water & sewage & rights to convey gas, water, electricity & telecommunications.	150	A & G	Lots 26 & 27
	151	B	Lots 30-37
	152	C	Lots 51 & 50
	153	E	Lots 41 - 44 & 100
	154	F	Lots 34 & 35
	52	D	Lot 51

SCHEDULE OF AREAS

Description	Area
Residential Lots - (Lots 1 - 92 & 100)	15.1355ha
Access - (Lots 150 -154)	2882m²
Road to vest in SDC (Lot 160 & 161)	1.3600ha
Reserve to vest in SDC (Lot 201)	3.0338ha
Lot 200	1741m²
Balance Lot 300	17.2818ha

Total Area : 37.2747ha

Comprised in: RT's, 768099, 839859, 982845

DAVIE LOVELL-SMITH
PLANNING SURVEYING ENGINEERING

116 Wrights Road P O Box 679 Christchurch 8140. New Zealand
Telephone: 03 379-0793 Website: www.dls.co.nz E-mail: office@dls.co.nz

JOB TITLE:
GW Wilfield Ltd

SHEET TITLE:
Proposed Subdivision of Lot 193 DP 506674, Lots 270 & 271 DP 525228 & Lot 720 LT 558751

DRAWING STATUS
Subdivision Consent

SCALE : 1:1500@A1 1:3000@A3 DATE : February 2021

CAD FILE : J:\18130_1\Subcon\2021 Subcon\C18130_1_Subcon R3.dwg REVISION : R3

DRAWING No : **C.18130/1** SHEET No: 1 OF 1

AS APPROVED BY
SELWYN DISTRICT COUNCIL
Planning Department

RESOURCE CONSENT
215227

3/06/2021 barkev

Balance Lot
SCALE : 1:4000@A1 1:8000@A3

11 3
12 3
13 10
14 8
15 3
16 18
17 31
18 16
19 0 - corridor
20 1

93.

Notes:
1. the underlying aerial image obtained from LINZ and is displayed under Creative Commons Attribution 4.0 International

WESTMERE MEWS
FAIRMONT RISE
SILVER PEAKS DRIVE
KINGSDOWNE DRIVE
RIDGELAND WAY
WEEDON
Pylon / Ecology Corridor
Pylon 659
Pylon 660
Potential Road Connection
L2
IP
LWM
Lot 61 DP 494094
1 DP 26732
2 DP 26732
Lot 129 DP 501187
402 DP 501187
2 DP 72036
4 DP 407139
3 DP 407139
188 DP 506674
187 DP 506674
194 DP 506674
193 DP 506674 RT 768099
197 DP 506674
263 DP 531293
261 DP 531293
260 DP 531293
501 DP 501187
401 DP 531293
400 DP 494094
402 DP 531293
403 DP 504116
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720 LT 558751 RT 982845
152
160
300

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

SITE SOLUTIONS CIVIL ENGINEERS

Design	Drawn	Approved	Scales
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Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Pylon Corridor Earthworks	2803	C1.0	3

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-1.000	-0.800
2		-0.800	-0.600
3		-0.600	-0.400
4		-0.400	-0.200
5		-0.200	0.000
6		0.000	0.200
7		0.200	0.400
8		0.400	0.600
9		0.600	0.800
10		0.800	1.000
11		1.000	1.200
12		1.200	1.400
13		1.400	1.600

Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill

Lot 61
DP 494094

1
DP 26732

Potential
Road
Connection

200

270
DP 525228
RT 839859

271
DP 525228
RT 839858

188
DP 506674

187

IP

Silver Peaks Drive

Kingsdowne Drive

KINGSDOWNE DRIVE

Drive 06

ROW 151

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	revised for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

SITE SOLUTIONS CIVIL ENGINEERS

Design	Drawn	Approved	Scales
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Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Pylon Corridor earthworks heatmap Sheet 1 of 2	2803	C1.1	3

Surface Analysis: Elevation Ranges

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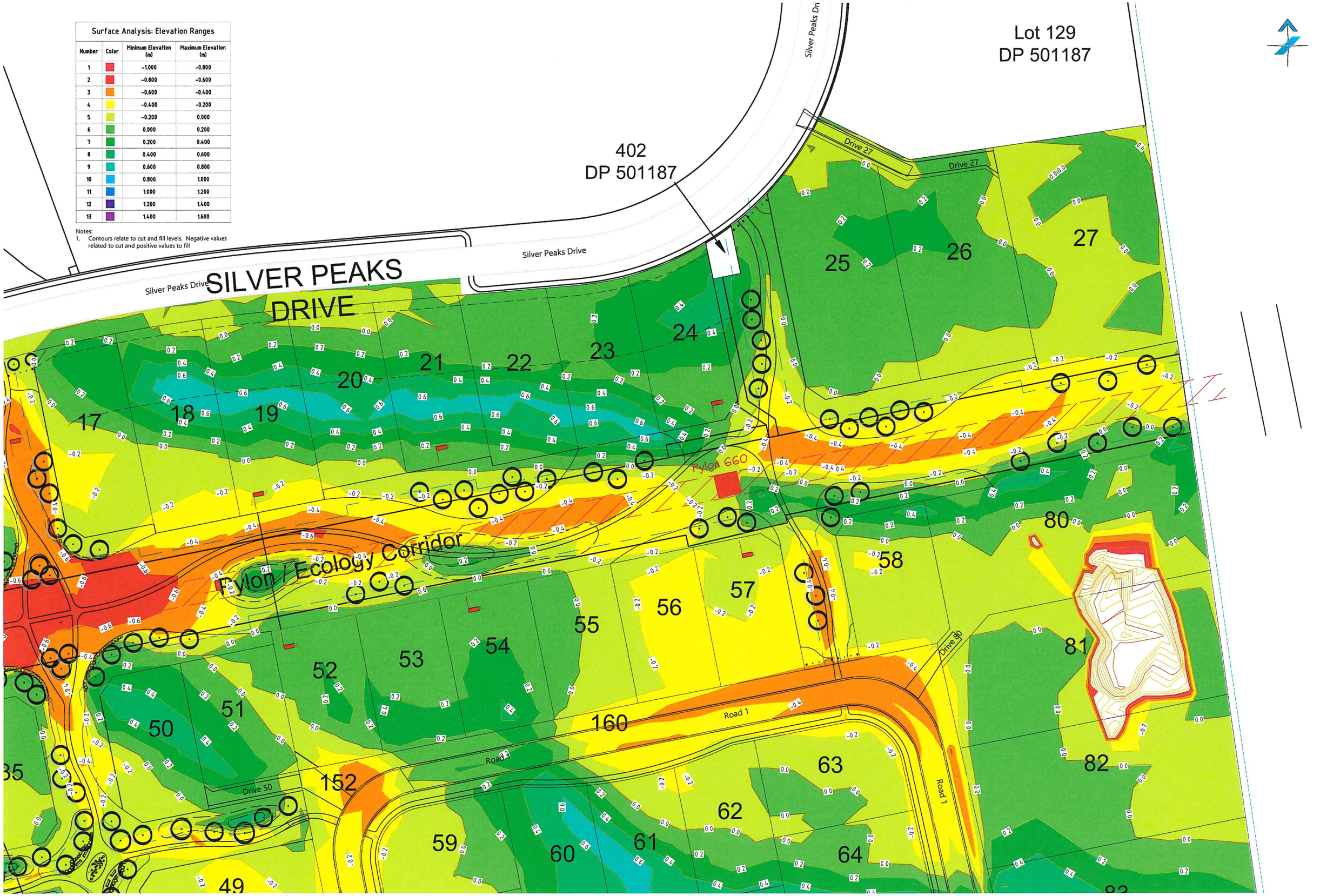
3		-0.600	-0.400
4		-0.400	-0.200
5		-0.200	0.000
6		0.000	0.200
7		0.200	0.400
8		0.400	0.600
9		0.600	0.800
10		0.800	1.000
11		1.000	1.200
12		1.200	1.400
13		1.400	1.600

Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill



Issue	Description	by	App	Date
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2	revised for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales
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Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
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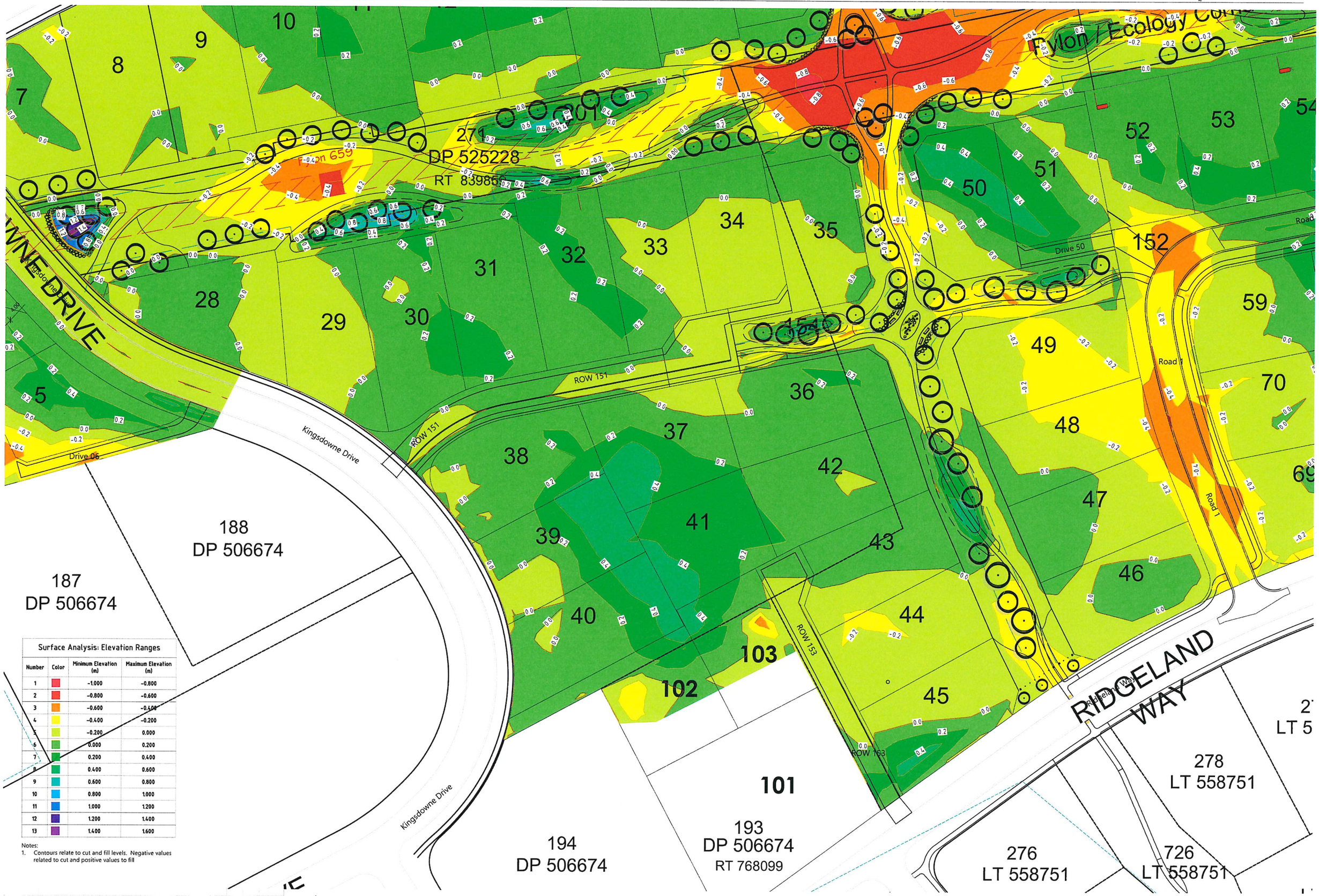


Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-1.000	-0.800
2		-0.800	-0.600
3		-0.600	-0.400
4		-0.400	-0.200
5		-0.200	0.000
6		0.000	0.200
7		0.200	0.400
8		0.400	0.600
9		0.600	0.800
10		0.800	1.000
11		1.000	1.200
12		1.200	1.400
13		1.400	1.600

Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022

SITE SOLUTIONS CIVIL ENGINEERS

Design	Drawn	Approved	Scales
kb	kb		1:500 @ A1 1:1000 @ A3

Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site earthworks heatmap Sheet 1 of 3	2803	C1.5	3

2

DP 72036

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-1.000	-0.800
2		-0.800	-0.600
3		-0.600	-0.400
4		-0.400	-0.200
5		-0.200	0.000
6		0.000	0.200
7		0.200	0.400
8		0.400	0.600
9		0.600	0.800
10		0.800	1.000
11		1.000	1.200
12		1.200	1.400
13		1.400	1.600

Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill

Pylon / Ecology Corridor

Drive 50

Road 1

Ridgeland Way

RIDGELAND WAY

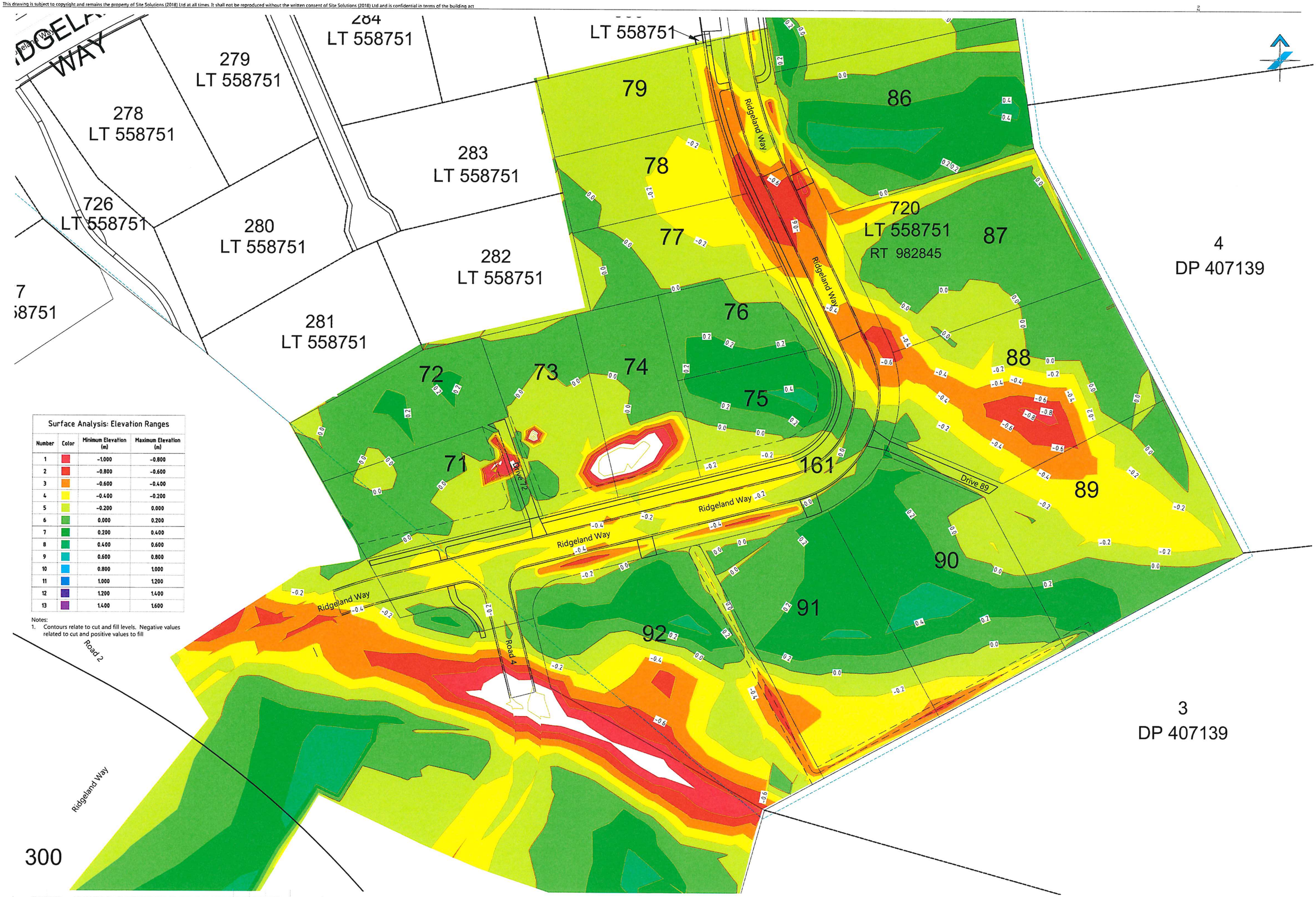
L W M

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022

CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales
kb	kb		1:500 @ A1 1:1000 @ A3

Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site earthworks heatmap Sheet 2 of 3	2803	C1.6	3



Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-1.000	-0.800
2		-0.800	-0.600
3		-0.600	-0.400
4		-0.400	-0.200
5		-0.200	0.000
6		0.000	0.200
7		0.200	0.400
8		0.400	0.600
9		0.600	0.800
10		0.800	1.000
11		1.000	1.200
12		1.200	1.400
13		1.400	1.600

Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022

CIVIL ENGINEERS SITE SOLUTIONS

Design	Drawn	Approved	Scales
kb	kb		1:500 @ A1 1:1000 @ A3

Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site earthworks heatmap Sheet 3 of 3	2803	C1.7	3

Legend

S 29.90 Proposed surface level

× 29.900 Existing level

Notes:
1. Contours relate to cut and fill levels

Lot 61
DP 494094

Lot 1
DP 26732

Potential
Road
Connection

200

IP

Pylon 659

DP 525229
RT 839859

188
DP 506674

187

Silver Peaks Drive

Kingsdowne Drive

KINGSDOWNE DRIVE

Drive 06

ROW 151

1:200

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	revised for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

SITE SOLUTIONS

Design	Drawn	Approved	Scales
kb	kb		1:500 @ A1 1:1000 @ A3

Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Pylon Corridor earthworks contours Sheet 1 of 2	2803	C1.3	3

Legend

S 29.90 Proposed surface level

× 29.900 Existing level

Notes:
1. Contours relate to cut and fill levels

Lot 129
DP 501187

402
DP 501187

SILVER PEAKS DRIVE

Silver Peaks Drive

Silver Peaks Dri

Drive 27

Drive 50

Road 1

Pylon CCC

Pylon Technology Corridor

17 18 19 20 21 22 23 24 25 26 27 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 80 81 82 160

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	revised for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

CIVIL ENGINEERS SITE SOLUTIONS

Design	Drawn	Approved	Scales
kb	kb		1:500 @ A1 1:100 @ A3

Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
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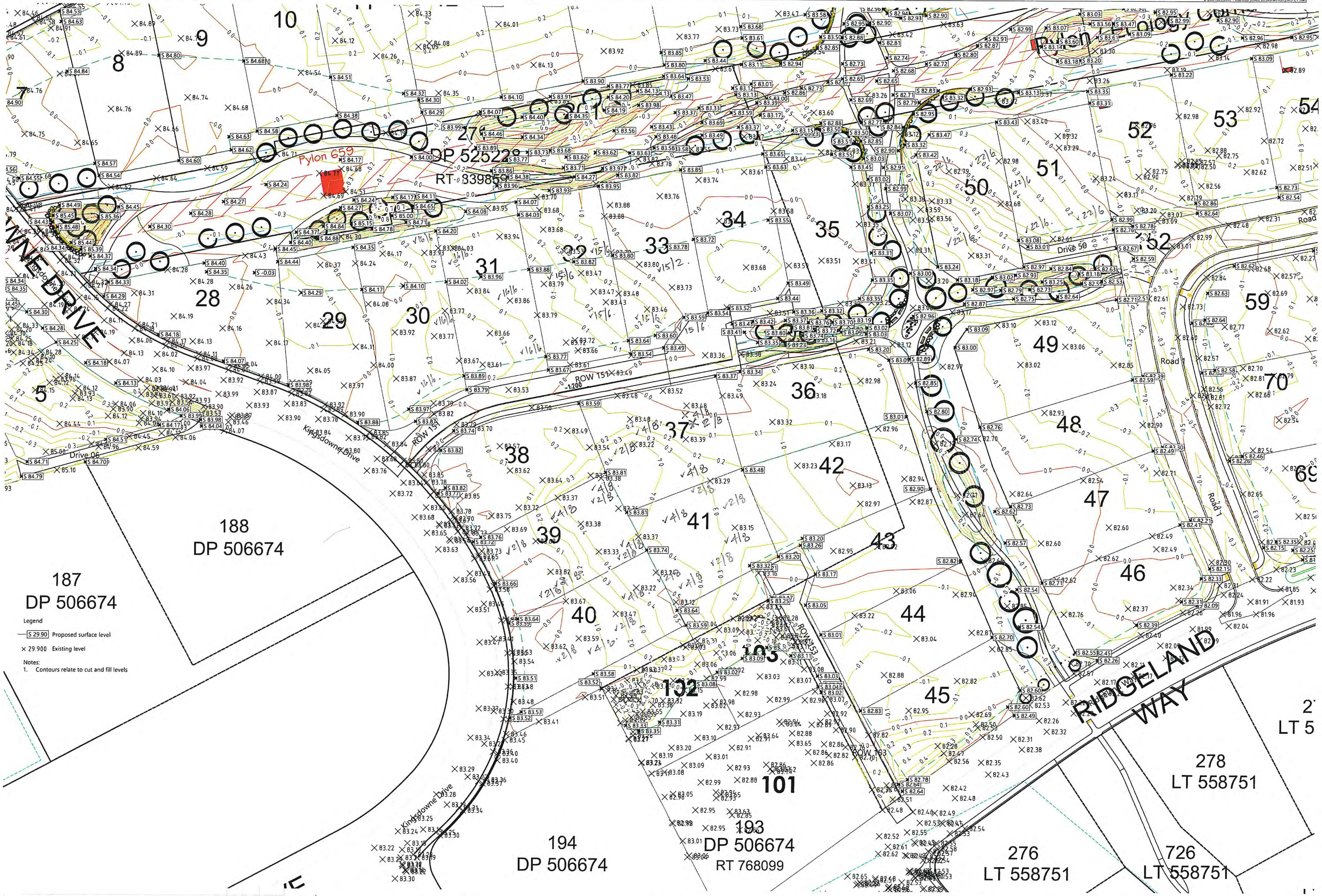


Issue	Description	by	App	Date
3	final			04.05.2023
2	for approval	kb		23.05.2022

SITE SOLUTIONS

Design	Drawn	Approved	Scales	Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
kb	kb		1:500 @ A1 1:1000 @ A3	Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site earthworks contours Sheet 1 of 3	2803	C1.8	3

÷ 23 ; 24 , 25 , 26

Legend

S 29.90 Proposed surface level

× 29.900 Existing level

Notes:
1. Contours relate to cut and fill levels

2

DP 72036

Road 1

Drive 50

Road 2

Ridgeland Way

RIDGELAND WAY

LWM

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022

SITE SOLUTIONS CIVIL ENGINEERS

Design: kb | Drawn | Approved | Scales: 1:500 @ A1, 1:1000 @ A3

Client: Yoursection Wilfield Ltd

Project Title: Wilfield, West Melton

Drawing Title: Rest of Site earthworks contours Sheet 2 of 3

Project No.: 2803 | Drawing No.: C1.9 | Revision: 3

WAY

278
LT 558751

279
LT 558751

284
LT 558751

LT 558751

283
LT 558751

726
LT 558751

280
LT 558751

282
LT 558751

281
LT 558751

7
8751

4
DP 407139

720
LT 558751
RT 982845

3
DP 407139

79 78 77 76 75 74 73 72 71 86 87 88 161 89 90 91 92

Ridgeland Way

Road 2

Road 4

Drive 89

300

Legend

S 29.90 Proposed surface level

× 29.900 Existing level

Notes:
1. Contours relate to cut and fill levels

Issue	Description	by	App	Date
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022

CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales	Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
	kb		1:500 @ A1 1:1000 @ A3	Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site earthworks contours Sheet 3 of 3	2803	C1.10	3

APPENDIX 2

Geotechnical Report (extract) – Davie Lovell Smith Ltd
Soil lab tests (Fulton Hogan)

DATE: 9 May 2023

Canterbury Laboratory

325 Pound Rd, Yaldhurst, Christchurch
PO Box 16-064, Christchurch 8441
Telephone: +64 3 349 9142
Facsimile: +64 3 349 9143
www.fultonhogan.com
0800 LABORATORY

Report No: MDD:CAN15S-10113
Issue No: 1

Maximum Dry Density Report

Client:
Maugers Contracting Ltd
25 Tahuna Street
Wainoni

Christchurch 8061
NZ

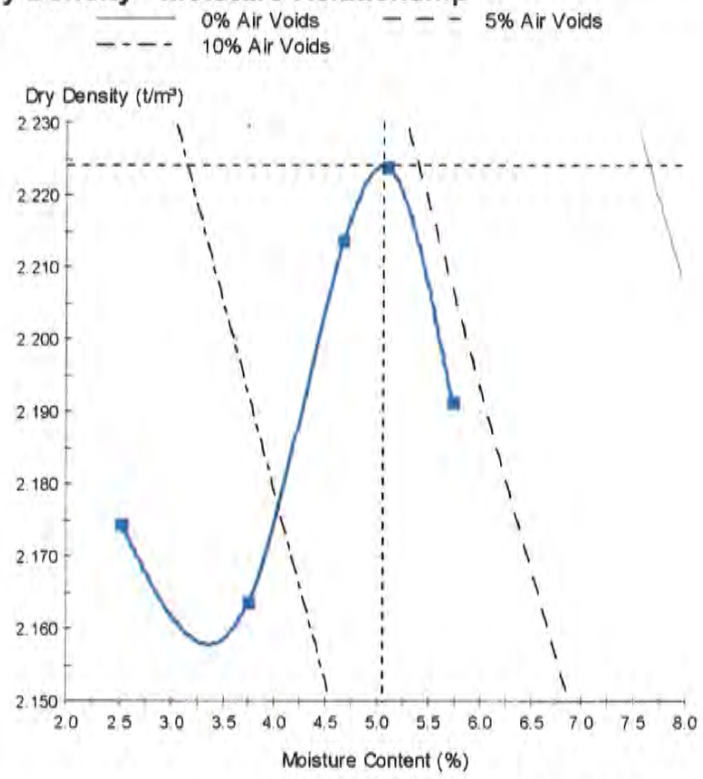
Project: Maugers Contracting

Approved Signatory: Max Burford (Supervisor)
IANZ Accreditation No:200
Date of Issue: 18/05/15

Sample Details

Sample ID:	CAN15S-10113	**Client Sample ID:**	Winfield # 2
Material:	Gravelly SAND	**Sample Source:**	Miscellaneous Material Source
Site/Sampled From:	Winfield #2	**Date Sampled:**	12/05/2015
Specification:	Standard Compaction Test	**Sampled By:**	Advised - See Comments
Sampling Method:	Stated to be NZS 4407:1991 2.4.6.4	**Date Tested:**	14/05/2015
Technician:	Greg Orr	**Sampling Endorsed?:**	No

Dry Density - Moisture Relationship



Test Results

NZS 4402:1986 Test 4.1.1 - 1986

Maximum Dry Density (t/m³):	**2.22**
Optimum Moisture Content (%):	**5.0**
Solid Density (t/m³):	2.680 assumed
Oversize Sieve (mm):	37.5
Oversize Material (%):	
Sample History:	Natural

Comments

Material is a gravelly SAND
Sampled by Ben Spittle

Canterbury Laboratory

325 Pound Rd, Yaldhurst, Christchurch
PO Box 16-064, Christchurch 8441
Telephone: +64 3 349 9142
Facsimile: +64 3 349 9143
www.fultonhogan.com
0800 LABORATORY

Maximum Dry Density Report

Report No: MDD:CAN15S-10112
Issue No: 2
This report replaces all previous issues of report no 'MDD:CAN15S-10112'.

Client:
Maugers Contracting Ltd
25 Tahuna Street
Wainoni

Christchurch 8061
NZ

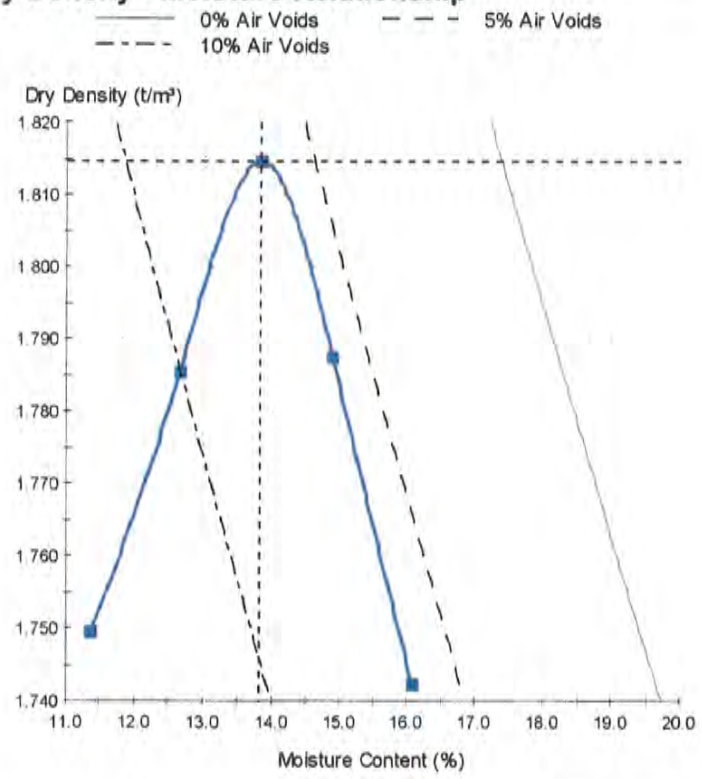
Project: Maugers Contracting

Approved Signatory: Max Burford (Supervisor)
IANZ Accreditation No:200
Date of Issue: 18/05/15

Sample Details

Sample ID:	CAN15S-10112	**Client Sample ID:**	QA Testing
Material:	On Site Material	**Sample Source:**	Miscellaneous Material Source
Site/Sampled From:	Winfield #1	**Date Sampled:**	12/05/2015
Specification:	No Specification	**Sampled By:**	Advised - See Comments
Sampling Method:	Stated to be NZS 4407:1991 2.4.6.4	**Date Tested:**	14/05/2015
Technician:	Greg Orr	**Sampling Endorsed?:**	No

Dry Density - Moisture Relationship



Test Results

NZS 4402:1986 Test 4.1.1 - 1986

Maximum Dry Density (t/m³):	**1.81**
Optimum Moisture Content (%):	**14**
Solid Density (t/m³):	2.650 assumed
Oversize Sieve (mm):	19.0
Oversize Material (%):	
Sample History:	Natural

Comments

Material is silty FINE SAND
Sampled by Ben Spittle

GEOTECHNICAL APPRAISAL

Wilfield Subdivision

Weedons Ross Road – West Melton

August 2014

REPORT

CONTENTS

APPENDICES

Introduction

As part of the proposed Wilfield subdivision in West Melton, Davie Lovell-Smith has been engaged to undertake a geotechnical site appraisal. This is required to assess the suitability of the ground conditions across the site for development and to fulfill the recent council requirements on the assessment of liquefaction risk in Canterbury.

A recent site investigation was conducted involving 32 test pits, 7 of which were conducted using a drilling rig while 25 were completed using a hand auger. A borelog was recorded at each test pit to a depth where the gravel horizon was found. Scalar penetrometers were also conducted at each test pit to calculate the strength of the soil. See Appendix A for test locations and Appendix B for the Borelog details with associated scala readings.

Canterbury Regional Council (ECan) borelog data has also been used to estimate the groundwater level under the site. This has been downloaded from the Online ECan GIS site. The Ecan borelog and location is attached in Appendix C.

Geographical Work Area

West section – Eyre shallow sandy load

South section – Templeton moderately deep fine sandy load and air shallows

East section – Eyre shallow and stony sandy loam

North east section – Templeton deep sandy loam on sand

Site Location

The site is located at 690 Weedons Ross Rd, West Melton. The total area of the site is approximately 92.2364 ha and is proposed to be zoned as residential.

Site Description

Wilson and Gillman Wheelans Ltd plan to develop a subdivision into 180 residential lots. The area of land is bounded by West Coast Road to the north, Weedons Ross Road to the west and agricultural pastoral land to the East and South.

The site is generally flat pastoral land. The outer boundaries of the proposed site all have some type of fencing. The site also contains a number of tree lines on the outer boundaries.

The site comprises the following lots: Lot 1 D.P.391578, Lot 2 D.P.391578, S.O.8333 R.S.37783, and S.O.8404 R.S.37879.

Geotechnical Assessment

Geotechnical data has been obtained from the following sources: Environment of Canterbury (ECan) Borelogs and Davie Lovell-Smith site visits.

Desktop Study

ECan borelog data has been obtained from the online ECan GIS system and is attached in full detail in Appendix C of this report. The borelog data identified from the sites identified is listed below:

- Borelog M35/0976 – Topsoil to a depth of 0.3 m, Yellow clay to a depth of 0.6 m, Grey and brown sandy gravels to a depth of 53.3 m. The HWL was identified to be 20.2 m below ground level.
- Borelog M35/6201 – Topsoil to a depth of 0.3 m, large grey gravels to a depth of 8 m, clay bound gravels to a depth of 27 m, free water-bearing gravels to a depth of 35.0 m, a mixture of claybound gravels to a depth of 52.0 m and a mixture of free gravel to a depth of 83.0 m. The HWL was identified to be 20.18 m below ground level.

The borelog data provides similar results across the area. Both boreholes have 300 mm topsoil before transitioning into deep layers of either sandy or claybound gravel to a depth of at least 50m. The average depth to the groundwater table identified from the available ECan data was found to be 20.19 m (B.G.L).

DLS Site Investigation

The site investigations show a Topsoil layer of 300 mm in depth. This is underlain by a layer of sand and silt that reach down to a maximum depth of 900 mm. This is followed by a layer of sandy gravels.

These soil horizons follow the maximum depth where the layers are found. Most of the pit locations revealed much smaller layers of silt with sandy gravel occurring closer to the surface; see Appendix A for test pit locations and Appendix C for full test pit detail.

Some test pits revealed damp soil near the end of the bore holes. Water was also found at one test pit at a depth of 3.5 m. This indicates that there is perched ground water on the site.

Correlation between the test pits and ECan borelog data show a gravel horizon from 300 mm depth to depths exceeding 20 m. This is complementary to the ECan data which shows thin topsoil followed by gravel horizons.

Earthquake Risk

A review of the GNS Active Faults Database indicates that the Greendale fault is approximately 5500m off the southern end of the proposed development. Please refer to the attached University of Canterbury trace of the Greendale Fault in Appendix D which depicts the location of the proposed site in relation to this phenomenon.

With reference to the GNS publication "Planning for Development of Land on or Close to Active Faults" a fault avoidance zone of 20 metres either side of the known fault trace or likely fault rupture zone. This is to limit the risk of intense deformation or secondary ruptures in the near vicinity of structures. To our knowledge there is no fault trace on the site but this will be reviewed during the earthworks program.

This site has some earthquake potential due to the close proximity of the fault. Subsequently structural consideration towards seismic activity is recommended in respect to development of buildings on this site.

Liquefaction Risk

For a soil to have liquefactious potential it needs to meet specific moisture and grading criteria. Essentially the soil needs to be a saturated sand or silt. The soil found on this site does not display any of these liquefactious properties. The groundwater is very deep. Existing borelogs have this measured between 20.18 and 20.2 m below ground level. From the test pits bored by DLS most of the soil displayed damp features, including one test pit where water was struck at a depth of 3.5 m which suggests that there is perched water on the site. However, as the test pits revealed silts to a maximum of 0.9 m, there is a low chance of having saturated silt on the site. As a result, the site has a low liquefaction potential.

Appendix E shows the area of low geotechnical risk according to the Selwyn district council. The site location is well within the boundaries, this confirms that there is a very low chance of liquefaction occurring at this site.

Definition of Good Ground

Foundation soils, according to the New Zealand Standard NZS3604:2011 require that the following criteria must be met:

- No buried services under the footings.
- No evidence of land instability.
- No uncontrolled land filling.
- No buried topsoil, soft peat, very soft clay, soft clay or expansive clay.

In addition to this, the soils must meet at least one of the following:

a) Meet a soil bearing capacity of 300 kPa as detailed in the testing requirements in NZS3604.
b) Inspection of existing structures, council records, local history and geological data shows no evidence of erosion or land instability.
c) Geotechnical completion report in accordance with NZS4404 identifies good ground.

Under normal circumstances, the option a) would be applied. However, this testing regime does have some prerequisite requirements. For this testing to be applied, the location of the future buildings foundations need to be determined and the tests carried out in those locations. Also the number of tests to be performed is a function of the building size. Clearly, at the time of subdivision, the proposed buildings have not been designed and the testing criteria cannot be met. For these reasons, under usual circumstances, the proving of good ground for bearing capacity is undertaken in association with a building consent application.

During the construction of the site, the earthworks will be carried out in accordance with NZS4431:1989. This NZS4431 certification relates to the filling on the site but does not test the insitu soils. The insitu soils may require testing in accordance with NZS3604 at the time of Building Consent Application.

Department of Building and Housing Guidelines

Utilising the "Revised guidance on repairing and rebuilding house affected by the Canterbury Earthquake Sequence" and the CERA technical Categories Map the Weedons Ross Road site is classified as TC1 – future land damage from liquefaction is unlikely. You can use standard foundations for concrete slabs or timber floors. An engineer should be engaged to determine the appropriate solution for the property, based on a site-specific investigation.

Conclusion

We believe that the geotechnical data obtained via the ECan borelogs combined with DLS borelogs indicate that the ground conditions over the site are consistent and of acceptable quality for residential development. Findings show:

- The depth to the groundwater is approximated to be 20.19 m; this in association with the insitu gravel horizons provides for a low liquefactious potential. Conditions are consistent with other geotechnical investigations in the Rolleston area and typically, a Technical Category 1 can be safely assumed.
- The proximity of the Greendale Fault should be taken into account when the design of building foundations and structures are undertaken and the guidance issued in the DBH guidelines followed

- The assessment of the site being good ground can be assessed once construction and earthworks is complete, as a part of the Building Consent process using NZS3604.

Andy Hall

CPEng, BE (Hons)

APPENDIX 3

Field Tests (Maugers Contracting Ltd)
Field Tests (SGNT Ltd)

DATE: 9 May 2023

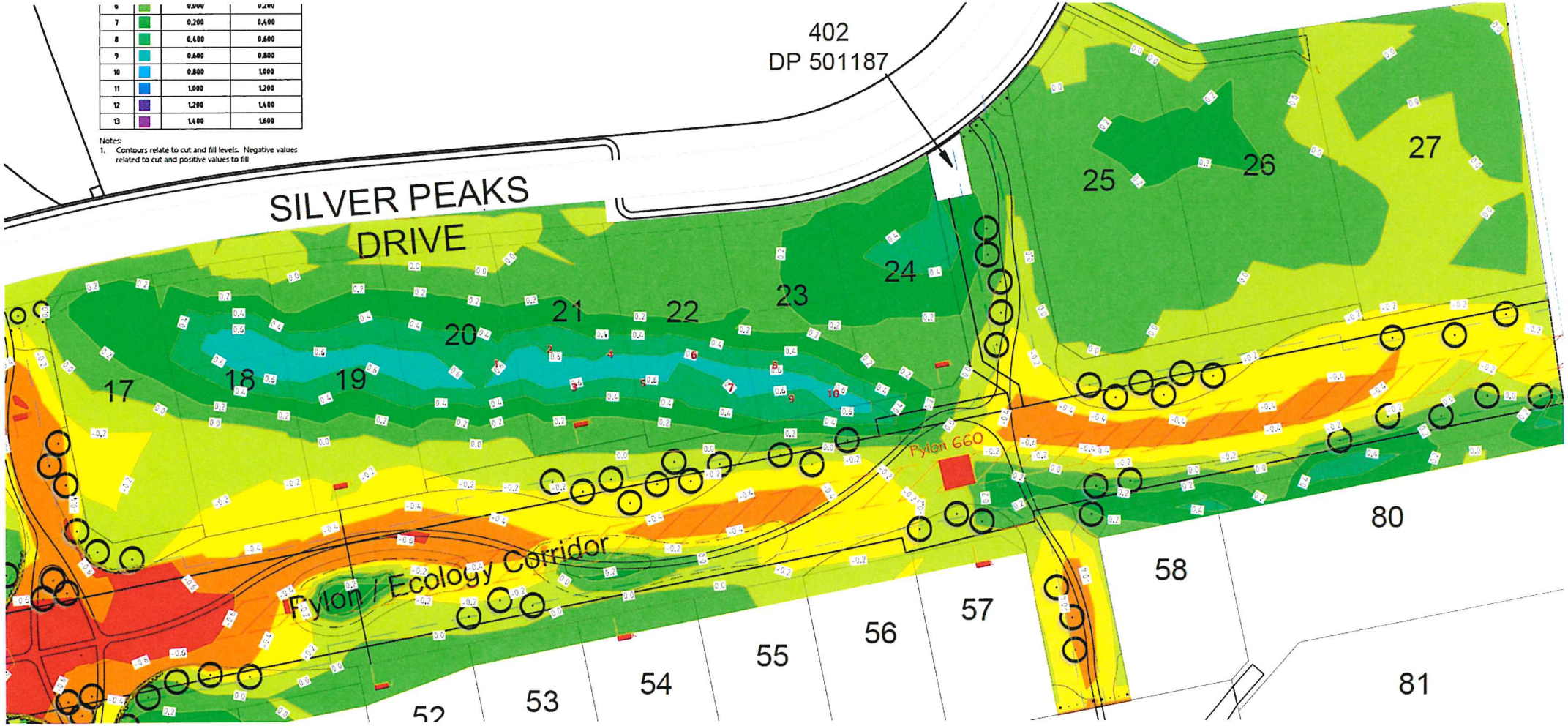
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112 TARGET 1.72
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	30-May-22	Max Dry Density	1810
Time Tested	1245	Min Dry Density (kg/m3)	
Material Tested	Sandy Silts	Solid Density Type	Assumed
Material Source	Wilfield		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	8.2	1980	1830 ✓	101.1
2		9.0	2087	1915 ✓	105.8
3		9.8	2031	1849 ✓	102.2
4		10.0	2035	1849 ✓	102.2
5		9.9	2028	1845 ✓	101.9
6		10.8	1982	1789 ✓	98.8
7		9.6	2012	1836 ✓	101.4
8		12.9	1981	1754 ✓	96.9
9		13.5	1958	1725 ✓	95.3
10		9.3	2035	1862 ✓	102.9

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.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8 0.600 0.600
9 0.600 0.800
10 0.800 1.000
11 1.000 1.200
12 1.200 1.400
13 1.400 1.600
Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill
402
DP 501187
SILVER PEAKS
DRIVE
17
18
19
20
21
22
23
24
25
26
27
Pylon 660
Pylon / Ecology Corridor
52
53
54
55
56
57
58
80
81

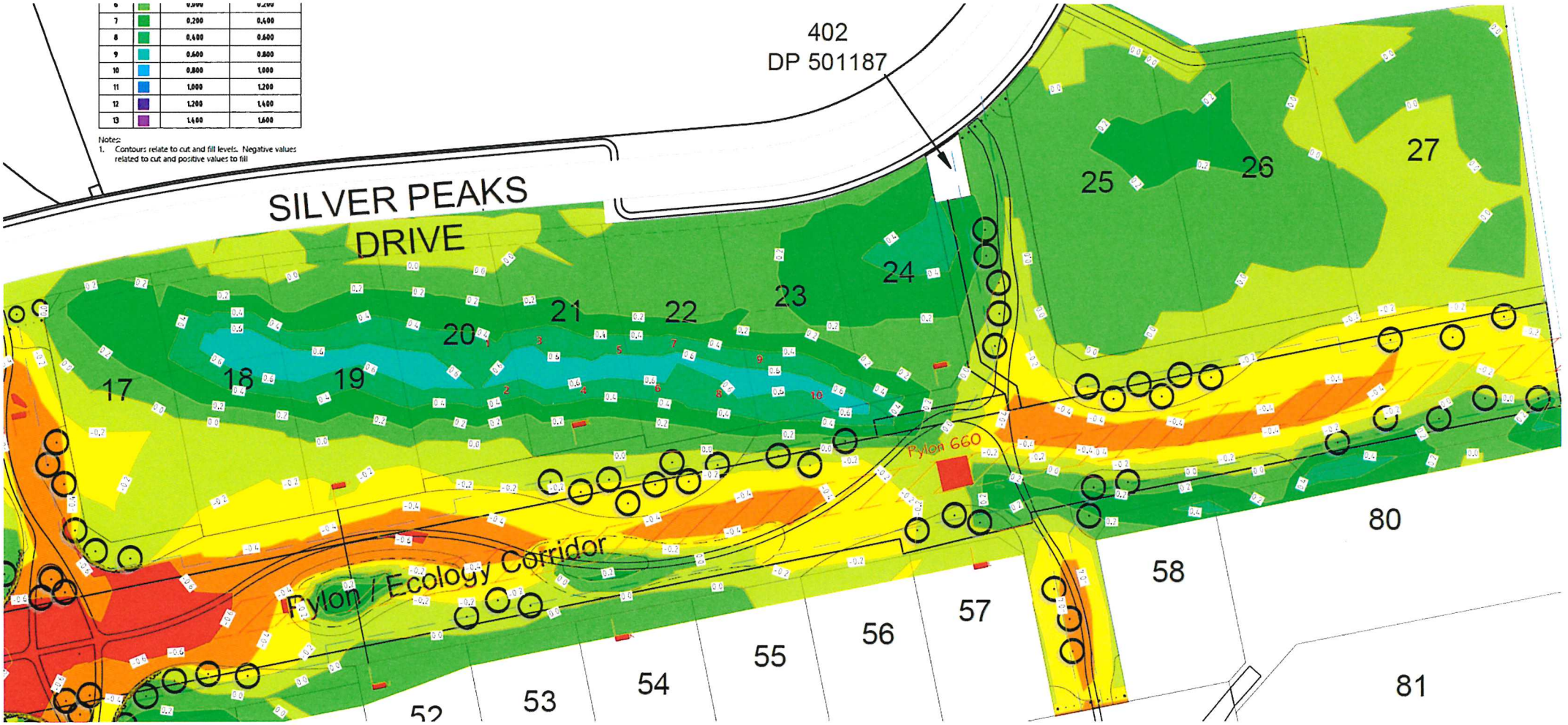
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112 TARGET 1.42.
Tested By	Jason Daikee	MDD Method	Back Scatter
Date Tested	30-May-22	Max Dry Density	1810
Time Tested	400	Min Dry Density (kg/m3)	
Material Tested	Sandy Silts	Solid Density Type	Assumed
Material Source	Wilfield		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	2	8.3	1998	1844 ✓	101.9
2		8.9	2087	1917 ✓	105.9
3		10.2	2039	1851 ✓	102.3
4		7.2	2018	1883 ✓	104.0
5		10.2	2011	1826 ✓	100.9
6		10.9	1957	1765 ✓	97.5
7		10.0	1995	1814 ✓	100.2
8		9.8	2094	1907 ✓	105.4
9		8.0	1952	1808 ✓	99.9
10		7.9	1917	1777 ✓	98.2

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.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8 0.400 0.600
9 0.600 0.800
10 0.800 1.000
11 1.000 1.200
12 1.200 1.400
13 1.400 1.600
Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill
402
DP 501187
SILVER PEAKS
DRIVE
17
18
19
20
21
22
23
24
25
26
27
Pylon 660
Pylon / Ecology Corridor
52
53
54
55
56
57
58
80
81

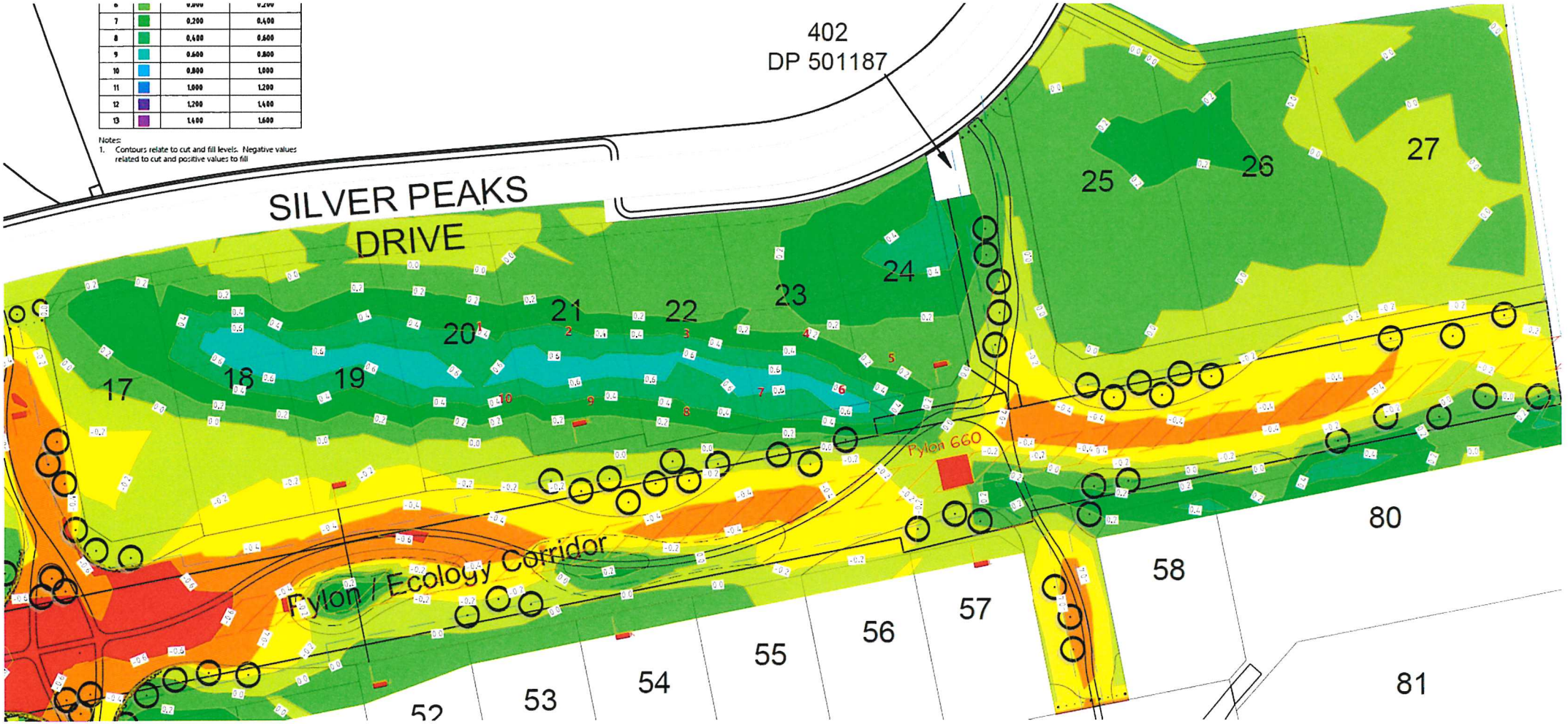
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11.
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	1-Jun-22	Max Dry Density	2220
Time Tested	1230	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sands	Solid Density Type	Assumed
Material Source	Wilfield		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	3	7.1	2406	2247 ✓	101.2
2		7.4	2351	2189 ✓	98.6
3		7.0	2340	2186 ✓	98.5
4		5.3	2270	2156 ✓	97.1
5		6.2	2271	2138 ✓	96.3
6		5.8	2239	2116 ✓	95.3
7		7.3	2326	2169 ✓	97.7
8		9.0	2299	2109 ✓	95.0
9		6.0	2277	2149 ✓	96.8
10		5.9	2305	2176 ✓	98.0

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


7 0.200 0.400
8 0.400 0.600
9 0.600 0.800
10 0.800 1.000
11 1.000 1.200
12 1.200 1.400
13 1.400 1.600
Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill
402
DP 501187
SILVER PEAKS
DRIVE
17
18
19
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Pylon 660
Pylon / Ecology Corridor
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80
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Nuclear Density Report

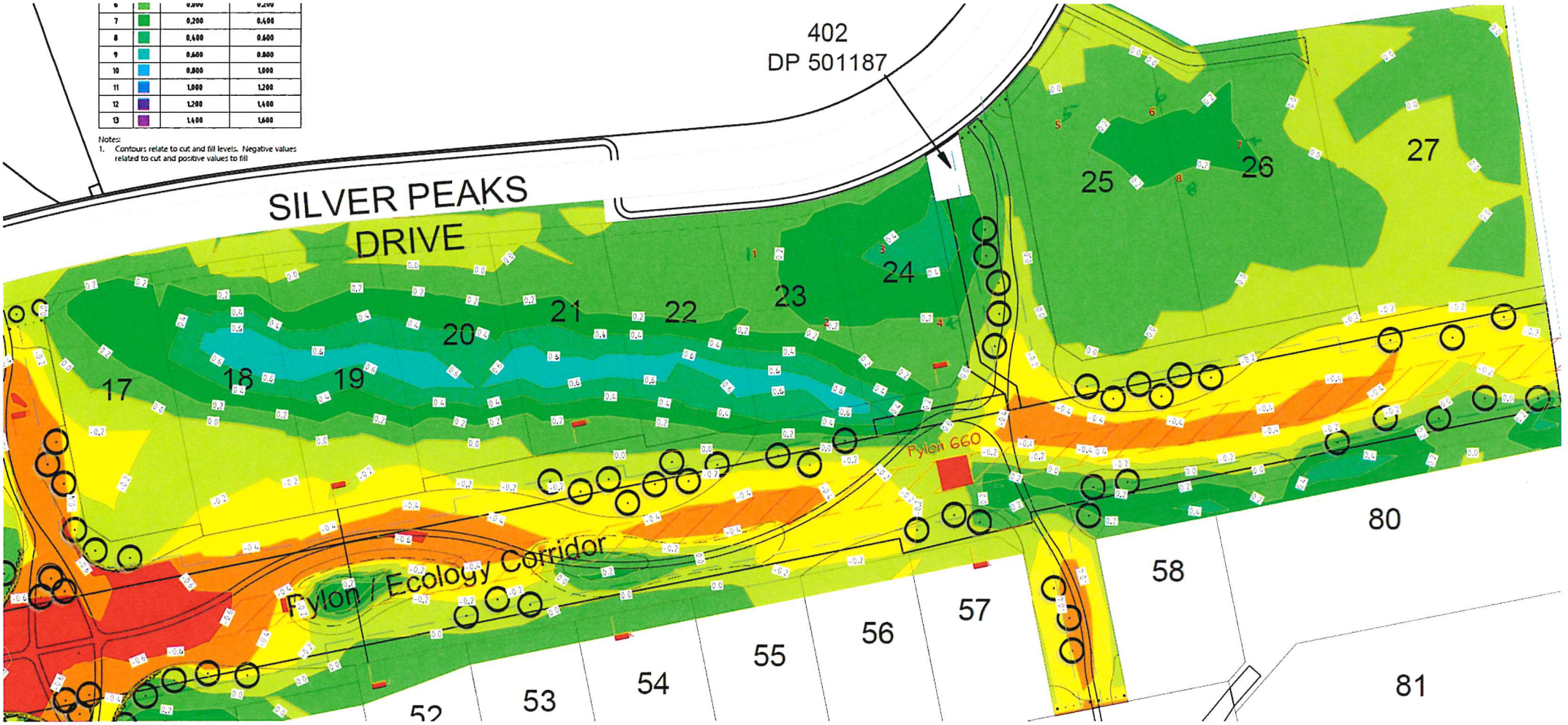
MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112 TARGET 1.72.
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	2-Jun-22	Max Dry Density	1810
Time Tested	100	Min Dry Density (kg/m3)	
Material Tested	Sandy Silts	Solid Density Type	Assumed
Material Source	Wilfield		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	11.7	2085	1866	103.1
2		13.9	2032	1784	98.5
3		8.5	2019	1861	102.8
4		9.4	2041	1865	103.0
MDD	2220	Material	Stoney Sands	material id	CAN15S-10113 — TARGET 2.11
5		7.3	2313	2156	97.1
6		5.3	2292	2177	98.1
7		4.0	2204	2120	95.5
8		5.1	2353	2240	100.9

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.

ALL OK.


7 0.200 0.400
8 0.400 0.600
9 0.600 0.800
10 0.800 1.000
11 1.000 1.200
12 1.200 1.400
13 1.400 1.600
Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill
402
DP 501187
SILVER PEAKS
DRIVE
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Pylon 660
Pylon / Ecology Corridor
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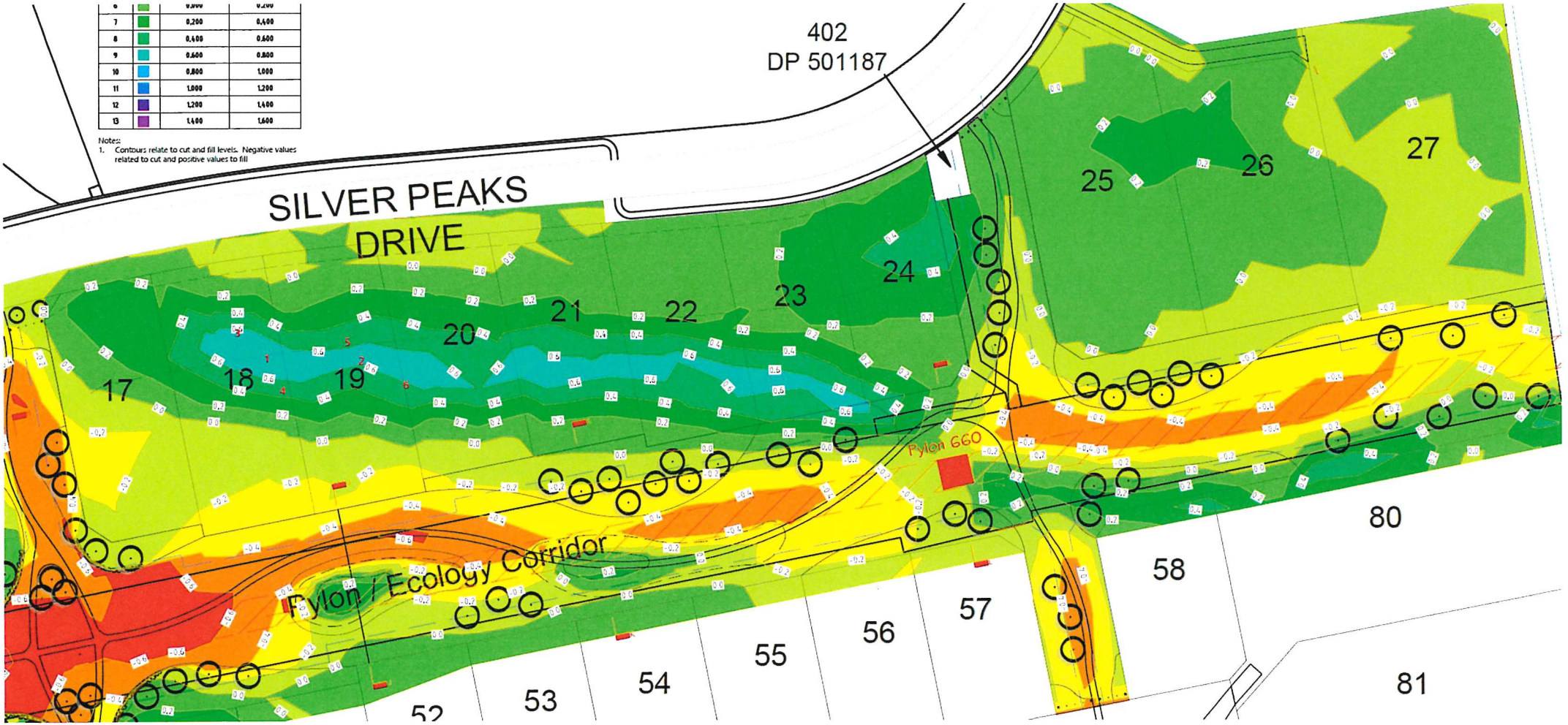
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11.
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	3-Jun-22	Max Dry Density	2220
Time Tested	1000	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	6.6	2376	2230 ✓	100.4
2		9.2	2321	2126 ✓	95.8
3	2	8.2	2294	2121 ✓	95.5
4		7.4	2421	2255 ✓	101.6
5		8.8	2363	2172 ✓	97.8
6		9.2	2330	2134 ✓	96.1

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


7 0.200 0.400
8 0.400 0.600
9 0.600 0.800
10 0.800 1.000
11 1.000 1.200
12 1.200 1.400
13 1.400 1.600
Notes:
1. Contours relate to cut and fill levels. Negative values related to cut and positive values to fill
402
DP 501187
SILVER PEAKS
DRIVE
17
18
19
20
21
22
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24
25
26
27
Pylon 660
Pylon / Ecology Corridor
52
53
54
55
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80
81

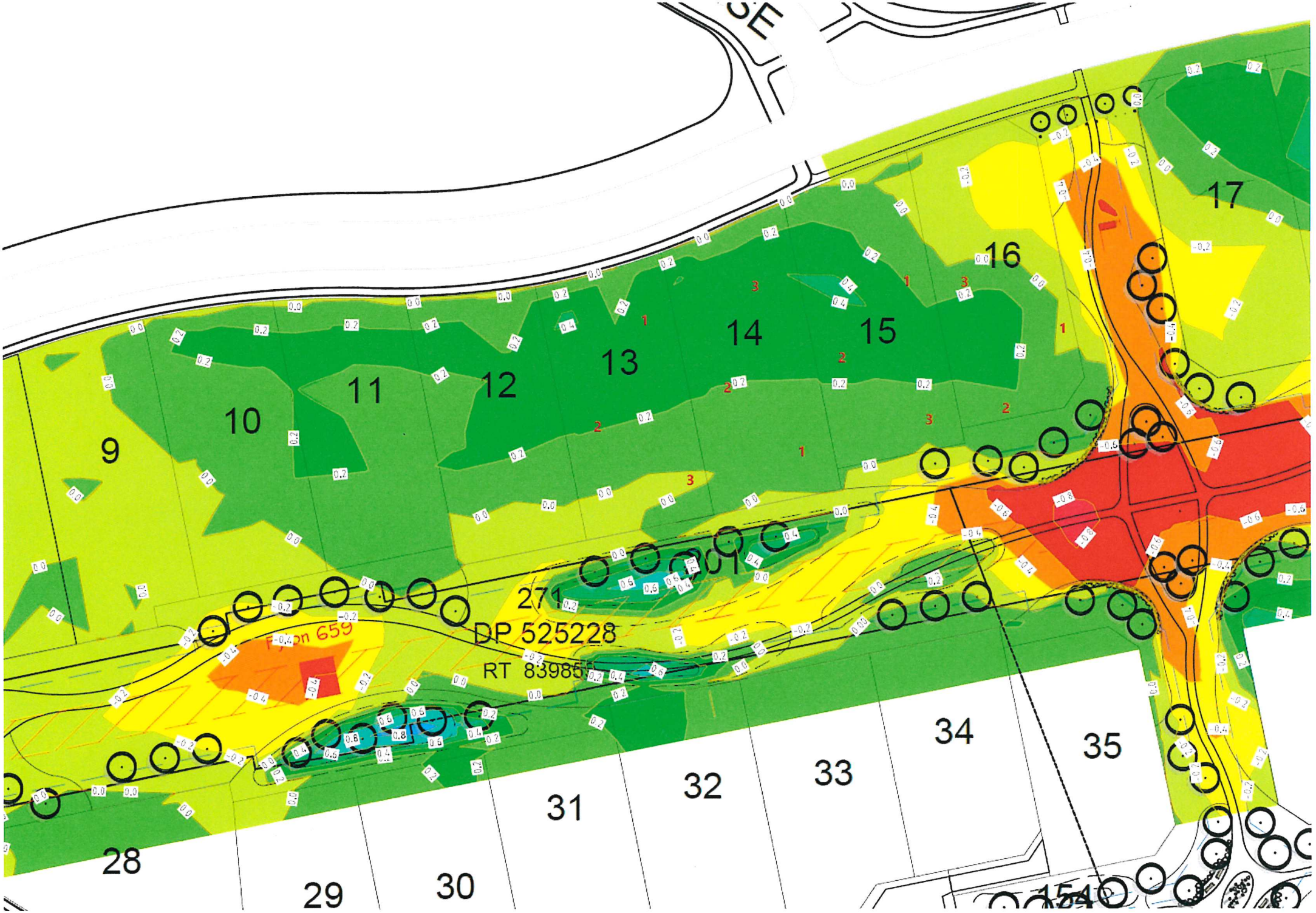
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	9-Jun-22	Max Dry Density	2220
Time Tested	730	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	4.1	2242	2154 ✓	97.0
2	1	6.2	2264	2132 ✓	96.0
3	1	5.0	2260	2154 ✓	97.0
4	1	6.7	2260	2118 ✓	95.4
5	1	4.7	2262	2161 ✓	97.3
6	1	5.3	2391	2270 ✓	102.3
7	1	8.1	2282	2111 ✓	95.1
8	1	5.3	2380	2260 ✓	101.8
9	1	7.5	2401	2234 ✓	100.7
10	1	6.9	2406	2250 ✓	101.3
11	1	7.0	2410	2252 ✓	101.5
12	1	6.5	2414	2266 ✓	102.1

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.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DP 525228
RT 83985
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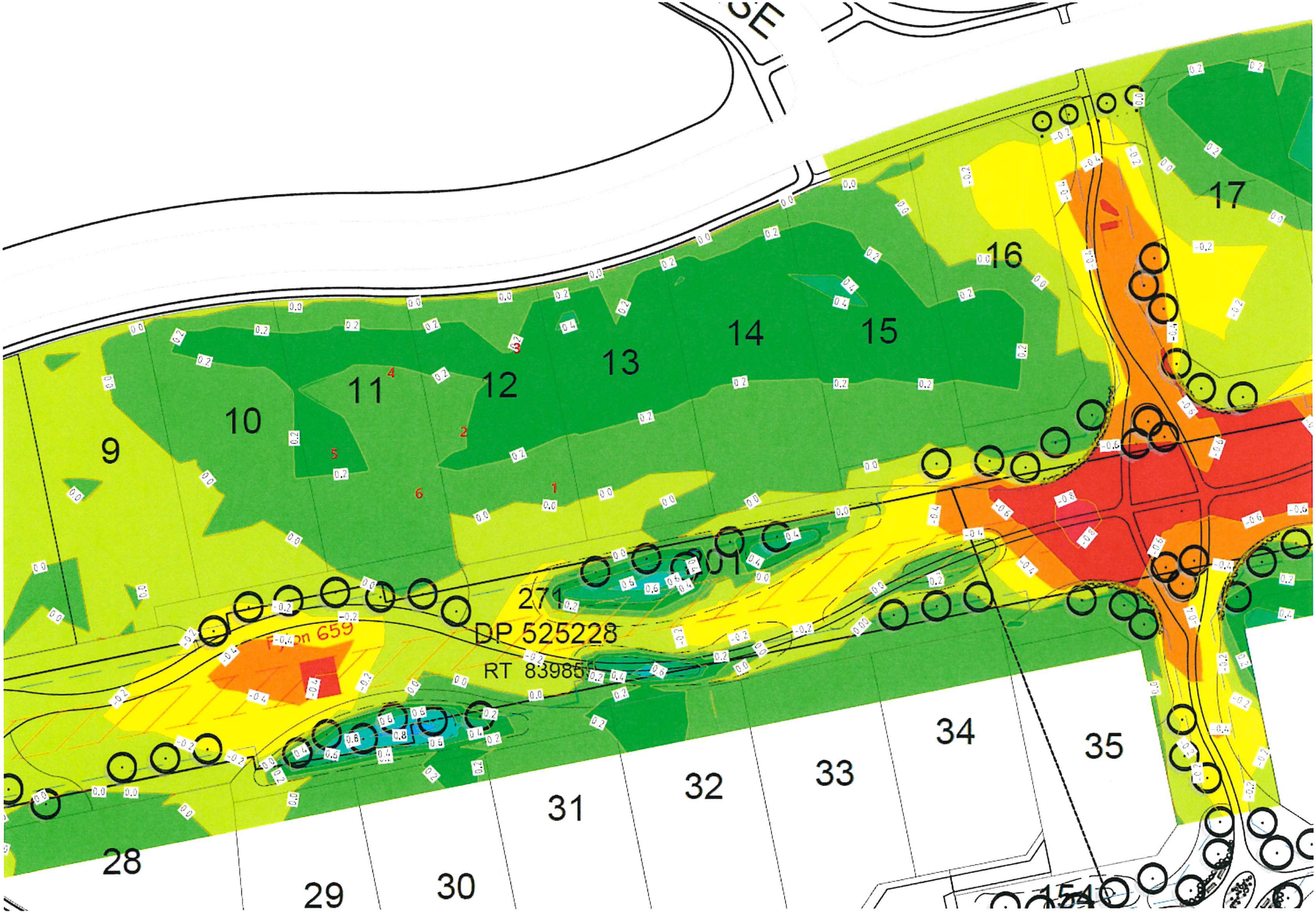
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	10-Jun-22	Max Dry Density	2220
Time Tested	100	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	4.4	2202	2108 ✗	95.0
2	1	4.7	2300	2197 ✓	99.0
3	1	5.1	2262	2151 ✓	96.9
4	1	5.8	2258	2134 ✓	96.1
5	1	4.2	2272	2180 ✓	98.2
6	1	6.7	2287	2143 ✓	96.5

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.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DP 525228
RT 83985
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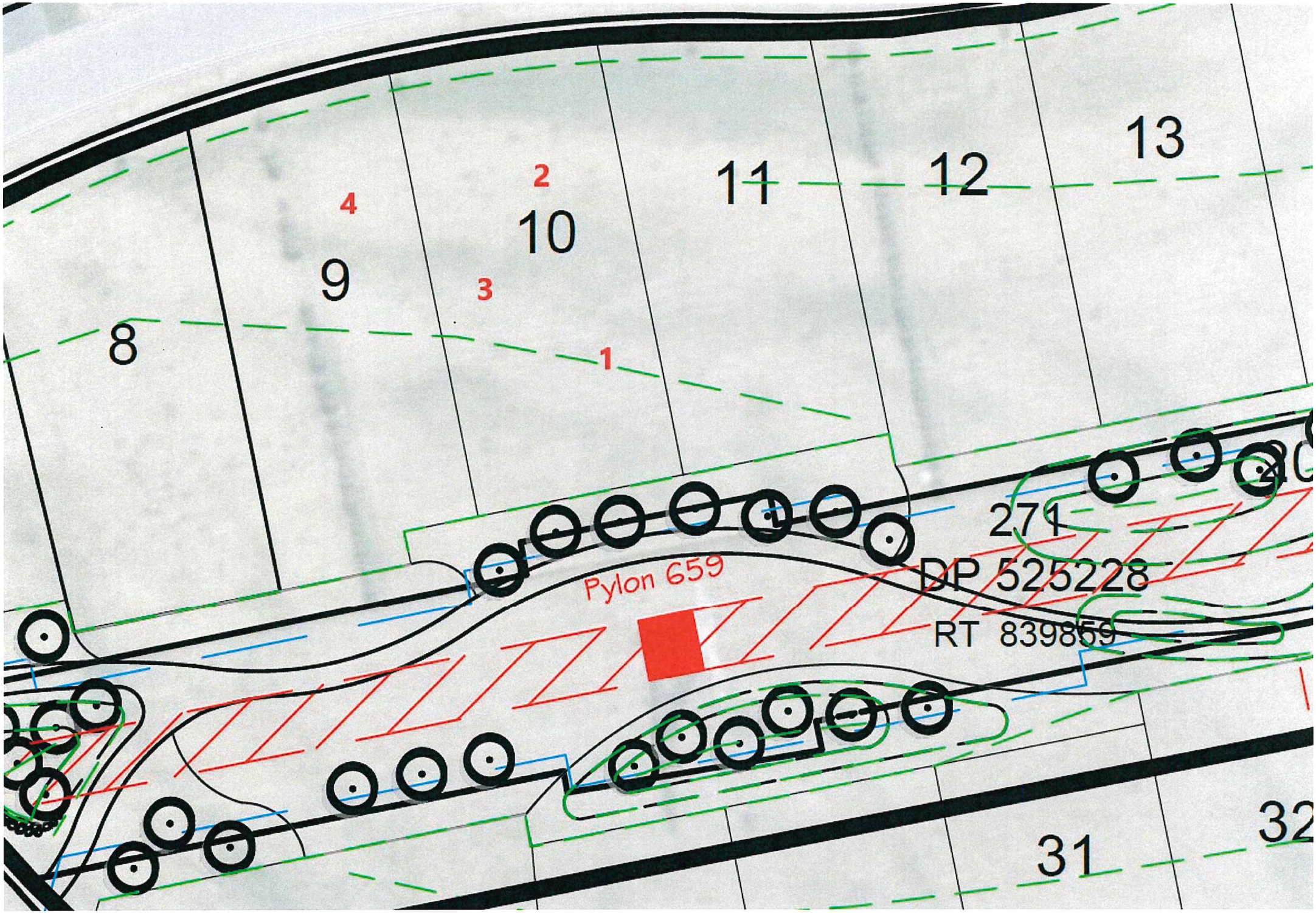
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TAILGUT 2.11
Tested By	Jason Daikee	MDD Method	Back Scatter
Date Tested	13-Jun-22	Max Dry Density	2220
Time Tested	300	Min Dry Density (kg/m3)	
Material Tested	Gravely Sand	Solid Density Type	Assumed
Material Source	Wilfield on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	5.1	2243	2134 ✓	96.1
2	1	5.2	2285	2173 ✓	97.9
3	1	4.6	2282	2182 ✓	98.3
4	1	5.5	2232	2116 ✓	95.3

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.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Pylon 659
271
DP 525228
RT 839859
31
32

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET = 2.11
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	15-Jun-22	Max Dry Density	2220
Time Tested	1130	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	5.3	2328	2211 ✓	99.6
2	1	5.2	2257	2145 ✓	96.6
3	1	4.7	2252	2151 ✓	96.9
4	1	5.8	2240	2118 ✓	95.4
5	1	5.7	2265	2143 ✓	96.6
6	1	5.6	2319	2195 ✓	98.9

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


16
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271
DP 525228
RT 839859
Pylon 659
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Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11.
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	16-Jun-22	Max Dry Density	2220
Time Tested	1145	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	3.8	2236	2153 ✓	97.0
2	1	5.5	2297	2177 ✓	98.1
3	1	4.7	2221	2121 ✓	95.6
4	1	4.9	2238	2133 ✓	96.1
5	1	5.5	2290	2170 ✓	97.7
6	1	4.7	2238	2138 ✓	96.3

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


Pylon
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Area

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	16-Jun-22	Max Dry Density	2220
Time Tested	145	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	5.8	2331	2203 ✓	99.3
2	1	4.5	2220	2125 ✓	95.7
3	1	6.1	2318	2185 ✓	98.4
4	1	5.1	2306	2194 ✓	98.8
5	1	5.7	2263	2142 ✓	96.5
6	1	5.9	2237	2113 ✓	95.2

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


16
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DP 525228
RT 839859
Pylon 659
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5
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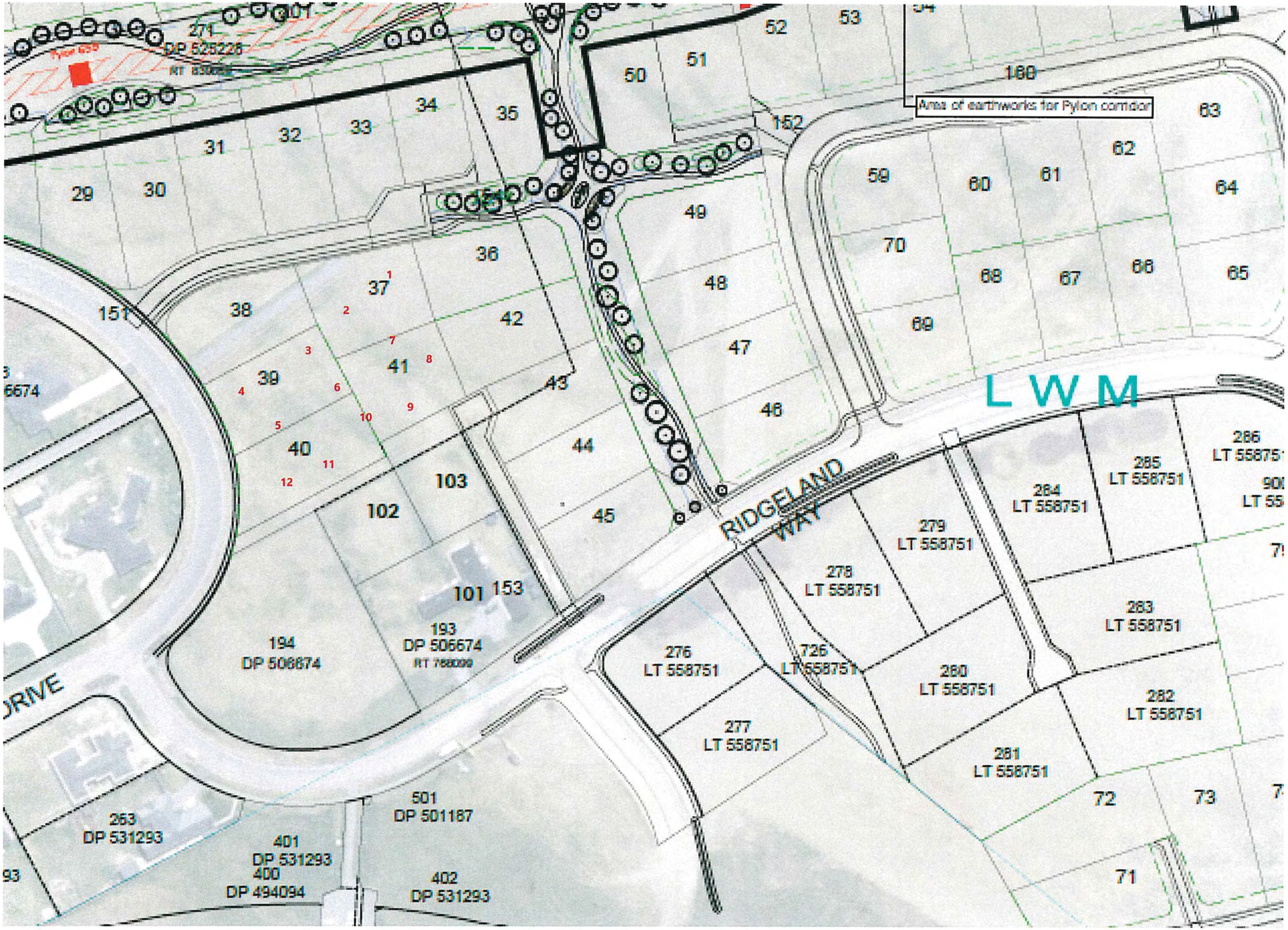
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TRUCK 2.11.
Tested By	Jason Daikee	MDD Method	Back Scatter
Date Tested	2-Aug-22	Max Dry Density	2220
Time Tested	1230	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	6.5	2243	2106 X	94.9
2		5.8	2385	2254 ✓	101.5
3		5.8	2383	2253 ✓	101.5
4		7.2	2370	2211 ✓	99.6
5		6.8	2351	2202 ✓	99.2
6		7.1	2388	2229 ✓	100.4
7		7.4	2395	2229 ✓	100.4
8		8.8	2388	2194 ✓	98.8
9		8.7	2437	2242 ✓	101.0
10		5.9	2268	2142 ✓	96.5
11		5.3	2261	2147 ✓	96.7
12		9.1	2313	2121 ✓	95.5

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


271
DP 525226
401
Area of earthworks for Pylon corridor
LWM
RIDGELAND
WAY
194
DP 506674
193
DP 506674
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LT 558751
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LT 55875
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LT 558751
276
LT 558751
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LT 558751
260
LT 558751
282
LT 558751
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LT 558751
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LT 558751
72
73
71
263
DP 531293
401
DP 531293
400
DP 494094
501
DP 501187
402
DP 531293

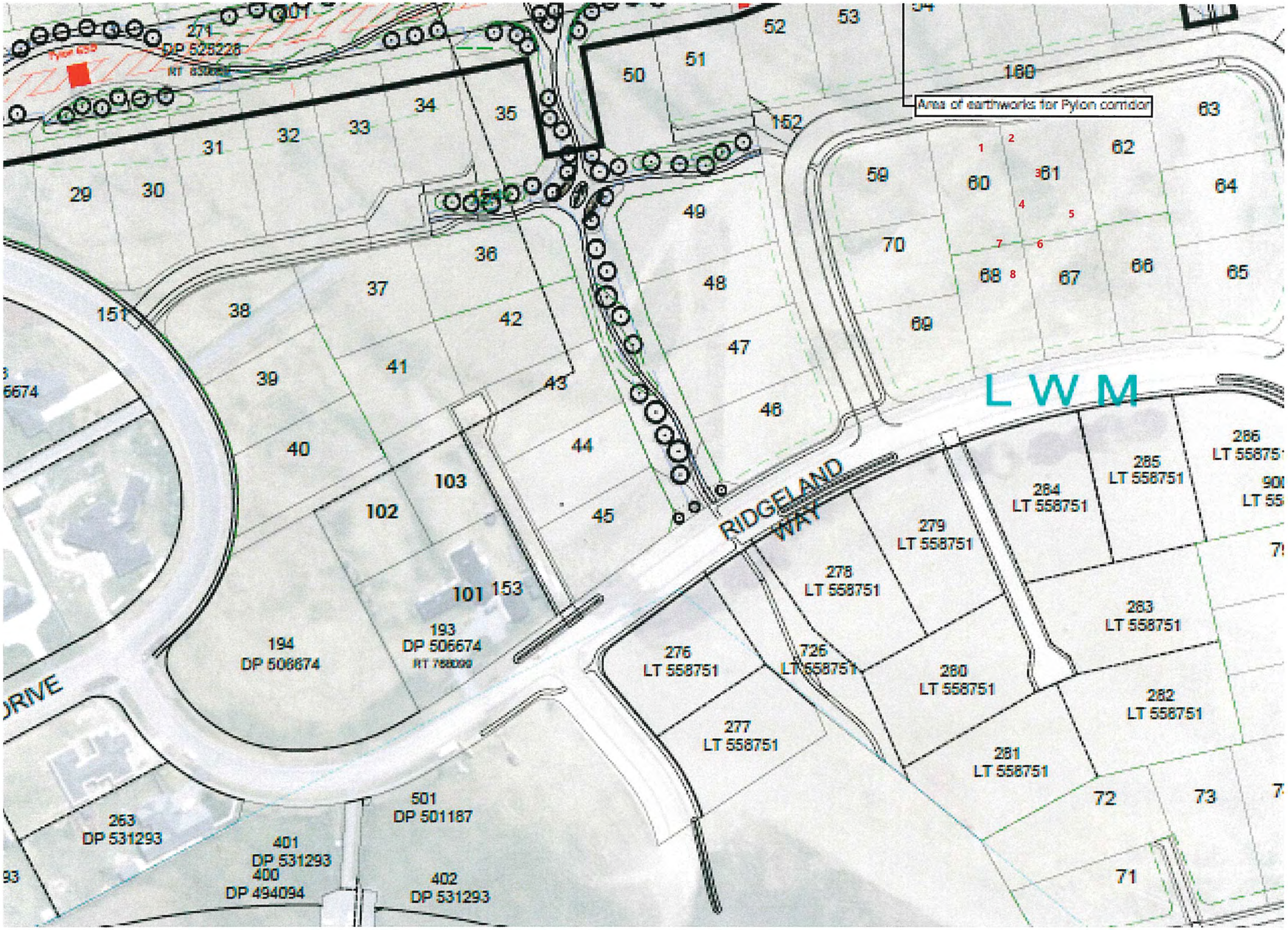
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11.
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	3-Aug-22	Max Dry Density	2220
Time Tested	11	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	3	8.3	2460	2272 ✓	102.3
2	3	7.7	2287	2125 ✓	95.7
3	3	4.9	2239	2134 ✓	96.1
4	3	4.3	2250	2158 ✓	97.2
5	3	4.3	2212	2121 ✓	95.5
6	3	4.0	2277	2189 ✓	98.6
7	3	4.6	2325	2222 ✓	100.1
8	3	3.3	2241	2170 ✓	97.8

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


271
DP 525226
Area of earthworks for Pylon corridor
160
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151
153
RIDGELAND
WAY
L W M
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DP 506674
194
DP 506674
263
DP 531293
401
DP 531293
400
DP 494094
501
DP 501187
402
DP 531293
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LT 558751
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LT 558751

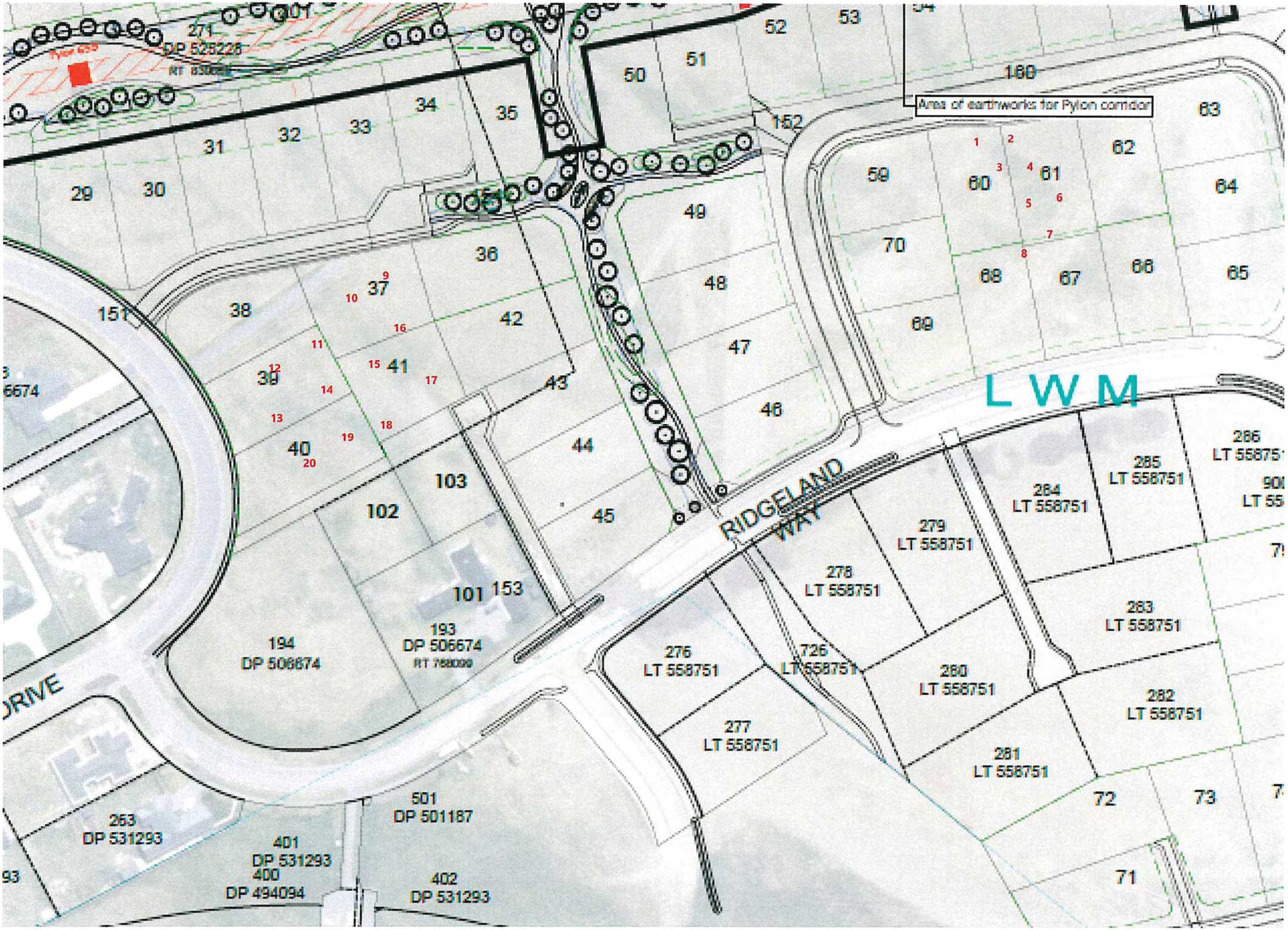
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET 2.11
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	4-Aug-22	Max Dry Density	2220
Time Tested	430	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	4	7.2	2311	2157 ✓	97.1
2	4	5.4	2319	2200 ✓	99.1
3	4	5.3	2349	2232 ✓	100.5
4	4	4.5	2285	2186 ✓	98.5
5	4	4.8	2367	2259 ✓	101.8
6	4	6.7	2310	2165 ✓	97.5
7	4	8.1	2311	2138 ✓	96.3
8	4	4.1	2350	2258 ✓	101.7
9	2	6.7	2248	2107 ✗	94.9
10	2	7.1	2301	2147 ✓	96.7
11	2	8.4	2332	2151 ✓	96.9
12	2	4.6	2398	2294 ✓	103.3
13	2	8.4	2296	2117 ✓	95.4
14	2	7.8	2375	2202 ✓	99.2
15	2	7.4	2455	2285 ✓	102.9
16	2	7.4	2368	2205 ✓	99.3
17	2	6.9	2388	2233 ✓	100.6
18	2	6.0	2452	2313 ✓	104.2
19	2	5.0	2443	2325 ✓	104.8
20	2	6.6	2257	2117 ✓	95.4

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


271
DP 525226
RT 630000
Pylon 629
Area of earthworks for Pylon corridor
L W M
RIDGELAND
WAY
DRIVE
193
DP 506674
RT 788000
194
DP 506674
263
DP 531293
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DP 531293
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DP 501187
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LT 558751

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112 TARGET =1.72
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	17-Aug-22	Max Dry Density	1810
Time Tested	1200	Min Dry Density (kg/m3)	
Material Tested	silty fine sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	7.6	1909	1775 ✓	98.1
2		7.5	2045	1903 ✓	105.1
3		14.5	2044	1785 ✓	98.6
4		7.4	2032	1893 ✓	104.6
5		6.4	1903	1787 ✓	98.7
6		8.9	2014	1849 ✓	102.2
7		9.8	2056	1873 ✓	103.5

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


Pylon 660
Area of earthworks for Pylon corridor
L W M
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LT 558751
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LT 558751
286
LT 558751
900
LT 558751
279
LT 558751
1
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Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112 TARGET 1.72
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	25-Aug-22	Max Dry Density	1810
Time Tested	315	Min Dry Density (kg/m3)	
Material Tested	Silty fine sand	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	2	11.8	2137	1911 ✓	105.6
2	2	13.8	2072	1821 ✓	100.6
3	2	13.7	2128	1872 ✓	103.4
4	2	12.3	1964	1749 ✓	96.6
Sample ID	CAN15S-10113	MDD	2220	Material	Gravelly Sand
5	2	7.7	2283	2121 ✓	95.5
6	2	5.3	2304	2189 ✓	98.6
7	2	4.7	2225	2126 ✓	95.8
8	2	4.7	2246	2145 ✓	96.6
9	2	6.5	2361	2216 ✓	99.8
10	2	6.6	2306	2162 ✓	97.4

TARGET 2.11

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


Pylon 660
Area of earthworks for Pylon corridor
L W M
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279
LT 558751
284
LT 558751
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LT 558751
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LT 558751
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283
LT 558751
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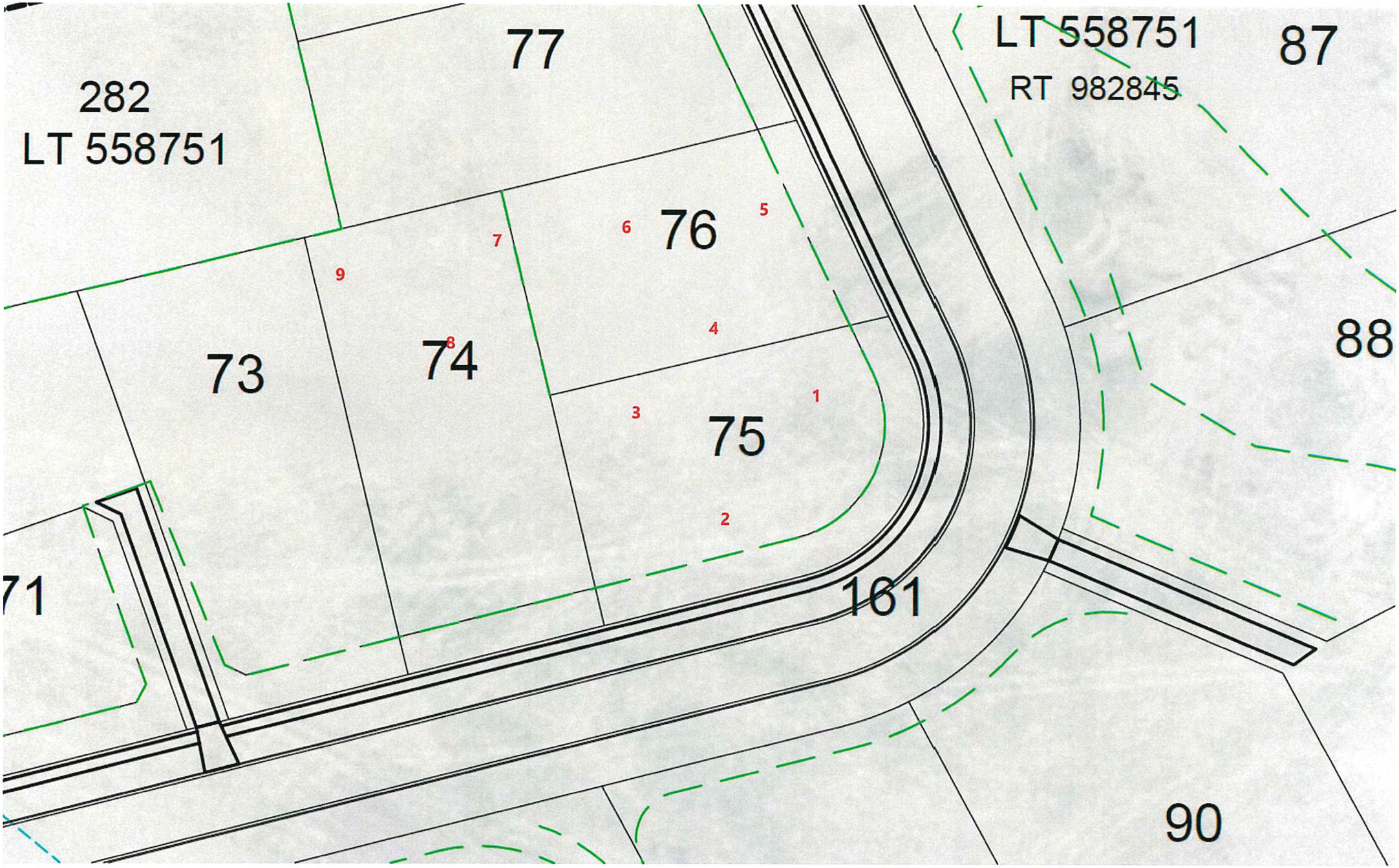
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112 TARGET = 1.172.
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	31-Aug-22	Max Dry Density	1810
Time Tested	1130	Min Dry Density (kg/m3)	
Material Tested	Silty Fine Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	13.1	2040	1803 ✓	99.6
2		14.3	1980	1732 ✓	95.7
3		13.3	2094	1849 ✓	102.2
4		11.3	2062	1853 ✓	102.4
5		14.9	1978	1722 ✓	95.2
6		11.9	1941	1735 ✓	95.9
7		10.9	2067	1863 ✓	103.0
8		13.8	2006	1762 ✓	97.4
9		11.1	1977	1779 ✓	98.3

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


77
LT 558751
RT 982845
87
282
LT 558751
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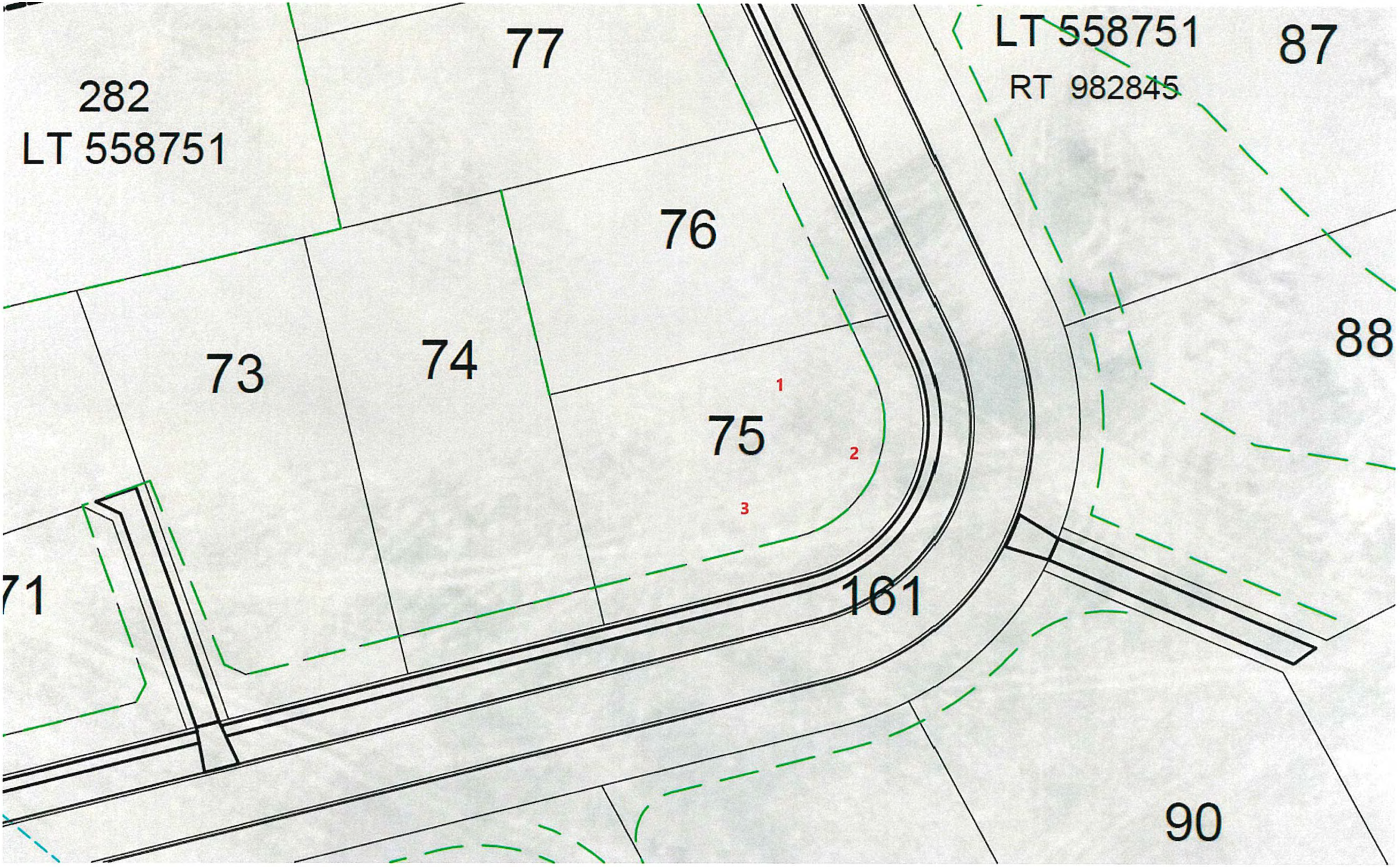
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10113 TARGET ~2.11
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	31-Aug-22	Max Dry Density	2220
Time Tested	100	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	Wilfield On Site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	2	6.8	2290	2145 ✓	96.6
2		7.0	2261	2113 ✓	95.2
3		7.7	2287	2123 ✓	95.6

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


77
LT 558751
RT 982845
87
282
LT 558751
76
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73
74
1
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71
161
90

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10112 TARGET 1.72.
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	2-Sep-22	Max Dry Density	1810
Time Tested	345	Min Dry Density (kg/m3)	
Material Tested	silty fine sand	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	13.5	2063	1818 ✓	100.4
2		13.5	1953	1721 ✓	95.1
3		13.0	1992	1763 ✓	97.4
4		14.0	2043	1792 ✓	99.0
5		14.4	1973	1725 ✓	95.3
6		12.0	2053	1833 ✓	101.3
7		11.5	2040	1830 ✓	101.1

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


LT 558751
726
558751
280
LT 558751
282
LT 558751
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LT 558751
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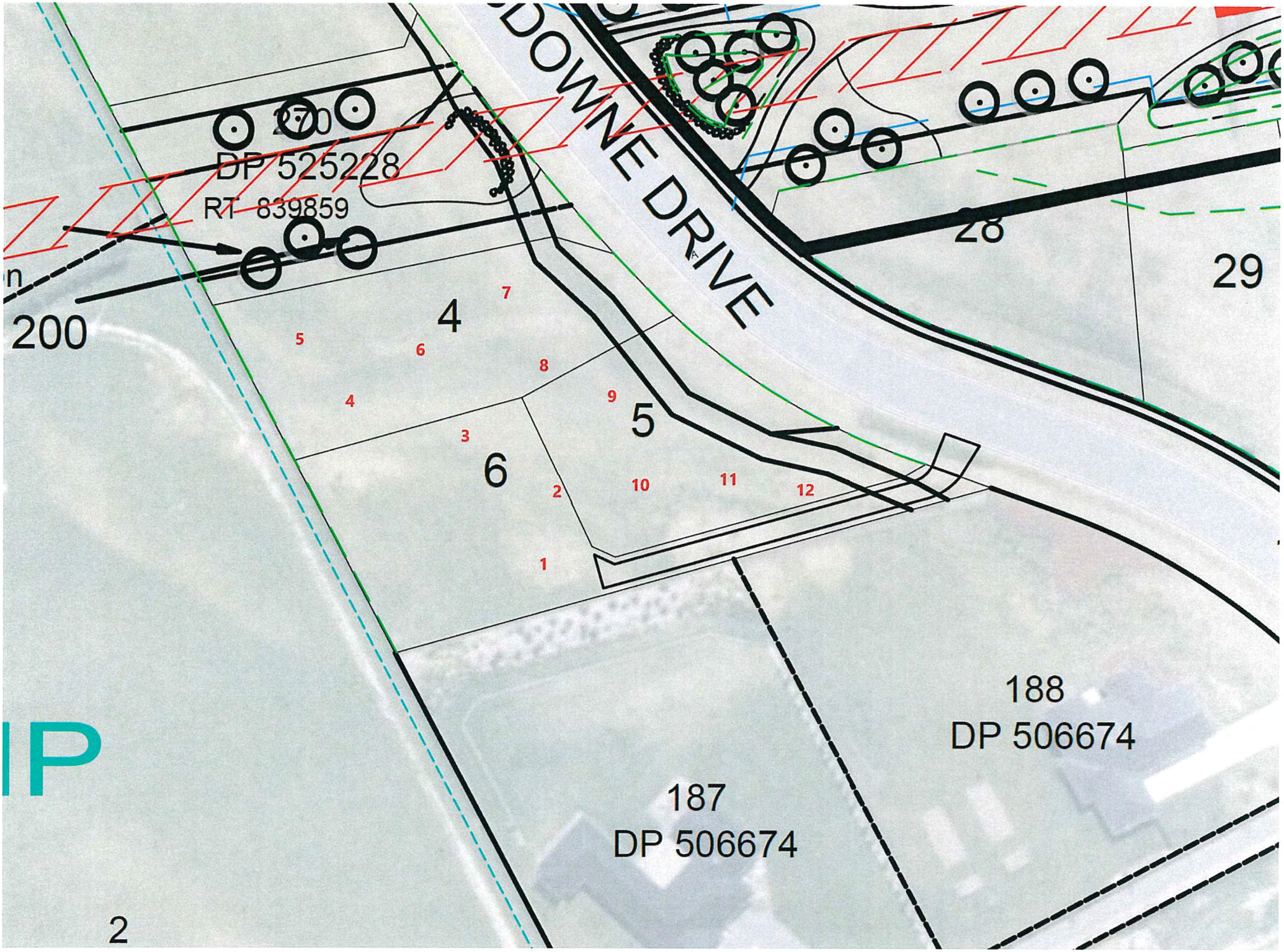
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10112 TARGET 1.72
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	8-Sep-22	Max Dry Density	1810
Time Tested	715	Min Dry Density (kg/m3)	
Material Tested	silty fine sand	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	16.1	2007	1730 ✓	95.6
2		11.9	1930	1724 ✓	95.2
3		12.3	2071	1844 ✓	101.9
4		11.2	2098	1886 ✓	104.2
5		10.0	2072	1884 ✓	104.1
6		7.1	1849	1726 ✓	95.3
7		14.5	2018	1762 ✓	97.4
8		9.8	1947	1773 ✓	98.0
9		12.2	2082	1856 ✓	102.5
10		12.2	1945	1753 ✓	95.8
11		12.3	2044	1820 ✓	100.6
12		12.1	2020	1802 ✓	99.6

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


DOWNE DRIVE
DP 525228
RT 839859
200
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188
DP 506674
187
DP 506674
2

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10113 TARGET = 2.11
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	13-Sep-22	Max Dry Density	2220
Time Tested	1000	Min Dry Density (kg/m3)	
Material Tested	Gravelly Sand	Solid Density Type	Assumed
Material Source	On site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	6.2	2421	2279 ✓	102.7
2		6.6	2357	2211 ✓	99.6
3		5.2	2334	2219 ✓	99.9
4		6.6	2427	2277 ✓	102.6
5		5.0	2396	2282 ✓	102.8
6		3.1	2290	2222 ✓	100.1
7		6.5	2348	2205 ✓	99.3
8		6.6	2306	2162 ✓	97.4
9		7.6	2271	2111 ✓	95.1
10		7.4	2284	2126 ✓	95.8
11		7.0	2313	2161 ✓	97.4
12		6.1	2459	2317 ✓	104.4

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


STAGE 14
STAGE 17
STAGE 18
Pylon / Ecology Corridor
20
18
19
80
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81
160
162
63
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286 LT 558751
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284 LT 558751
900 LT 558751
279 LT 558751
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283 LT 558751
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726 LT 558751
280 LT 558751
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282 LT 558751
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277 LT 558751
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301
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500
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370
365
358
371
503
364
357
363
372
366
300
362
373
502
467

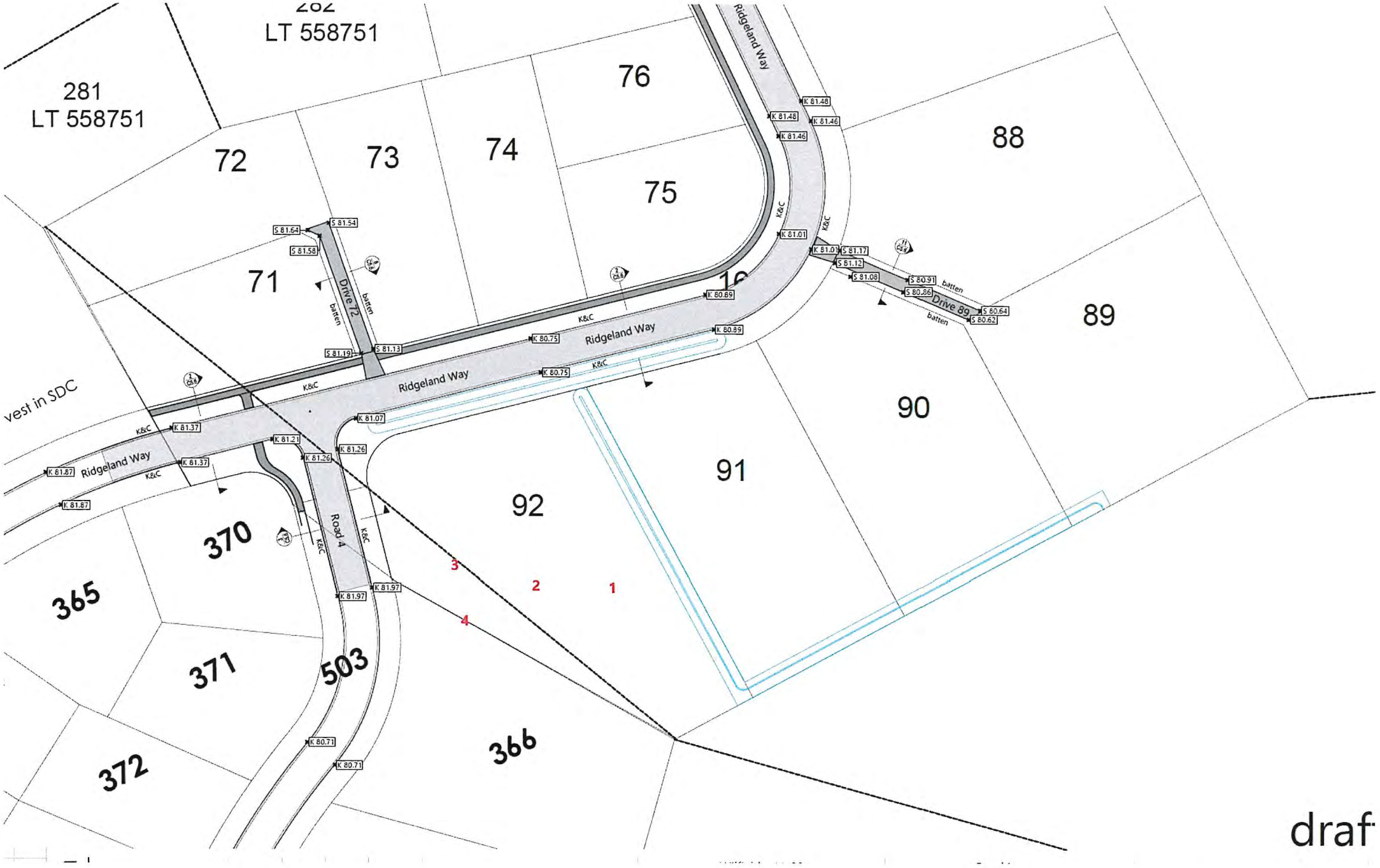
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S- 10112 TARGET = 1.79
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	19-Sep-22	Max Dry Density	1810
Time Tested	745	Min Dry Density (kg/m3)	
Material Tested	Silty Fine Sand	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	2	6.7	1997	1871 ✓	103.4
2		10.1	1912	1736 ✓	96.4
3		8.0	1974	1828 ✓	101.6
4		8.1	1858	1718 ✗	95.4

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


LT 558751
281
LT 558751
72
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Drive 72
batten
batten
Ridgeland Way
K&C
K 81.48
K 81.46
K 81.01
K 80.89
S 81.64
S 81.58
S 81.54
S 81.19
S 81.13
K 80.75
Drive 89
S 81.17
S 81.12
S 81.08
S 80.91
S 80.86
S 80.64
S 80.62
89
vest in SDC
K 81.37
K 81.87
K 81.21
K 81.26
K 81.07
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370
365
371
503
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366
Road 4
K 81.97
K 80.71
3
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1
4
draf

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10112 TARGET = 1.791
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	21-Sep-22	Max Dry Density	1810
Time Tested	1100	Min Dry Density (kg/m3)	
Material Tested	Silty Fine Sand	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	12.3	2088	1859 ✓	102.7
2	1	13.2	2053	1813 ✓	100.2
3	1	12.4	2044	1819 ✓	100.5
4	2	10.1	2047	1859 ✓	102.7
5	2	11.6	2087	1870 ✓	103.3
6	2	11.4	1982	1779 ✓	98.3
7	1	13.9	2036	1788 ✓	98.8
8	1	11.5	1947	1746 ✓	96.5
9	1	10.8	2049	1850 ✓	102.2
10	1	7.7	2006	1862 ✓	102.9
11	1	11.8	2065	1846 ✓	102.0

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


STAGE 14
Pylon / Ecology Corridor
STAGE 17
STAGE 18
Wilfield - 11-20
Road Plan

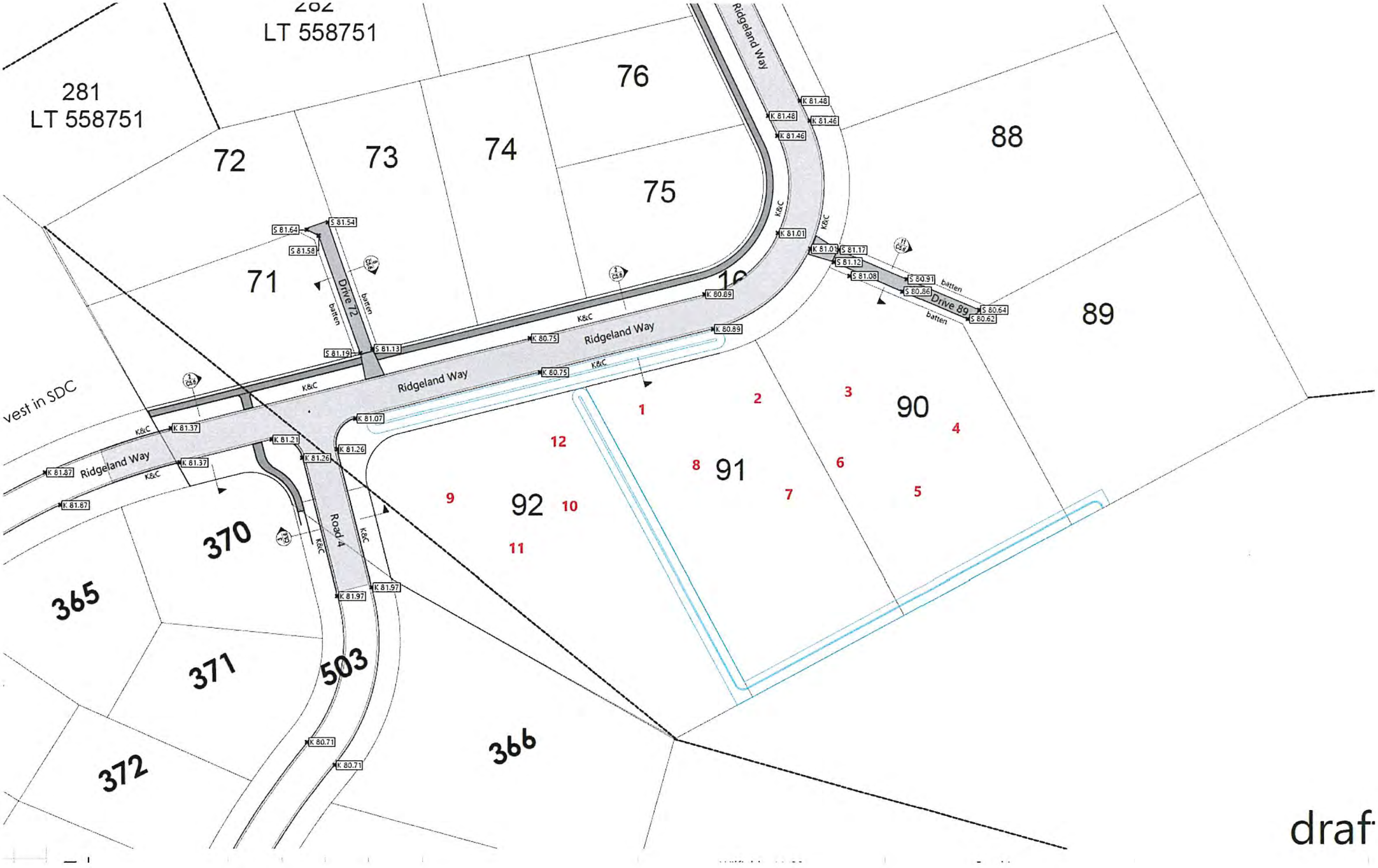
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	Wilfield	Material Sample ID	CAN15S-10112
Tested By	Jason Daikee	MDD Method	Back Scatter
Date Tested	22-Sep-22	Max Dry Density	1810
Time Tested	1000	Min Dry Density (kg/m3)	
Material Tested	Silty Fine Sand	Solid Density Type	Assumed
Material Source	On Site		TARGET = 1.72

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	1	9.0	1899	1742 ✓	96.2
2		13.9	1997	1753 ✓	96.8
3		15.6	1995	1726 ✓	95.3
4		17.8	2091	1775 ✓	98.1
5		10.5	1966	1779 ✓	98.3
6		12.8	2008	1781 ✓	98.4
7		9.6	1925	1757 ✓	97.1
8		7.4	2017	1879 ✓	103.8
	Sample ID	CAN15S-10113	MDD	2220	Gravelly Sand
9	1	7.2	2328	2171 ✓	97.8
10		9.5	2335	2132 ✓	96.0
11		6.5	2281	2143 ✓	96.5
12		5.6	2241	2122 ✓	95.6
				TARGET 2.11	

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


282
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K&C
Ridgeland Way
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Road 4

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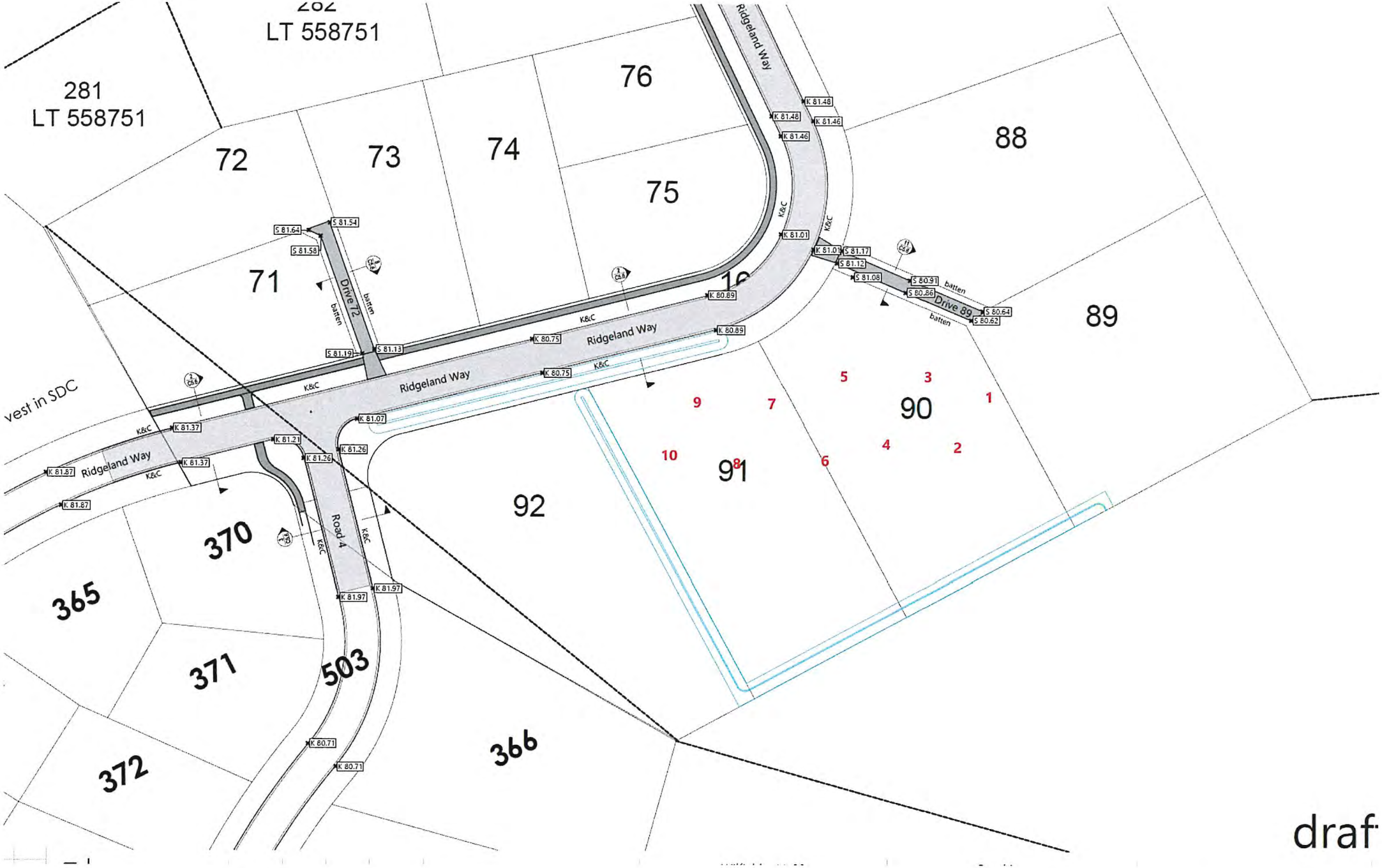
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10112
Tested By	Jason Daikee	MDD Method	back scatter
Date Tested	23-Sep-22	Max Dry Density	1810
Time Tested	730	Min Dry Density (kg/m3)	
Material Tested	Silty Fine Sands	Solid Density Type	Assumed
Material Source	on site		TARGET = 1.72.

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1	2	8.2	2069	1912 ✓	105.6
2		8.3	1880	1737 ✓	95.9
3		9.7	1912	1743 ✓	96.3
4		12.0	1959	1749 ✓	96.6
5		8.1	1920	1776 ✓	98.1
6		5.8	1970	1863 ✓	102.9
7		8.5	1936	1784 ✓	98.6
8		6.4	1840	1729 ✓	95.5
9		9.3	1934	1770 ✓	97.8
10		10.1	1937	1760 ✓	97.2

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


282
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Drive 72
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Ridgeland Way
K&C
K 81.48
K 81.46
K 81.01
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S 81.17
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S 80.86
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S 81.19
S 81.13
K 80.89
K 80.75
Ridgeland Way
K 81.07
K 81.21
K 81.26
K 81.37
K 81.87
Ridgeland Way
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Road 4
K 81.97
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K 80.71
draf

Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10113 TARGET = 2.11
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	28-Sep-22	Max Dry Density	2220
Time Tested	1100	Min Dry Density (kg/m3)	
Material Tested	Gravelly sands	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
1		3.5	2259	2182 ✓	98.3
2		9.6	2360	2154 ✓	97.0
3		4.1	2214	2127 ✓	95.8
4		4.2	2234	2143 ✓	96.5
5		3.9	2296	2211 ✓	99.6
6		3.9	2226	2143 ✓	96.5
7		6.9	2289	2142 ✓	96.5

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


STAGE 17
STAGE 18
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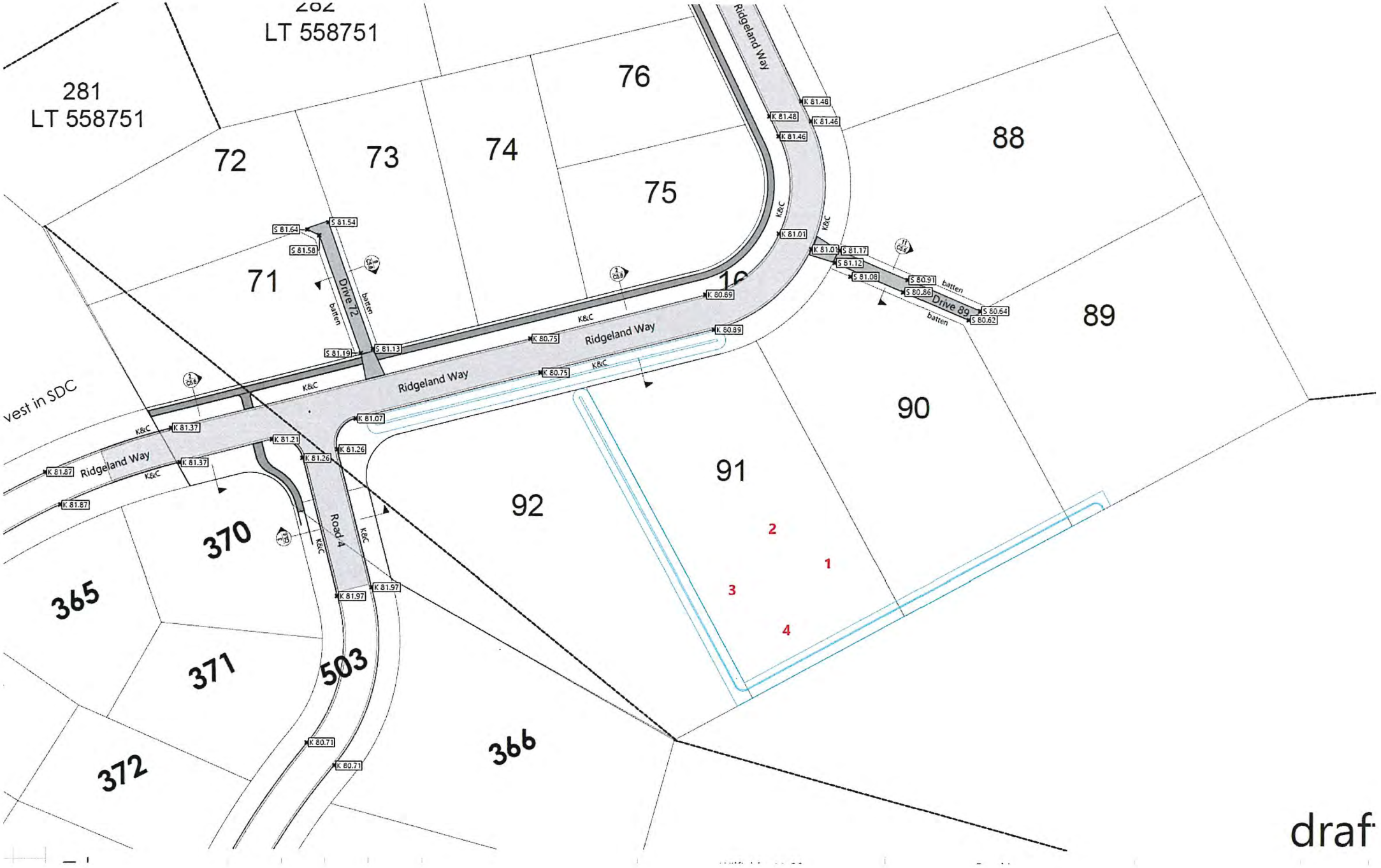
Nuclear Density Report

MAUGERS CONTRACTING

Site Tested	wilfield	Material Sample ID	CAN15S-10112 TARGET 1.72
Tested By	Jason Daikee	MDD Method	backscatter
Date Tested	17-Oct-22	Max Dry Density	1810
Time Tested	1045	Min Dry Density (kg/m3)	
Material Tested	Silty Fine Sands	Solid Density Type	Assumed
Material Source	on site		

Site No	Layer	Moisture (%)	Wet Density (kg/m3)	Dry Density (kg/m3)	Relative Compaction (%)
	1	7.8	1875	1739 ✓	96.1
		7.2	1891	1763 ✓	97.5
		7.7	1923	1786 ✓	98.7
		7.8	1919	1781 ✓	98.4

NB: Please attach a copy of the SITE PLAN indicating the site Nos location.


282
LT 558751
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LT 558751
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Ridgeland Way
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Drive 72
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Ridgeland Way
K&C
Drive 89
batten
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Road 4
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vest in SDC
draf

APPENDIX 4

Fill Certification

DATE: 9 May 2023

CIVIL ENGINEERS

SITE SOLUTIONS

STATEMENT OF SUITABILITY OF EARTHFILL
FOR RESIDENTIAL DEVELOPMENT

To: **Subdivisions Engineer** (name and address of Local Authority)
Selwyn District Council
PO Box 90
ROLLESTON 7643

STATEMENT OF SUITABILITY OF EARTH FILL FOR RESIDENTIAL DEVELOPMENT

Subdivision	**Stages 11 - 20 – Wilfield**
Owner/Developer	**GW Wilfield Ltd**
Location	**Ridgeland Way, West Melton**

The earth fill shown on the attached plan titled:

GW Wilfield Ltd, Wilfield Stages 11 - 20; Earthworks Plan
Number: 2803-C1.2-C1.10 R3

has been placed in compliance with NZS4431.

While work was in progress I retained as my inspecting engineer (or staff under his control) the engineer named below who is experienced in earthwork construction.

John Bannock, CPEng, MIPENZ
Address **Site Solutions (2018) Limited, Unit 5, 12 Tussock Lane, Ferrymead, Christchurch**

During the work, the inspecting engineer or staff under his control made periodic visits of inspection to the site as detailed in his report No 2803 (dated 9 May 2023) which is attached. Details of the soil testing carried out to check the quality of the fill by the inspecting engineer and his testing agency are also included in this report.

The attached plan titled **GW Wilfield Ltd, Wilfield Stage 10; Earthworks Plan** [**2774-C1.0-C1.1 R2**] dated August 2020 has been placed in compliance with the terms of NZS 4431 shows Lots No. 4 – 6, 9 – 16, 18 – 24, 25, 26, 30 – 33, 37 – 41, 50, 51, 60 – 62, 67, 68, 71 – 76, 80 – 84 & 86 – 92 to be affected by filling and the extent of the fill (both engineered and non-engineered).

In the opinion of the inspecting engineer the following special limitations should be observed:

- **Foundation design in all filled lots to take into account the location of the cut/fill interface (to be confirmed on site) and design appropriately.**
- **Other considerations and recommendations as stated in earthwork report are followed**

This certification, that the earth fills have been placed in compliance with the terms of NZS 4431, does not remove the necessity for the normal inspection and design of foundations as would be made in natural ground.

.....
Professional Engineer
9 May 2023

on behalf of: GW WilfieldLtd
(Owner/ Developer)

CIVIL ENGINEERS

SITE SOLUTIONS

STATEMENT OF SUITABILITY OF EARTHFILL FOR RESIDENTIAL DEVELOPMENT

To: **Subdivisions Engineer**
Selwyn District Council
PO Box 90
ROLLESTON 7643

(name and address of Local Authority)

STATEMENT OF SUITABILITY OF EARTH FILL FOR RESIDENTIAL DEVELOPMENT

Subdivision	**Stages 11 - 20 – Wilfield**
Owner/Developer	**GW Wilfield Ltd**
Location	**Ridgeland Way, West Melton**

The earth fill shown on the attached plan titled:

GW Wilfield Ltd, Wilfield Stages 11 - 20; Earthworks Plan
Number: 2803-C1.2-C1.10 R3

has been placed in compliance with NZS4431.

While work was in progress I retained as my inspecting engineer (or staff under his control) the engineer named below who is experienced in earthwork construction.

John Bannock, CPEng, MIPENZ
Address **Site Solutions (2018) Limited, Unit 5, 12 Tussock Lane, Ferrymead, Christchurch**

During the work, the inspecting engineer or staff under his control made periodic visits of inspection to the site as detailed in his report No 2803 (dated 9 May 2023) which is attached. Details of the soil testing carried out to check the quality of the fill by the inspecting engineer and his testing agency are also included in this report.

The attached plan titled **GW Wilfield Ltd, Wilfield Stage 11-20; Earthworks Plan** [**2803-C1.0-C1.10 R3**] dated May 2023 has been placed in compliance with the terms of NZS 4431 shows Lots No. 4 – 6, 9 – 16, 18 – 24, 25, 26, 30 – 33, 37, 39 – 41, 50, 51, 58, 60 – 61, 67, 68, 72 – 76, 80 – 83, 86-88 & 90 – 92 to be affected by filling and the extent of the fill (both engineered and non-engineered).

In the opinion of the inspecting engineer the following special limitations should be observed:

- **Foundation design in all filled lots to take into account the location of the cut/fill interface (to be confirmed on site) and design appropriately.**
- **Other considerations and recommendations as stated in earthwork report are followed**

This certification, that the earth fills have been placed in compliance with the terms of NZS 4431, does not remove the necessity for the normal inspection and design of foundations as would be made in natural ground.

.....
Professional Engineer
3 July 2023

on behalf of: GW WilfieldLtd
(Owner/ Developer)

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		0.100	0.200
2		0.200	0.300
3		0.300	0.400
4		0.400	0.500
5		0.500	0.600
6		0.600	0.700
7		0.700	0.800
8		0.800	0.900
9		0.900	1.000
10		1.000	1.100
11		1.100	1.200
12		1.200	1.300
13		1.300	1.400
14		1.400	1.500

Notes:
1. Contours relate to fill levels.
2. Fill in residential lots is engineered fill

Silver Peaks Drive
Kingsdowne Drive
Potential Road Connection
Polwarth Ln
Drive 06

Issue	Description	by	App	Date
AB	as built fill contours	kb		08.06.2023
3	final	kb		04.05.2023
2	revised for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

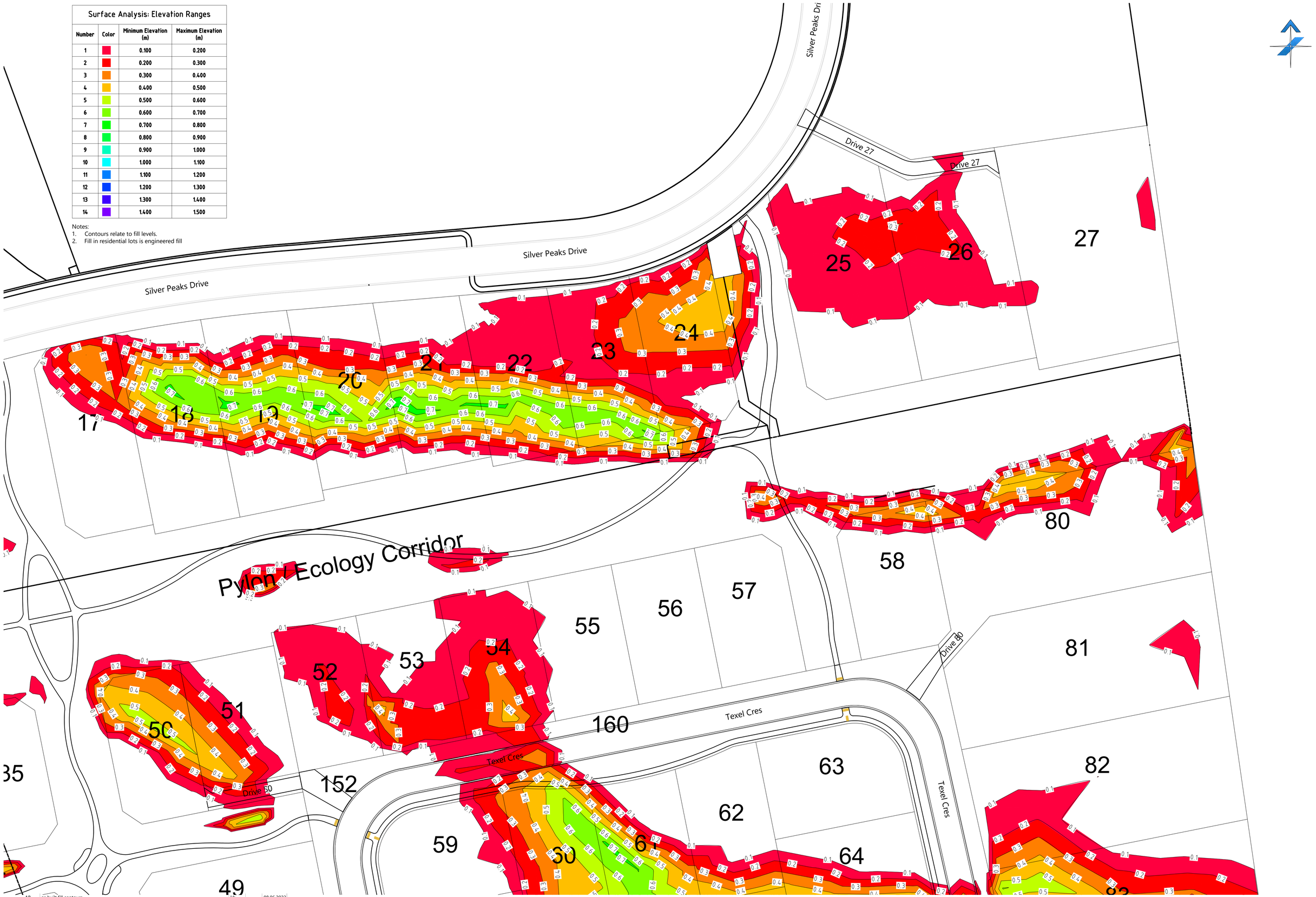
CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales	Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
kb	kb		1:500 @ A1 1:1000 @ A3	Yoursection Wilfield Ltd	Wilfield, West Melton	Pylon Corridor as built fill contours Sheet 1 of 2	2803	C1.3	AB

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		0.100	0.200
2		0.200	0.300
3		0.300	0.400
4		0.400	0.500
5		0.500	0.600
6		0.600	0.700
7		0.700	0.800
8		0.800	0.900
9		0.900	1.000
10		1.000	1.100
11		1.100	1.200
12		1.200	1.300
13		1.300	1.400
14		1.400	1.500

Notes:
1. Contours relate to fill levels.
2. Fill in residential lots is engineered fill



Issue	Description	by	App	Date
AB	as built fill contours	kb		08.06.2023
3	final	kb		04.05.2023
2	revised for approval	kb		23.05.2022
1	for pricing	kb		03.05.2022

CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales	Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
kb	kb		1:500 @ A1 1:100 @ A3	Yoursection Wilfield Ltd	Wilfield, West Melton	Pylon Corridor as built fill contours Sheet 2 of 2	2803	C1.4	AB

Pylon / Ecology Co

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		0.100	0.200
2		0.200	0.300
3		0.300	0.400
4		0.400	0.500
5		0.500	0.600
6		0.600	0.700
7		0.700	0.800
8		0.800	0.900
9		0.900	1.000
10		1.000	1.100
11		1.100	1.200
12		1.200	1.300
13		1.300	1.400
14		1.400	1.500

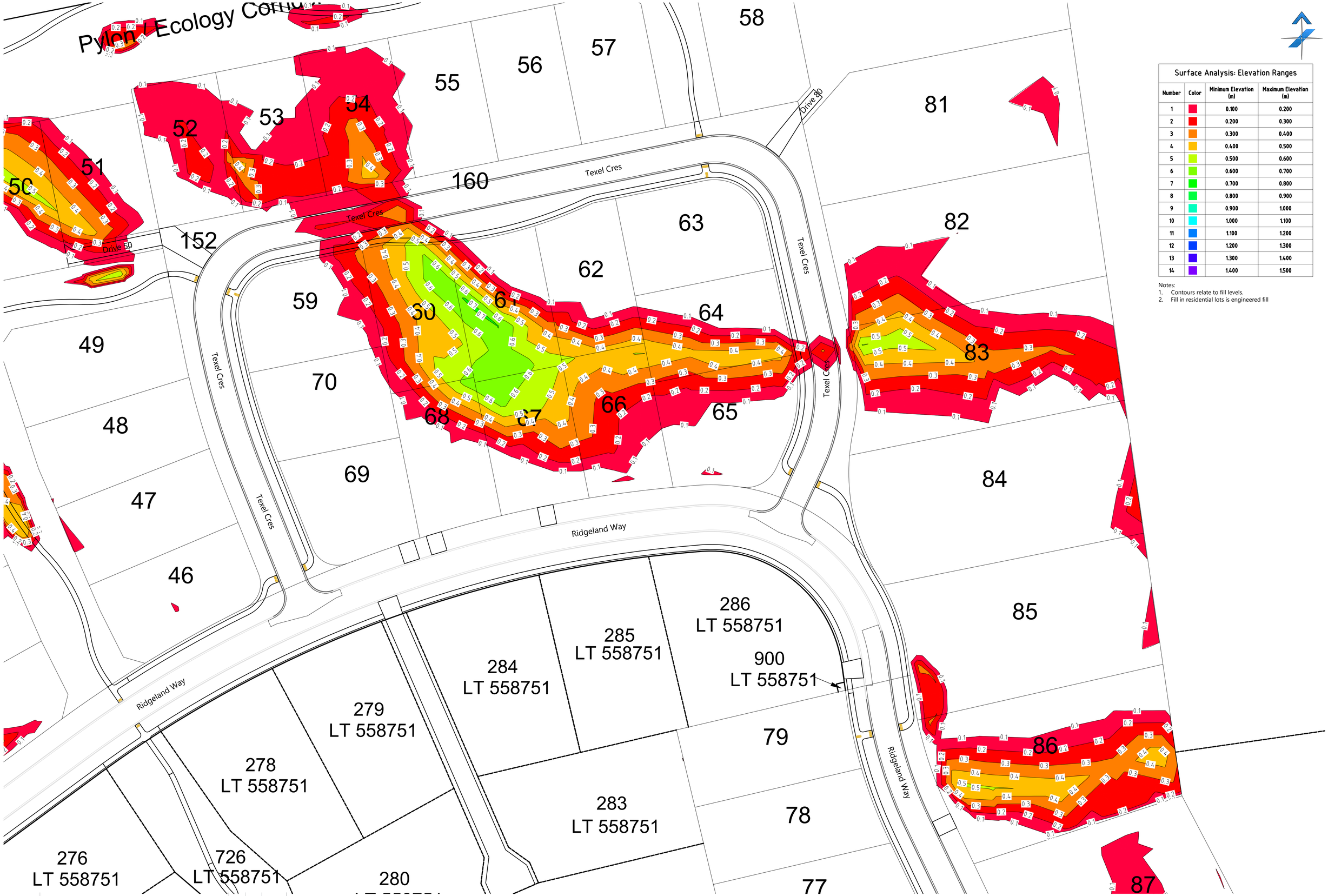
Notes:
1. Contours relate to fill levels.
2. Fill in residential lots is engineered fill

Issue	Description	by	App	Date
AB	as built fill contours	kb		08.06.2023
3	final			04.05.2023
2	for approval	kb		23.05.2022

CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales
kb	kb		1:500 @ A1 1:1000 @ A3

Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site as built fill contours Sheet 1 of 3	2803	C1.8	AB



Surface Analysis: Elevation Ranges

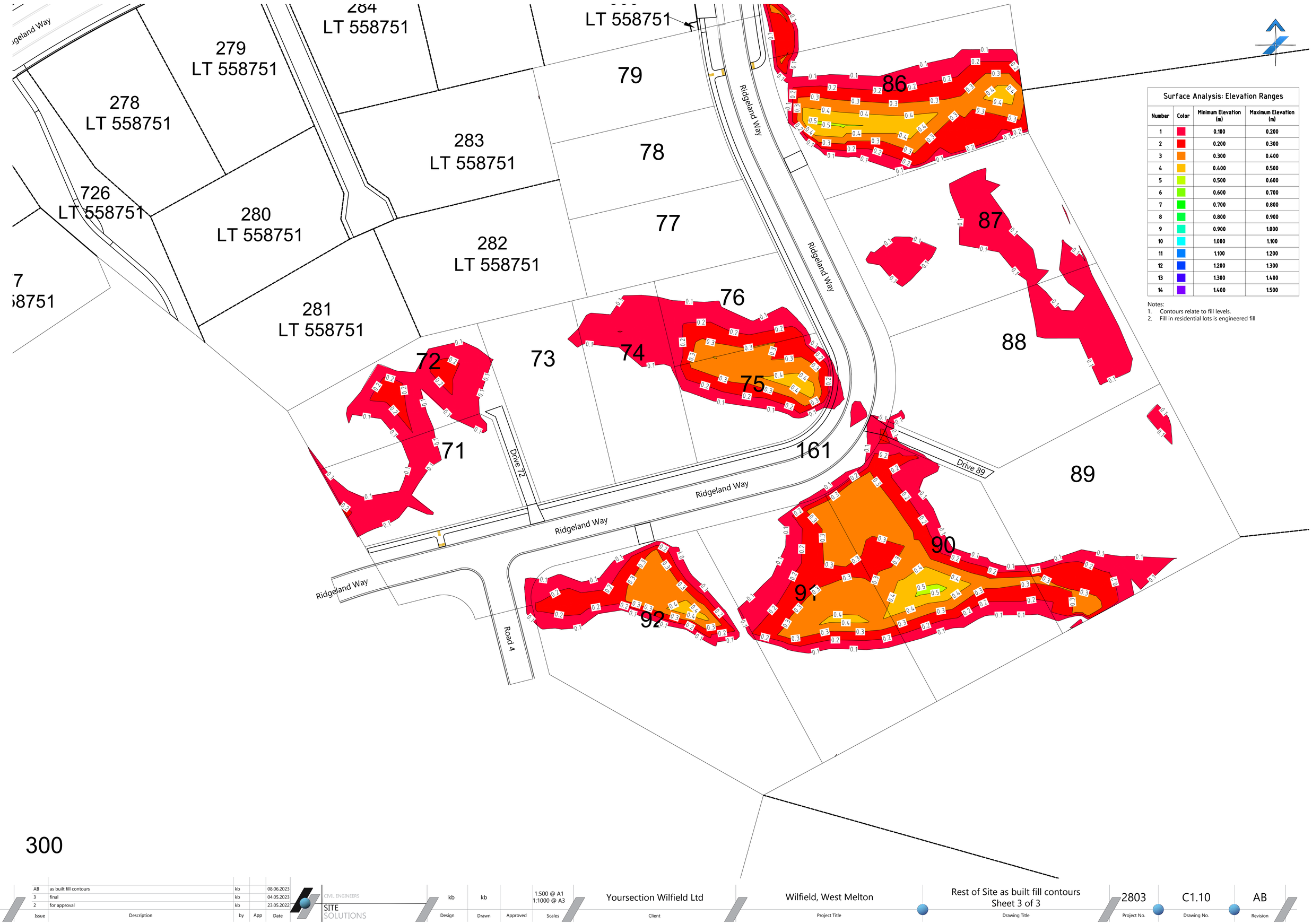
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		0.100	0.200
2		0.200	0.300
3		0.300	0.400
4		0.400	0.500
5		0.500	0.600
6		0.600	0.700
7		0.700	0.800
8		0.800	0.900
9		0.900	1.000
10		1.000	1.100
11		1.100	1.200
12		1.200	1.300
13		1.300	1.400
14		1.400	1.500

Notes:
1. Contours relate to fill levels.
2. Fill in residential lots is engineered fill

Issue	Description	by	App	Date
AB	as built fill contours	kb		08.06.2023
3	final	kb		04.05.2023
2	for approval	kb		23.05.2022

CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales	Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
kb	kb		1:500 @ A1 1:1000 @ A3	Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site as built fill contours Sheet 2 of 3	2803	C1.9	AB



Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		0.100	0.200
2		0.200	0.300
3		0.300	0.400
4		0.400	0.500
5		0.500	0.600
6		0.600	0.700
7		0.700	0.800
8		0.800	0.900
9		0.900	1.000
10		1.000	1.100
11		1.100	1.200
12		1.200	1.300
13		1.300	1.400
14		1.400	1.500

Notes:
1. Contours relate to fill levels.
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Issue	Description	by	App	Date
AB	as built fill contours	kb		08.06.2023
3	final	kb		04.05.2023
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CIVIL ENGINEERS
SITE SOLUTIONS

Design	Drawn	Approved	Scales	Client	Project Title	Drawing Title	Project No.	Drawing No.	Revision
kb	kb		1:500 @ A1 1:1000 @ A3	Yoursection Wilfield Ltd	Wilfield, West Melton	Rest of Site as built fill contours Sheet 3 of 3	2803	C1.10	AB

IMPORTANT INFORMATION TO ALL NEW HOME/LAND OWNERS

STREET TREES AND IRRIGATION

The Selwyn District Council would like to make all new home/land owners and their contractors aware of the process of gaining approval to relocate/remove street trees, or alter Council irrigations systems.

In some areas of the Selwyn District, various types of linked dripper irrigation systems are installed to water establishing street trees. In some cases, the system has not been installed very deep in the ground. It is particularly important that any contractors who are going to be excavating within road berms are aware of this and excavate carefully to locate irrigation lines or drippers, or seek assistance from Council as to their presence/location before excavating. Similarly, care should be taken when excavating near street trees to avoid damage to tree roots.

The developer has put a lot of effort into enhancing the streetscape and providing an attractive environment within your subdivision. It is accepted that in some cases when a new home is built, a planted street tree and associated irrigation system may need to be shifted or removed to facilitate vehicle access to the site. Upon formal request, Council will consider giving approval for such changes to the initial planting plan or irrigation system on a case by case basis, after exploring all alternative options available.

Where is has been qualified that trees can be removed or relocated and/or an irrigation system needs to be shifted, then these works are to be organised by Council and/or the Developer and carried out by one of their approved contractors. All costs associated with these works are to be borne by the requesting land owner.

Please be aware, that in some situations, street trees can be removed and landscaping in a subdivision might still be under the management of the developer. In such cases, Council should still be contacted in the first instance, who will forward the request onto the developer for a response.

The following procedure is to be followed by a land owner who is wanting to request removal or relocation of a street tree and/or associated irrigation systems, in order to facilitate vehicle accessto their property.

Requests for the removal or shifting of a tree must be made in writing to the Council Reserves Department stating:

- Street address of the property and the lot number;
- Name of the contact person;
- Contact details;
- Reason for the tree to be removed

On receipt of this formal request, Council staff will assess the following:

- Quality of the tree and whether or not the tree can successfully be moved;
- Whether an irrigation system is present and also needs shifting or decommissioning;
- Any conditions of sale by the developer;
- Any Resource Consent conditions;
- Streetscape theme and amenity value contribution of the tree.

If a tree is not able to be shifted and has to be removed, the landowner may also be required to pay for the cost to plant another tree of the same species and of similar size within the road berm as a replacement.

If an agent of the land owner makes the request to Council, then the agent is deemed to the person responsible for the payment of all expenses relating to this procedure.

CARE FOR ESTABLISHING STREET TREES

Although the Developer and/or Council endeavours to water in newly planted street trees during their initial establishment years, the public is encouraged to assist with watering trees on your road berm. Establishing a tree in an urban environment faces many challenges so give your tree the best chance of reaching its full potential and value.

Council implements an annual programme of street tree inspections and maintenance throughout the district. Street tree maintenance is the responsibility of the Council, who employs a contractor to provide arboricultural services. It is critical that any other tree maintenance required is undertaken by our appointed contractor to ensure consistency in both quality and tree form.

Please contact us by lodging a Service request if you tree requires any tree maintenance.

Thank you for your assistance and co-operation

Reserves Maintenance Staff
Selwyn District Council

Be water wise

Reducing water use is important as Selwyn households tend to be high users of water. Residential properties connected to a Council supply used an average of 1,470 litres of water per day in 2012/13 and 1,386 litres per day in 2011/12. As a comparison, typical household use in New Zealand is around 675 litres per day.

Part of the reason why Selwyn households have higher water consumption is because properties tend to have large sections and over dry summers water use can increase significantly. Additional bores can be added to increase the capacity of Council water supplies, but this is costly and unsustainable.

Over summer, demand for water is much higher than in winter, as people use more water to maintain their lawns. When demand for water is very high during dry summers, water restrictions can be introduced if necessary.

Demand is especially high at the peak times of 6–9am in the morning and 4–9pm in the evening, when people use water for cooking, washing and dishwashers, and often water their lawns at the same time.

We are asking everyone to be careful about how they use water, especially in summer when there is more demand for water. Some areas like Rolleston and Darfield also pay for their water based on metered use so reducing your water consumption will mean you spend less on water bills.

How much water do you use?

This chart shows the amount of water typically used for different household activities. Once you know where your water is going, you can think about how you could reduce your water use. If your water is metered and billed this will help reduce how much you spend on water.

Kitchen—Activity	Water used	Buckets
Dishwashing by Hand	12 to 15 litres per wash	1 – 1½
Dishwasher	20 to 60 litres per wash	2 – 6
Drinking, Cooking, Cleaning	8 litres per person	¾ – 1
Bathroom—Activity	Water used	Buckets
Toilet	4.5 to 11 litres per flush	½–1
Bath	50 to 120 litres (half full)	5 – 12
Shower (8 minutes)	70 to 160 litres per 8 minutes	7 – 16
Handbasin	5 litres	½
Tap Running (Cleaning teeth, washing hands)	5 litres	½
Leaking Tap	200 litres	20
Laundry—Activity	Water used	Buckets
Washing Machine (Front loading)	23 litres per kg of dry clothing	4 – 5
Washing Machine (Top Loading)	31 litres per kg of dry clothing	5 – 6
Outside—Activity	Water used	Buckets
Hand Watering by Hose	600 to 900 litres per hour	60 – 90
Garden Sprinkler	Up to 1500 litres per hour	150
Car Wash with Hose	100 to 300 litres	10 – 30
Filling Swimming Pool	20,000 to 50,000 litres	2,000–5,000
Leaking Pipe (1.5mm hole)	300 litres per day	30

Tips for managing your water use

You can help manage your water consumption wisely by following these tips:

Your garden and lawn

- Water your garden and lawn every few days rather than every day. Wetting the soil surface every day encourages roots to develop at the surface, making them more vulnerable to hot dry spells.
- Water your garden and lawn outside of peak water usage hours (avoid 6am–9am, and 4pm–9pm). Watering in the early morning (before 6am) or late evening (after 9pm) will minimise evaporation loss. Also avoid watering in a Nor' West wind as the water will quickly evaporate.
- Using a watering can or hand watering plants by hose often uses far less water than a sprinkler.
- Use a timer to avoid overwatering as it makes plants more susceptible to fungus diseases and will leach out soil nutrients.
- Use mulch or cover the soil with a layer of organic matter to keep the soil moist. Mulches help protect plant roots from drying effects of sun and wind and also reduce weed growth.
- Check if the soil needs watering by digging down with a trowel and having a look. This is a more accurate way to see if watering is needed than looking at the surface.
- Check you have the right head for your sprinkler. Sprinklers should apply water gently so that it seeps into the soil. Some sprinklers apply water faster than the soil can absorb.
- When planting choose drought resistant plants that don't require a lot of water.

Outdoors

- Wash your car with a bucket of water rather than a hose.
- Use a broom rather than hosing down paths and driveways.
- Inspect hoses and taps both indoors and outdoors to check for leaks which waste water.
- Collect rainwater for use watering gardens and lawns.
- If you have a swimming pool, keep it covered to stop the water evaporating.

Indoors

- Reduce your water consumption at the peak times of 6-9am and 4-9pm. Easy ways to do this include using your washing machine after 9pm at night, and putting your dishwasher on just before you go to bed.
- Take a short shower instead of a bath.
- Don't switch on the dishwasher or washing machine until you have a full load.
- Use a half flush when using the toilet.

2 Norman Kirk Drive, Rolleston, New Zealand
PO Box 90, Rolleston 7643
Telephone (03) 347-2800
Toll-free Darfield (03) 318-8338
Enquiries: accounts.receivable@selwyn.govt.nz

GW Wilfield Ltd
PO Box 9301
Tower Junction
Christchurch 8149

GST Number: 53-113-451
Invoice Date: 20/05/2024
Account No: 805395
Order No.

Tax Invoice 212044

Qty	Description	Rate	GST	Amount
L240870 20/05/24 : Hamish Wheelans : GW Wilfield Ltd : Chri 2354134595 : Ridgeland Way, West Melton				
	Land Information Memorandum		32.61	250.00

Subtotal	217.39
GST	32.61
Total Amount	**$250.00**

(Please detach and return this portion with your payment)

REMITTANCE ADVICE

GW Wilfield Ltd
PO Box 9301
Tower Junction
Christchurch 8149

Account No.: 805395
Invoice No.: 212044
Total Due: **$250.00**

Amount Enclosed:

Payment can be made by internet banking to the following account: 03 1587 0050000 00.

Please enter your account number in the particulars field, and your invoice number in the code field.

You are welcome to pay your invoice online by visiting our website https://www.selwyn.govt.nz