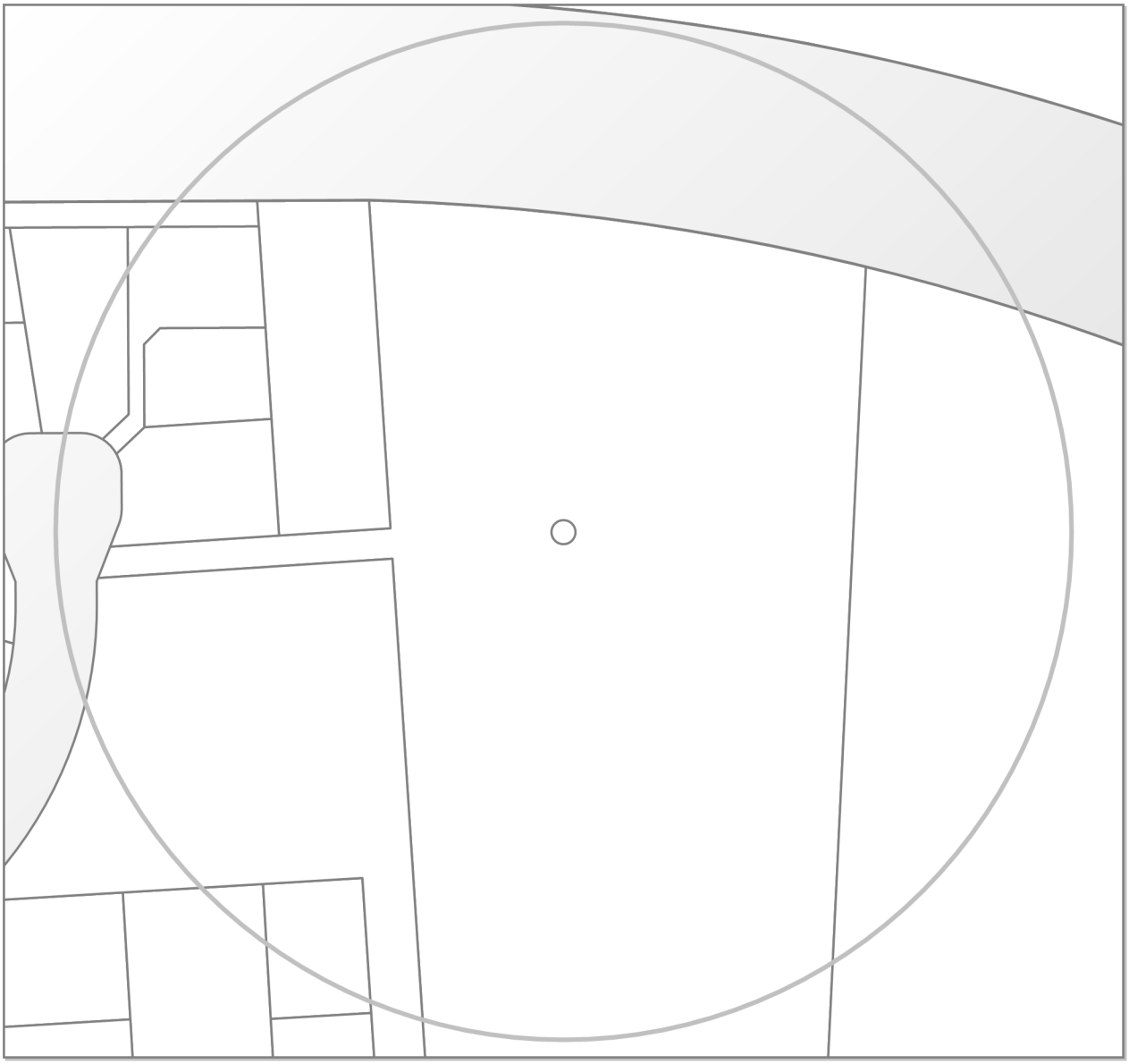
Christchurch City Council

Land Information Memorandum



Property address:

102A Birkdale Drive

LIM number: H09506007

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

Land Information Memorandum

Christchurch City Council

Application details

Date issued	23 February 2026
Date received	19 February 2026

Property details

Property address	102A Birkdale Drive, Westhaven, Christchurch
Valuation roll number	21821 59500
Valuation information	Capital Value: $740,000 Land Value: $740,000 Improvements Value: $0 *Please note: these values are intended for Rating purposes*
Legal description	Lot 100 DP 590624
Existing owner	Suburban Estates Limited PO Box 13349 Christchurch 8141

Council references

Rate account ID	73208655
LIM number	H09506007
Property ID	1200516

Christchurch City Council
53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

Land Information Memorandum

Document information

This Land Information Memorandum (LIM) has been prepared for the purpose of section 44A of the Local Government Official Information and Meetings Act 1987 (LGOIMA). It is a summary of the information that we hold on the property. Each heading or "clause" in this LIM corresponds to a part of section 44A.

Sections 1 to 10 contain all of the information known to the Christchurch City Council that must be included under section 44A(2) LGOIMA. Any other information concerning the land as the Council considers, at its discretion, to be relevant is included at section 11 of this LIM (section 44A(3) LGOIMA). If there are no comments or information provided in these sections this means that the Council does not hold information on the property that corresponds to that part of section 44A.

The information included in this 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. Please note that other agencies may also hold information relevant to the property, or administer legislation relevant to the use of the land, for example, the Regional Council (Ecan), Heritage New Zealand Pouhere Taonga, and Land Information New Zealand.

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.

A LIM is only valid at the date of issue as information is based only upon information the Council held at the time of that LIM request being made. It is essential that the applicant undertakes their own due diligence to verify the suitability of the property for their intended use.

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 therein which may be considered to be incorrect or omitted. Please telephone the Customer Call Centre on (03) 941 8999.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

A search of records held by the Council has revealed the following information:

1. Special features and characteristics of the land

Section 44(A)(2)(aa) LGOIMA. This is information known to the Council but is not apparent from a district plan under the Resource Management Act 1991. It identifies each (if any) special feature or characteristic of the land concerned, including but not limited to the likely presence of hazardous contaminants.

☎ For enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Natural Hazards

Section 44A(2)(a) LGOIMA. This is information known to the Council about natural hazards that is required by section 44B LGOIMA.

Council's information has primarily been obtained from external specialists with the technical expertise to carry out research, investigation or analysis. Under the Local Government (Natural Hazard Information in Land Information Memoranda) Regulations 2025, the Council isn't required to:

- prepare a risk assessment of the land concerned.
- undertake any further analysis relating to the land.
- conduct additional searches or inquiries about the existence of natural hazard information.

It is the LIM recipient's responsibility to seek qualified advice about any identified natural hazard and/or the suitability of the land for its intended purpose.

This section may also include natural hazard information provided by Environment Canterbury. Christchurch City Council is required to include such information in LIMs where Environment Canterbury considers it meets the criteria under section 44C of LGOIMA.

The following statement has been provided by Environment Canterbury:

> This Land Information Memorandum includes natural hazard information deemed by Environment Canterbury to be the most up to date, useful, and relevant, and is provided in accordance with the Local Government (Natural Hazard Information in Land Information Memoranda) Regulations 2025. All due care has been taken to ensure current information required to be provided under the regulations is presented below.
>
> Environment Canterbury may hold superseded or less reliable natural hazards information relating to the land that has not been included in this Land Information Memorandum. Please contact Environment Canterbury if you would like to enquire about this information.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

(a) Coastal Hazards

- Coastal Hazard Inundation

The Council has a report, Coastal Hazard Assessment for Christchurch and Banks Peninsula (2017), that indicates this property or part of this property may be susceptible to coastal flooding (flooding by the sea). The 2017 report considers four sea level rise scenarios through to the year 2120. A copy of the 2017 report and other coastal hazard information can be found at https://ccc.govt.nz/environment/coast/adapting-to-coastal-hazards/coastalhazards.

The rate of sea level rise in this area may also be impacted by vertical land movement (a faster rate where land is moving downwards, and a slower rate where land is moving upwards). To find out how your area might be affected go to https://ccc.govt.nz/assets/Documents/Environment/Coast/Canterbury-VLM-and-Implications-for-Future-SLR-2025_FINAL.pdf or for more information go to https://ccc.govt.nz/assets/Documents/Environment/Coast/Factsheets/VLM-and-sea-level-rise-factsheet-Sep-2025.pdf

Title of Report: Coastal Hazard Assessment for Christchurch and Banks Peninsula (2017)
Purpose of report: To assess the extent to which coastal hazards will impact the Christchurch District under various future sea level rise projections
Scope of Report: District-wide
Where or how to access the report: https://www.ccc.govt.nz/assets/Documents/Environment/Land/Costal-Hazards/2017-Coastal-Hazards-Report.pdf
Date of report: October 2017
Name of person/entity that commissioned report: Christchurch City Council
The name of person/entity that prepared the report: Tonkin and Taylor Ltd

Title of Report: Co-seismic and post-seismic rates of vertical land movement in the Canterbury Region and implications for future changes in sea level
Purpose of report: To build on the 2023/24 reports, by providing a district-wide analysis, filling key knowledge gaps and utilising a more recent and robust satellite data set.
Scope of Report: The Christchurch District and the coastal zone of the wider Canterbury region.
Where or how to access the report: (link to report or spatial portal)
Date of report: 16th April 2025
Name of person/entity that commissioned report: Christchurch City Council
The name of person/entity that prepared the report: GNS Science

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

(b) Earthquakes

- Liquefaction Assessment

  Christchurch City Council holds indicative information about liquefaction hazards for Christchurch. Information, including an interactive web tool, can be found on the Council's website at ccc.govt.nz/liquefaction
  Depending on the potential liquefaction hazard of an area that a property is in, the Council may require site-specific investigations before granting future subdivision or building consent for a property.

  Title of report: Christchurch liquefaction vulnerability study
  Purpose of report: To provide a district-wide liquefaction vulnerability assessment and to provide expected land performance for a range of potential future earthquake and groundwater scenarios. For use in land use planning, subdivision and building consenting
  Scope of report: Christchurch urban area from the Waimakariri River mouth to Godley Head, and inland to the Selwyn District boundary
  Where or how to access the report: https://ccc.govt.nz/assets/Documents/Environment/Land/CCC-Liquefaction-ReportBody.pdf
  Date of report: July 2020
  Name of person/entity that commissioned report: Christchurch City Council
  Name of person/entity that prepared the report: Tonkin & Taylor Ltd

  Title of Report: Geotechnical information on horizontal land movement due to the Canterbury earthquake sequence
  Purpose of report: Background geotechnical information about shallow ground movements as a result of the earthquake sequence
  Scope of Report: Christchurch City flat area, excluding Port Hills and Banks Peninsula
  Where or how to access the report: https://www.linz.govt.nz/resources/research/geotechnical-information-horizontal-land-movement-due-canterbury-earthquake-sequence
  Date of report: March 2015
  Name of person/entity that commissioned report: Land Information New Zealand
  The name of person/entity that prepared the report: Tonkin & Taylor Ltd

- Regional Liquefaction Information

  Areas where there was evidence of liquefaction were mapped following the 2010/11 Canterbury earthquakes by Tonkin & Taylor for the Earthquake Commission (urban areas) and by a group of researchers for Environment Canterbury (rural, commercial and industrial areas). These are available in the Christchurch Liquefaction Viewer at https://apps.canterburymaps.govt.nz/ChristchurchLiquefactionViewer/.

  Technical report information:
  Title: Review of liquefaction hazard information in eastern Canterbury, including Christchurch City and parts of Selwyn, Waimakariri and Hurunui Districts.
  Date: December 2012.
  Author: H Brackley (compiler).
  Commissioned by: Environment Canterbury.
  Purpose of report: To collate liquefaction occurrence during the 2010/11 Canterbury earthquakes, and to determine liquefaction vulnerability. For use in land use planning, subdivision and building consenting.
  Study area: Coastal Canterbury from the Waipara River mouth to the Rakaia River mouth, including Banks Peninsula, and inland to Rangiora, Aylesbury, Selwyn and Southbridge.
  Accessible at: https://www.ecan.govt.nz/document/download?uri=1702192.

- Regional Hazard Information: Earthquake fault deformation

  There are no known earthquake faults at the ground surface in Christchurch. However, it is possible there are some faults in Christchurch that are yet to be identified because they are not visible at the ground surface. More information on fault deformation is available on Environment Canterbury's fault deformation map at https://mapviewer.canterburymaps.govt.nz/?webmap=b5f859bd18ee4912828cb092bef6c449.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

(c) Flooding

- Flooding

  Flood models are used to show the probability and potential location of flooding in Christchurch. These are computer-based models, and use the data on the Council stormwater network, rainfall, topography, hydrology, soil, land-use and historic flooding. They also incorporate outputs of other modelling such as urban growth, ground water, sea level rise and climate change. Detailed reports on the modelling including its assumptions and limitations can be found at https://ccc.govt.nz/consents-and-licences/property-information-and-lims/land-information-memorandum-lim.

- Predicted 1 in 10 Year Flood Extent

  Flood modelling shows this property, or parts of this property, is within a 1-in-10-year flood extent, not including impacts of climate change and sea level rise. You can view this on the flood extent map at https://ccc.govt.nz/flood-and-floor-level-viewer.

  If changes such as land development or major infrastructure have occurred on this property, or in the surrounding area since the flood modelling, this may change the flood extent.

  Please note: The current modelling may not fully account for the water flow into some sump inlets during smaller events, which could affect the flood extent. This will be addressed in future modelling updates. Any questions about this and how this may impact this property, please email us at floorlevels@ccc.govt.nz.

  For more information, please refer to https://ccc.govt.nz/flooding-and-floor-levels.

- Predicted 1 in 50 Year Flood Extent

  Flood modelling shows this property, or parts of this property, is within a 1-in-50-year flood extent, including impacts of climate change and sea level rise. You can view this on the flood extent map at https://ccc.govt.nz/flood-and-floor-level-viewer. If changes such as land development or major infrastructure have occurred on this property, or in the surrounding area since the flood modelling, this may change the flood extent. For more information, please refer to https://ccc.govt.nz/flooding-and-floor-levels.

- Predicted 1 in 200 Year Flood Extent

  Flood modelling shows this property, or parts of this property, is within a 1-in-200-year flood extent, including impacts of climate change and sea level rise. You can view this on the flood extent map at https://ccc.govt.nz/flood-and-floor-level-viewer. If changes such as land development or major infrastructure have occurred on this property, or in the surrounding area since the flood modelling, this may change the flood extent. For more information, please refer to https://ccc.govt.nz/flooding-and-floor-levels.

- Regional Hazard Information: Flood Photographs

  Photographs showing the property during or following past flood events may be available. Flood photographs are available on Environment Canterbury's flood imagery register at https://apps.canterburymaps.govt.nz/FIR.

- Regional Hazard Information: Flood Assessment Request

  You can request a new site-specific flood hazard assessment for the property from Environment Canterbury at: https://www.ecan.govt.nz/do-it-online/property-information/flood-hazard-assessments.

(d) Landslides

As at the date of this LIM, Council research found no information under this heading.

(e) Subsidence

- Consultant Report Available

  Land Information New Zealand (LINZ) engaged Tonkin and Taylor to provide a Geotechnical Report on Ground Movements that occurred as a result of the Canterbury Earthquake Sequence. The report indicates this property may have been effected by a degree of earthquake induced subsidence. The report obtained by LINZ can be accessed on their website at https://www.linz.govt.nz and search Information for Canterbury Surveyors.

(f) Tsunamis

As at the date of this LIM, Council research found no information under this heading.

(g) Volcanic and Geothermal Hazards

As at the date of this LIM, Council research found no information under this heading.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

(h) Wind

As at the date of this LIM, Council research found no information under this heading.

(i) Any Other Natural Hazards

As at the date of this LIM, Council research found no information under this heading.

(j) District Plan Natural Hazard Information

Please refer to *Section 8. Land use and conditions* of this report for District Plan related natural hazard information.

(k) Building Notices

Please refer to *Section 5. Consents, certificates, notices, orders, or requisitions affecting the land and buildings* of this report for Building Act notice information.

Other Special Features or Characteristics of the Land

- Borelog/Engineer Report Image Available

  Borelog/Engineer Report Image Available

- Fill

  This property is located in an area known to have been filled. The year the fill occurred is Unknown. The filling was, according to the Councils records carried out in a controlled manner and comprises Sand.

Related Information

- There is attached a sub division soil investigation report covering this property.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

2. Private and public stormwater and sewerage drains

Section 44A(2)(b) LGOIMA. This is information about private and public stormwater and sewerage drains as shown in the Council's records.

☎ For stormwater and sewerage enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

- **Property in Local Pressurised Sewer System Zone**

  Council records indicate this lot falls within a local pressure sewer catchment where installation of onsite local pressure sewer systems (LPSS) are required to connect to the sewer network. For LPSS ownership information, please refer to the property title consent notice. If an existing LPSS is vested with Council, please refer to https://ccc.govt.nz/assets/Documents/Services/Wastewater/20-404174-Local-Pressure-Sewer-System-User-Guide.pdf. If there is no LPSS-related consent notice, contact Christchurch City Councils 3 waters unit at WastewaterCapacity@ccc.govt.nz.

Related Information

- The council plan shows no public sewer/stormwater lateral plotted to this site.
- Council records show public stormwater pipes passing through this site.
- Attached are all drainage plans that Council hold for details of private and public drainage. Not all plans provided are verified by Council, and therefore Council cannot be liable for inaccuracies. Site investigation will be required by owners to determine exact layouts.

Christchurch City Council
53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

3. Drinking Water Supply

Section 44A(2)(ba) and (bb) LGOIMA. This is information notified to the Council about whether the land is supplied with drinking water, whether the supplier is the owner of the land or a networked supplier, any conditions that are applicable, and any information the Council has about the supply.

Please note the council does not guarantee a particular water quality to its customers. If you require information on current water quality at this property please contact the Three Waters & Waste Unit.

☎ For water supply queries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Water supply

There is either a water meter not in use or no water connection to this property. Christchurch City Council is the networked supplier of water to this property. An application can be made to the Christchurch City council for a water connection. The conditions of supply are set out in the Christchurch City Council Water Supply and Wastewater Bylaw (2022), refer to www.ccc.govt.nz.

Christchurch City Council is the networked supplier of water to this property. This property can be connected to the Christchurch City Council Water Supply. The conditions of supply are set out in the Christchurch City Council Water Supply and Wastewater Bylaw (2022), refer to www.ccc.govt.nz.

Related Information

- No up-to-date drainage plan is available for the development of this site. However, the installation of a water connection is checked by the Council prior to the issue of a Code Compliance Certificate.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

4. Rates

Section 44A(2)(c) LGOIMA. This is information on any rates owing in relation to the land.

☎ For rates enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

(a) Annual rates

Annual rates to 30/06/2026: $4,032.45

	Instalment Amount	Date Due
Instalment 1	$1,008.04	31/08/2025
Instalment 2	$1,008.04	30/11/2025
Instalment 3	$1,008.04	28/02/2026
Instalment 4	$1,008.33	31/05/2026

Rates owing as at 23/02/2026: $1,008.04

(b) Excess water charges

For excess water charge enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz/contact-us

(c) Final water meter reading required at settlement?

Property settlements must now ensure all water usage and outstanding debts are accurately accounted for.

To advise of a commercial property settlement, please complete the request for settlement information form at www.ccc.govt.nz/services/rates-and-valuations/solicitors-request

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

5. Consents, certificates, notices, orders, or requisitions affecting the land and buildings

Section 44A(2)(d) LGOIMA. This is information concerning any consent, certificate, notice, order, or requisition, affecting the land or any building on the land, previously issued by the Council. The information in this section may also cover building consent and/or code compliance information issued by building certifiers under the Building Act 1991 and building consent authorities that are not the Council under the Building Act 2004.

You can check the property file to identify whether any consent or certificate was issued by a building certifier under the Building Act 1991.

Section 44A(2)(da) LGOIMA. The information required to be provided to a territorial authority under section 362T(2) of the Building Act 2004. There is currently no information required to be provided by a building contractor to a territorial authority under section 362T(2) of the Building Act 2004. The Building (Residential Consumer Rights and Remedies) Regulations 2014 only prescribed the information that must be given to the clients of a building contractor.

Sections 71 to 74 of the Building Act 2004 require the Building Consent Authority to consider natural hazards when it receives a building consent application for the construction or major alteration of a building on land that is subject to, or likely to be subject to, a natural hazard. A building consent for this property may have been issued subject to a section 72 or 73 notice. This means at the time of building consent the Building Consent Authority was not satisfied that adequate provision would be made to protect the building and land from the natural hazard and was subsequently required to notify the Registrar-General of Land to record the natural hazard on the Record of Title. The Building Act 2004 defines natural hazards as erosion (including coastal erosion, bank erosion, and sheet erosion), falling debris (including soil, rock, snow, and ice), subsidence, inundation (including flooding, overland flow, storm surge, tidal effects, and ponding), and slippage.

If your property contains a notice under s73 of the Building Act 2004, this will be identified on the building consent decision below (decision under s72 of the Building Act 2004) and on the properties' Record of Title. The Record of Title may also record this as a s36 notice under the Building Act 1991, or a s641A notice under the Local Government Act 1974.

☎ For building enquiries, please phone (03) 941 8999, email EPADutyBCO@ccc.govt.nz or visit www.ccc.govt.nz.

(a) Consents

- BCN/2024/393 Applied: 24/01/2024 Status: Completed
  1 Pine Valley Close Westhaven
  Accepted for processing 30/01/2024
  Building consent granted 17/07/2024
  Building consent issued 23/07/2024
  Code Compliance Certificate Issued 01/12/2025
  Contruction of bridge - 12 m long - precast concrete as part of proposed roading for new subdivision
- BCN/2024/454 Applied: 26/01/2024 Status: Completed
  1 Pine Valley Close Westhaven
  Accepted for processing 02/02/2024
  Building consent granted 28/03/2024
  Building consent issued 08/04/2024
  Code Compliance application not accepted 01/10/2025
  Code Compliance Certificate Issued 24/10/2025
  Construction of retaining walls
- BCN/2024/9830 Applied: 16/12/2024 Status: Completed
  3 Pine Valley Close Westhaven
  Exemption from building consent approved 23/12/2024
  Drainage and water supply for four new residential lots

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

(b) Certificates

Note: Code Compliance Certificates were only issued by the Christchurch City Council since January 1993.

(c) Notices

(d) Orders

(e) Requisitions

Christchurch City Council
53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

6. Certificates issued by a building certifier

Section 44A(2)(e) LGOIMA. This is information notified to the Council concerning any certificate issued by a building certifier pursuant to the Building Act 1991 or the Building Act 2004.

☎ For building enquiries, please phone (03) 941 8999, email EPADutyBCO@ccc.govt.nz or visit www.ccc.govt.nz.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

7. Weathertightness

Section 44A(2)(ea) LGOIMA. This is information notified to the Council under section 124 of the Weathertight Homes Resolution Services Act 2006.

☎ For weathertight homes enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

If there is no information below this means Council is unaware of any formal Weathertight Homes Resolution Services claim lodged against this property.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

8. Land use and conditions

Section 44A(2)(f) LGOIMA. This is information relating to the use to which the land may be put and conditions attached to that use. The planning information provided below is not exhaustive and reference to the Christchurch District Plan and any notified proposed changes to that plan is recommended: https://ccc.govt.nz/the-council/plans-strategies-policies-and-bylaws/plans/christchurch-district-plan/.

There maybe some provisions of the Christchurch City Plan or Banks Peninsula District Plan that affect this property that are still operative.

☎ For planning queries, please phone (03) 941 8999, email DutyPlanner@ccc.govt.nz or visit www.ccc.govt.nz.

- **Regional plan or bylaw**

  There may be objectives, policies or rules in a regional plan or a regional bylaw that regulate land use and activities on this site. Please direct enquiries to Canterbury Regional Council (Environment Canterbury).

- **Waterway Provisions for Other Councils**

  A resource consent or permit may also be required from the Canterbury Regional Council or other territorial authority, particularly with respect to water bodies managed by those authorities. Please refer to the relevant regional plan and any relevant bylaws, and contact the Christchurch City Council if you are uncertain which authority manages the water body in question.

(a)(i)Christchurch City Plan & Banks Peninsula District Plan

(ii)Christchurch District Plan

- **Ecological Site**

  Property contains an ecological site (Schedule B, Appendix 9.1.6.1) within which there are restrictions on indigenous vegetation clearance, which is operative.

- **Liquefaction Management Area (LMA)**

  Property or part of property within the Liquefaction Management Area (LMA) Overlay, which is operative.

- **Waterway Provisions**

  This property or part of this property is close to at least one waterway. It may be within the setback for an Environmental Asset Waterway. Within that setback, District Plan rules apply to activities including buildings, earthworks, fences and impervious surfacing. Any part of the property within the setback will be affected by those rules. Rules associated with this waterway are operative under the District Plan.

- **District Plan Zone**

  Property or part of property within the Open Space Community Parks Zone, which is operative.

- **District Plan Zone**

  Property or part of property within the Open Space Metropolitan Facilities Zone, which is operative.

- **Flood Management Area**

  Property or part of property within the Flood Management Area (FMA) Overlay which is operative.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

- **Fixed Minimum Floor Overlay**

  This property or parts of the property are located within the Fixed Minimum Floor Overlay level in the Christchurch District Plan, which is operative. Under this plan pre-set minimum floor level requirements apply to new buildings and additions to existing buildings. The fixed minimum floor level can be searched at http://ccc.govt.nz/floorlevelmap. For more information please contact a CCC duty planner on 941 8999.

(b) Resource consents

If there are any land use resource consents issued for this property the Council recommends that you check those resource consents on the property file. There may be conditions attached to those resource consents for the property that are still required to be complied with.

- RMA/1998/3622 - Subdivision Consent
  Bdy Adj SUBDIVISION - Historical Reference RMA4469
  Status: Processing complete
  Applied 18/02/1998

- RMA/1999/4492 - Subdivision Consent
  Bdy Adj SUBDIVISION - Historical Reference RMA12915
  Status: Processing complete
  Applied 27/04/1999

- RMA/2001/590 - Subdivision Consent
  FEE SIMPLE SUBDIVISION - 7 LOTS 223 receieved 19/3/02 certified 21/3/02 224 requested 15/5/02 224 Issued 18/06/2002 307132 - Historical Reference RMA20004454
  Status: Processing complete
  Applied 07/03/2001
  Granted 31/07/2001
  Decision issued 31/07/2001

- RMA/2002/796 - Subdivision Consent
  FEE SIMPLE SUBDIVISION - 65 LOTS223 RECEIVED 7/4/03 RELEASED 22/04/03224 requested 21/5/03 - Historical Reference RMA20009778
  Status: Processing complete
  Applied 08/04/2002
  Granted 01/07/2002
  Decision issued 01/07/2002

- RMA/2002/2552 - Subdivision Consent
  FEE SIMPLE SUBDIVISION - 4 LOTS see applications 20012290 & 20012293 - Historical Reference RMA20011595
  Status: Cancelled
  Applied 08/10/2002

- RMA/2002/3233 - Subdivision Consent
  FEE SIMPLE SUBDIVISION - 2 LOTS 223 RECEIVED 7/4/03 - Historical Reference RMA20012290
  Status: Processing complete
  Applied 16/12/2002
  Granted 24/01/2003
  Decision issued 24/01/2003

- RMA/1996/3616 - Resource consents
  148 Lake Terrace Road Westhaven
  To excavate a portion of the grounds. - Historical Reference RMA338

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

Status: Processing complete
Applied 06/03/1996

- RMA/2002/1057 - Land Use Consent
  148 Lake Terrace Road Westhaven
  Construction of two bridges over Old No 2 Drain which intrude into the road and waterway setback. - Historical Reference RMA20010048
  Status: Processing complete
  Applied 09/05/2002
  Granted 09/07/2002
  Decision issued 10/07/2002

- RMA/2022/3963 - Combined subdivision / land use consent
  102A Birkdale Drive Westhaven
  Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11
  Status: s223 Certificate issued
  Applied 22/12/2022
  Granted 22/06/2023
  Decision issued 22/06/2023
  Amended decision issued - s133A 29/06/2023
  s223 Certificate issued stage 1 21/07/2023
  s224 Certificate issued stage 1 21/07/2023
  Conditions changed/cancelled - s127 12/07/2024
  s223 Certificate issued stage 2 25/09/2025

- RMA/2022/3963/A - s127 Change / cancellation of condition(s)
  102A Birkdale Drive Westhaven
  Fee simple subdivision - 15 lots and land use
  Status: Processing complete
  Applied 29/05/2024
  Granted 12/07/2024
  Decision issued 12/07/2024

- RMA/2023/11 - Land Use Consent
  102A Birkdale Drive Westhaven
  Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963
  Status: Processing complete
  Applied 22/12/2022
  Granted 29/06/2023
  Decision issued 29/06/2023

- RMA/2025/3358 - Land Use Consent
  102A Birkdale Drive Westhaven
  Earthworks - Global Consent - National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health
  Status: Processing complete
  Applied 29/09/2025
  Granted 30/10/2025
  Decision issued 30/10/2025

- RMA/2025/3857 - Land Use Consent
  102A Birkdale Drive Westhaven
  Global land use consent - to increase the maximum site coverage to 40% for dwellings which are less than 5.5m in height.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

Status: Processing complete
Applied 13/11/2025
Granted 10/12/2025
Decision issued 10/12/2025

Christchurch City Council
53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

9. Other land and building classifications

Section 44A(2)(g) LGOIMA. This is information notified to the Council by any statutory organisation having the power to classify land or buildings for any purpose.

☎ For land and building enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Please refer to Section 1 for details

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

10. Network utility information

Section 44A(2)(h) LGOIMA. This is information notified to the Council by any network utility operator pursuant to the Building Act 1991 or the Building Act 2004.

☎ For network enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

- **None recorded for this property**

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

11. Other information

Section 44A(3) LGOIMA. This is information concerning the land that the Council has the discretion to include if it considers it to be relevant.

☎ For any enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

(a) Kerbside waste collection

- Your organics are collected Weekly on Wednesday. Please leave your organics at the Kerbside by 6:00 a.m.
- Your recycling is collected Fortnightly on the Week 2 collection cycle on a Wednesday. Please leave your recycling at the Kerbside by 6:00 a.m. Your nearest recycling depot is the Styx Mill EcoDrop.
- Your refuse is collected Fortnightly on the Week 2 collection cycle on a Wednesday. Please leave your rubbish at the Kerbside by 6:00 a.m. Your nearest rubbish depot is the Styx Mill EcoDrop.

(b) Other

- **Floor Levels Information**

  Council holds a variety of information on requirements for building or property development. This includes:
  • required minimum finished floor levels, which need to be set to meet the surface water requirements in clause E1.3.2 of the Building Code (where this applies); and
  • the requirements of the Christchurch District Plan (where a property is in the Flood Management Area).
  Where this information has been processed for your property, you can view it online at https://ccc.govt.nz/flooding-and-floor-levels.
  Otherwise, if you are building or developing on this land, you can request a calculation on required finished floor levels for your proposed building by emailing us at floorlevels@ccc.govt.nz.

- **Community Board**

  Property located in Coastal-Burwood-Linwood Community Board.

- **Tsunami Evacuation Zone**

  This property is not in a tsunami evacuation zone. It is not necessary to evacuate in a long or strong earthquake or during an official Civil Defence tsunami warning. Residents may wish to offer to open their home to family or friends who need to evacuate from a tsunami zone, and should plan with potential guests to do so in advance.More information can be found at https://ccc.govt.nz/services/civil-defence/hazards/tsunami-evacuation-zones-and-routes/

- **Electoral Ward**

  Property located in Burwood Electoral Ward

- **Listed Land Use Register**

  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 publically available database called the Listed Land Use Register (LLUR). The Christchurch City 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

- **Spatial Query Report**

  A copy of the spatial query report is attached at the end of this LIM. The spatial query report lists land use resource consents that have been granted within 100 metres of this property.

Christchurch City Council

53 Hereford Street, PO Box 73015
Christchurch 8154, New Zealand
Tel 64 3 941 8999
Fax 64 3 941 8984

www.ccc.govt.nz

Geotechnical Investigation Report for Subdivision

Shirley Golf Course, Shirley, Christchurch

Suburban Estates Limited

Document Number: 220343-RPTGEO-001-A

Date: 20 May 2022

Prepared by

Alex McCaw

Engineering Geologist

BSc PGDip MEngNZ

Reviewed/Approved by

Robert Smith

Senior Geotechnical Engineer
CMEngNZ CPEng IntPE(NZ) / APEC Engineer

Contents

1. Executive Summary

Table 1: Report Summary			
Project	Site		Shirley Golf Course, Shirley, Christchurch
	CGW Project Number		220343
Site Assessment	Geotechnical Hazard Assessment	MBIE Land Classification and Land Performance	TC2
		Liquefaction	Minor to Moderate (TC2)
		Lateral Spreading	Minor Risk (TC2)
		Flooding	Partly within a FMA
		Soil Contamination	Registered on the LLUR
		Groundwater Level	1 – 3 m
		Site Subsoil Classification	Class D
	Site suitability for redevelopment		The site is suitable for redevelopment subject to the recommendations of this report being undertaken
Ground Conditions	Summary of site geology encountered		Marine deposits consisting predominantly of Sand.
	Depth where 200kPa available		0.2 m - 0.4 m within the natural soils
Foundation Assessment	Foundation Recommendations		TC2 waffle slab solution, or alternatively, any of the enhanced foundation solutions in accordance with Section 5 of the MBIE Guidelines
	Available CBR for pavement and Roading		Unsoaked CBR value of 3%
	Additional Key Considerations		Site subgrade inspection to be undertaken by a geotechnical engineer familiar with the findings in this report.

2. Introduction

CGW Consulting Engineers have been engaged by Suburban Estates Ltd (Client) to undertake a geotechnical investigation and report for a proposed residential subdivision development at the Shirley Golf Course. We understand the client is proposing to subdivide the site and ultimately develop it into residential allotments. As part of our geotechnical investigations and reporting, we will assess the liquefaction risk of the site and a correlated MBIE prescribed Technical Category.

Where relevant, our reporting has been undertaken in accordance with the Ministry of Business, Innovation and Employment December 2012 'Repairing and rebuilding houses affected by the Canterbury earthquakes' Guidance (MBIE Guidelines), and relevant updates and clarifications.

CGW are in receipt of a desktop assessment for the site completed by LandTech Consulting titled Geotechnical Assessment Report, Ref.LTC21320, Dated 18 November 2021. This report has been referred to in compiling this report.

This report summarises our findings and recommendations and may be used to support a Subdivision Consent application to Christchurch City Council. Our geotechnical limitations are presented in Appendix A.

3. Scope of Works

Our scope of works as per our short form agreement includes the following:

- A site walkover assessment.
- Shallow testing including hand auger boreholes and dynamic cone penetrometer tests to a target depth of 3m.
- Deep testing including Cone Penetration Tests (CPTs) to a target depth of 15m.
- Geotechnical analysis of the site specific and nearby information to confirm an accurate liquefaction hazard and risk for the site.
- Assessment against RMA Section 106/ Building Act 2004 Section 71.
- Statement of Professional Opinion.
- Compile this geotechnical investigation report providing guidance on the liquefaction risk and any geological aspects that may need to be considered for the development of the site.

4. Site Information

4.1 Site Description

The site is located within the current Christchurch golf club and is situated approximately 5.3 km northeast of central Christchurch and is legal described as Lots 4,5 DP2794, Lot 8 DP 307132 and pt Lot 5 DP 962. The site is part of a larger parcel of land which has a total area of 19.21 Hectares.

The site is bound to the north by Queen Elizabeth II Drive (State highway 73), to the east and south by areas of golf course and to the west by a small creek, named Old No 2 Drain. The creek/drain is approximately 0.5 m deep and varies between 2.0 m and 5.0 m wide. The site has previously been an area of forestry which had been recently removed at the time of our investigation.

The site is currently categorised by the Canterbury Earthquake Recovery Authority (CERA) as Urban Non-residential however adjacent areas of residential land are classified as MBIE Technical Category TC2.

Figure 1: Site Location (Taken from Canterbury Maps GIS)

5. Proposed development

We are not in receipt of any plans for the subdivision; however, we understand it is proposed to subdivide the site into residential allotments with a stormwater basin located towards the southeast corner or the northwest corner of the site.

6. Geotechnical desktop assessment

6.1 MBIE Technical Category

The site is located with a classified MBIE N/A – Urban Non-Residential area (Brown). MBIE designated Technical Category TC2 (yellow) land is located on the residential land immediately to the west and east of the site. The closest extent of MBIE red zone land is located approximately 600 m to the south of the site on the southern side of horse show lake.

6.2 Christchurch Vulnerability Study

The Christchurch Liquefaction Vulnerability study by Tonkin & Taylor, July 2020, presents liquefaction vulnerability categories for Christchurch City. The Christchurch City Liquefaction information viewer shows the site lies within an area of "Medium Liquefaction Vulnerability". This indicates there is a greater than 50% probability that liquefaction induced ground damage will be minor to moderate for a 500-year event and none to minor for a 100 year event.

6.3 EQC Land Damage Information

LandTech Consulting reviewed information available on the NZGD to determine if land damage occurred during the Christchurch earthquake sequence. Liquefaction mapping information is presented in Figure 2. It is worth noting that majority of the site was covered with trees and other vegetation making aerial observation of liquefaction difficult.

Date	EQC Aerial Photography	EQC Site & Road Observations	CCC Urban Observations	LandTech Interpretation
04 September 2010	No inferred liquefaction	Not mapped	Not mapped	Little to none
22 February 2011	No inferred liquefaction	On-site: Not mapped Roadside: No observed ejected liquefied material	Not mapped	Little to none
13 June 2011	Minor inferred liquefaction	No observed ground cracking or ejected material	Not mapped	Little to none
23 December 2011	No inferred liquefaction	N/A	Not mapped	Little to none

Figure 2: Mapped liquefaction damage (taken from LandTech Consulting Desktop assessment 2021).

6.4 Vertical Land Movement

Cumulative vertical ground settlement (excluding tectonic movement) approximated via LiDAR surveys undertaken by EQC following all recent significant earthquake sequences indicates the site has undergone approximately 100 – 200 mm of vertical settlement across the site, however the LiDAR information indicates up to 1.5 m of variation across the site which is likely the result of earthworks and/or forestry taking place across the area between LiDAR surveys.

The vertical deformation data provided by the EQC is based on LiDAR observations, which are considered approximate only, with a likely error of +/- 0.1m.

6.5 Horizontal Land Movement

LiDAR survey data indicates cumulative local horizontal movement (excluding tectonic movement) of the site and surrounding area for all events of approximately 400mm to the north-west. The site is not located within an area considered susceptible to major global lateral movement (Tables 12.2, MBIE Guidelines). The horizontal deformation data provided by the EQC is based on LiDAR observations, which are considered approximate only, with a likely error of +/- 0.4m.

6.6 Scaled Conditional Peak Ground Acceleration

Conditional Peak Ground Acceleration (PGA) values, developed by Bradley Seismic Ltd and the University of Canterbury, are available on the NZGD. These values have been scaled (Table 3) to match a design earthquake moment magnitude (Mw) of 7.5 in accordance with Idriss/Boulanger (2008/2014), as recommended by Bradley and Hughes (2012).

Table 3 - Scaled Conditional PGA Values for the Site

Earthquake Event	Moment Magnitude (M_w)	Average PGA (g)	Standard Deviation σ	PGA M = 7.5 (g)	10th Percentile PGA M = 7.5 (g)	Sufficiently tested
4th September 2010	7.1	0.18	0.35	0.16	0.104	No
22nd February 2011	6.2	0.32	0.375	0.23	0.140	Yes
13th June 2011	6.0	0.19	0.40	0.13	0.077	No
23rd December 2011	5.9	0.27	0.40	0.18	0.106	No

6.7 Site Performance

With reference to the NZGD data, the site can be considered tested to Serviceability Limit State (SLS) levels of strong ground motion (SLS1; Mw 7.5 PGA=0.13g) during the February 2011 earthquake of the CES. However, the September 2010 event most closely represents the demand of an SLS1 level event. Therefore, future SLS1 earthquakes are qualitatively expected to undergo a similar degree of land damage to that experienced during the September events (i.e. little to none).

The June 2011 event most closely represents the demand of a SLS2 level event (Mw 6.0 PGA=0.19). We expect a similar range of land damage for future SLS2 level events (i.e., little to none). No event meets the demands of an Ultimate Limit State (ULS) level event (Mw 7.5 PGA=0.35g). As such we expect a greater degree of land damage for future ULS level events (i.e., potentially minor).

Based on the results of our qualitative liquefaction assessment of the past site performance, up to minor liquefaction induced land damage is considered

possible during future large earthquakes. This indicates the current liquefaction vulnerability category of medium is applicable for the site.

6.8 Published Geology

The soils across the Canterbury Plains comprise interbedded alluvial formations deposited by eastward flowing rivers emanating from the Southern Alps and draining towards the coast along Pegasus Bay. These alluvial soils, interlayered with marine deposits associated with previous fluctuations of sea level, comprise variable gravels, sand, silts and occasional peat, and can change markedly over relatively short distances, both horizontally and vertically. The sandy and silty soil types are considered susceptible to liquefaction, dependent upon grain size distribution, saturation and in-situ density.

The 1:25,000 scale geological map 'Geology of the Christchurch Urban Area' (Brown and Weeber, 1992), indicates the near surface geology at the site is the Christchurch Formation. The Christchurch Formation is described as typically up to 40 m thick, less than 10,000 years in age, and comprises marine beach and dune sands.

In this area the Christchurch Formation is likely to be underlain by Riccarton Gravel. The Riccarton Gravel is described as typically 20 m thick, between 14,000 and 70,000 years in age, and comprises alluvial gravels with sand and silt deposited by rivers on outwash fans during the most recent glacial period. This formation is the upper most confined gravel aquifer in Canterbury.

6.9 Site Subsoil Classification

We consider that the site subsoil category in terms of NZS 1170.5 Clause 3.1.3 is Class D (deep or soft soil sites) based on the following:

- Forsyth et al (2008) indicates that rock in this area of Christchurch is likely to be in the order of several hundred metres.
- Investigations indicate approximately 10 m of interbedded silt and sand, which is likely overlying predominately gravels to at least 200 m depth.
- Clause 3.1.3 and Table 3.2 of NZS 1170.5:2004

7. Geotechnical Investigation Information

In this section we will present both our site-specific investigation information as well as nearby information.

7.1 Nearby Existing Geotechnical Data

Existing geotechnical data obtained from the NZGD has been reviewed for use as part of our assessment (Table 3). We have limited our data search to only deep geotechnical testing within 100 m of the site as this will provide the most relevant data for the site.

As these investigations were not undertaken/supervised by CGW Consultants, accuracy of the deep test data obtained cannot be guaranteed. Reduced levels have been interpolated from LiDAR. Test locations are presented on drawing 220343/1 in Appendix B and the related records presented in Appendix C.

Table 4 - Nearby Deep Investigation Information Obtained from the NZGD

Test ID	Proximity to Site	Elevation RL	Termination Depth (bgl)
CPT_33647	50 m West	5 m	15.0 m
CPT_33648	50 m West	5 m	5.0 m
CPT_33649	100 m West	5 m	3.1 m

7.2 Site Specific Investigations

Following an initial site walkover and services locate, the field investigations comprised:

- Nine hand auger holes and Nine hand Dynamic Cone Penetrometer Tests undertaken from the surface;
- Two Cone Penetrometer Tests were undertaken from the surface;
- Installation of two piezometers to a depth of between 2.0 and 2.8 m bgl.

Note, due to recent forestry a majority of the tests were limited to the outer areas of the site.

A visual-tactile field classification of the subsoils encountered during hand auger hole drilling was carried out in accordance with 'Guidelines for the Field Classification and Description of Soil and Rock for Engineering Purposes' (NZGS, 2005) and Machine Dynamic Cone Penetrometer testing was carried out in accordance with NZS 4402.1988, Test 6.5.2, 'Dynamic Cone Penetrometer'.

The CPTs were carried out by a specialist CPT rig operated by Canterbury Geotest in accordance with ASTM Standard D5778-12 'Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils'. The CPT test data was provided to us in both graphical form and as a full electronic record for use in later data interpretation and analyses.

Investigation details are provided in Table 5. The tests were positioned in areas to provide the most effective coverage of the site considering site access constraints and the existing dwelling footprints. Test locations were recorded by handheld GPS or approximated from site measurements and reduced levels interpolated from LiDAR and are therefore approximate only.

All test locations are presented on drawing 220343/1 in Appendix B with hand auger hole and Dynamic Cone Penetrometer results showing detailed soil descriptions and blows per 100 mm penetration presented in Appendix D and CPT results showing cone resistance and soil behaviour type (SBT) presented in Appendix E.

Table 5: Site Specific Investigation Information

Test No.	Elevation (RL)	Termination Depth (m) bgl	Further Information (Groundwater, piezometer, etc.)
HA/DCP01	3.22 m	1.9	Terminated due to hole collapse. Groundwater encountered at 1.6 m
HADCP02	3.19 m	1.8	Terminated due to hole collapse. Groundwater encountered at 1.5 m
HADCP03	3.22 m	2.3	Terminated due to hole collapse. Groundwater encountered at 1.9 m
HA/DCP04	4.55 m	3.0	Groundwater not encountered
HA/DCP05	3.48 m	2.2	Terminated due to hole collapse. Groundwater encountered at 2.0 m
HA/DCP06	3.02 m	1.6	Terminated due dense substrate, possible tree root. Groundwater not encountered
HA/DCP07	3 m	1.9	Terminated due to hole collapse. Groundwater encountered at 1.7 m
HA/DCP08	3 m	1.9	Terminated due to hole collapse. Groundwater encountered at 1.7 m
HA/DCP09	3.45 m	1.9	Terminated due to hole collapse. Groundwater encountered at 1.6 m
CPT01	3.0 m	9.77	Refusal encountered.
CPT02	4.0 m	9.61	Refusal encountered.
Piezo 01	3.22 m	2.0	Target depth. Groundwater encountered at 1.7 m
Piezo 02	4.0 m	2.8	Target depth. Groundwater encountered at 2.7 m

7.3 Site Subsurface Conditions

Sub surface conditions based on those encountered within the hand auger holes and inferred from the CPTs are summarised in Table 6. The relationship between CPT data and the inferred soil behaviour types (SBT) are taken from Robertson (2012).

Table 6 - Site Ground Model

Soil Type	Depth to bottom of Layer (m)	Layer Thickness (m)	DCP Reading (Blows/100 mm)	CPT Qc (MPa)	Relative Density / Consistency
SAND (Topsoil)	0.20 - 0.40	0.20 - 0.40	1 – 3	0 – 8	Loose to Medium Dense
SAND, local lenses of SILT (<200 mm) (DUNE DEPOSITS)	>15	>14.6	1 – 25*	<5 – 20+	Medium dense to very Dense

Note 1: DCP testing achieved a maximum depth of 3.0 m bgl.

7.4 Groundwater

Groundwater was recorded between in a majority of the hand auger and piezo boreholes at a depth of between 1.6 m and 2.7 m bgl. Groundwater was not recorded in HA/DCP04 and HA/DCP06, likely due to these testing being undertaken at a higher elevation.

Groundwater measurements within installed piezometers is displayed in table 7 below

Table 7 – piezometers Water level

Piezometers	Min groundwater level recorded (m bgl)	Max groundwater level recorded (m bgl)	Average groundwater (m bgl)
Piezometers 01	1.3	1.4	1.35
Piezometers 02	2.35	2.6	2.52

9. Geotechnical Assessment

9.1 Liquefaction Analysis Methodology

The liquefaction potential for the site has been undertaken using both the site specific CPT1 and CPT2 information to determine possible ground subsidence at the site during future design seismic events. Acceleration values for Design Level events and liquefaction analysis methodologies are taken from the MBIE Guidelines and MBIE October 2014 clarifications.

Liquefaction analyses have considered the following Serviceability Limit State (SLS) (1:25 year return period) and Ultimate Limit State (ULS) (1:500 year return period) Design Levels, as specified in the MBIE Earthquake Geotechnical Engineering Practice Module 1, 2021:

- SLS1 M_w7.5, PGA 0.13g;
- SLS2 (sensitivity analysis at SLS M_w 6.0, PGA 0.19g; and
- ULS M_w 7.5, PGA 0.35g.

CPT based liquefaction analyses were undertaken in CLiq software (v2.0.6.103) using Boulanger & Idriss (2014) for liquefaction triggering and fines correction, and Zhang et al (2002) for post liquefaction induced ground subsidence. As the site has been assessed as being well tested and in accordance with the MBIE clarifications regarding 'well tested' sites where settlement calculations do not correlate well with observed damage or actual settlements, we consider the MBIE clarification methodology of favouring site observations over calculated settlements and the resulting examination of calculated settlements at a higher threshold PL may provide further guidance in making an assessment of the liquefaction risk of the site.

A conservative groundwater level of 1.0 m has been used for in-situ conditions and 1.0 m for Design Level events for the analyses. Analysis outputs are presented in Appendix F.

9.2 Liquefaction Induced Settlement

Table 8 - CPT Based Liquefaction Analysis Results for Design Events						
Test No (Termination Depth)	**Predicted Liquefaction Induced Settlement (mm)**					
	Index 10m Depth Testing			**Full Depth of Testing (depth as shown)**		
	SLS1	**SLS2**	**ULS**	**SLS1**	**SLS2**	**ULS**
CPT01 (9.77 m)[1]	<5	<5	<5	<5	<5	<5
CPT02 (9.61 m)[1]	<5	<5	<5	<5	<5	<5
CPT_33647 (15 m)	<5	<5	<5	<5	<5	<10

The settlements presented in Table 6 above are to the nearest 5 mm. Due to the inherent uncertainty in calculating liquefaction induced settlement, the calculated free field settlements (land settlement) are indicative only. Actual settlements on site may vary from those above and do not take into account foundation influences; volume loss from surface expression, loss in bearing strength and influences from lateral spreading.
Note 1: Full depth of testing is equal to index testing depth because CPT depths penetrated no deeper than 10.0 m bgl.

Our CPT based liquefaction analysis indicates that there is generally very low levels of potentially liquefiable soils present during SLS levels of shacking and only small isolated layers of potentially liquefiable soils during ULS levels of shacking.

From the calculated settlements we consider differential settlements in the order of less than 5 mm following an SLS earthquake event and less than 10 mm following a ULS earthquake event.

9.3 Lateral Displacement Assessment

Using the CLiq software CGW have assessed the potential lateral displacements at the edge of the site that boarders the small creek (old No 2 Drain). We have assessed the lateral displacement at 8.0 m from the edge of the free face of the creek which we consider the minimum likely distance that dwellings would be constructed from the creek. We have assumed a "free face' height of 2.0 m. The predicted lateral displacement is displayed below in Table 9.

Table 9 – Estimated Lateral Movements (mm)	
Earthquake Scenario	**Predicted Lateral Displacement (mm)**
SLS1 Mw 7.5, PGA 0.13g	<5
SLS2 Mw 6.0, PGA 0.19g	<5
ULS Mw 7.5, PGA 0.35g	75 - 145

In accordance with Section 12.2 (Part C) of the December 2012, Version 2 MBIE Guidance document, at ULS levels these amounts of lateral displacement would be classified as 'Minor to Moderate'.

9.3.1 Global Lateral Movement

This site is not located within an area of major global lateral ground movement (Table 12.2, MBIE December 2012 Guidelines). No evidence of major global lateral movement was noted on the site or in the surrounding area. Therefore, we consider the site should be designated as minor to moderate for global lateral movement (i.e. < 300 mm at ULS levels of shaking) in accordance with the MBIE Guidelines.

9.3.2 Lateral Stretch

Based on the previous performance of the site, distance from a free face or significant waterway and the CGW lateral movement assessment, we consider the site should be designated as minor for lateral stretch (i.e. <50 mm at ULS levels of shaking) in accordance with the MBIE Guidelines.

9.4 Expected Future Land Performance

The MBIE Guidelines provide broad classification of land for future land performance based on index values of expected settlements. Calculation of index values has been limited to the upper 10 m of the soil profile as specified in the MBIE Guidelines, and expected future land performance Technical Category, based on assessed values obtained, is given below in Table 10.

Table 10 - Expected Future Land Performance Categories

Technical Category	Expected SLS Land Settlement (mm)		Expected ULS Land Settlement (mm)		Expected Global Lateral Movement (mm)		Expected ULS Lateral Stretch (mm)	
TC1	0 -15		0 – 25		Nil		Nil	
TC2	0 – 50	✓	0 – 100	✓	<300 (Minor to moderate)	✓	<50 (Minor)	✓
TC3	>50		>100		300 – 500 (Major)		0 – 200 (Minor to Moderate)	

Our liquefaction and lateral spreading assessment and analysis indicates that liquefaction-induced ground subsidence is consistent with a MBIE Technical Category TC2 land performance designation.

9.5 Static Settlement

We have performed a numerical static settlement assessment using the CPT data acquired on site using Geologismiki CPeT-IT[1]. We performed the analysis with inferred dimensions of a future waffle slab foundation and assumed a conservative 100kPa applied load over a 50-year period (i.e. the design life of a residential structure in New Zealand).

The results indicate that the total predicted settlement is less than 10 mm, with the majority of settlement being associated the primary consolidation during the initial loading of the soil and very little (<2 mm) from secondary creep settlements. Creep settlements are estimated using a simplified approach suggested by Messi (1994) using CPeT-IT, taking into account the layering of the substrata and the overburden applied.

Table 11 – Summary of Static Settlement

Test ID	Primary (6 Month) (mm)	Secondary (50 Years) (mm)	Total (mm)
CPT01	<10	<2	<10
CPT02	<10	<2	<10

It should be noted that the method used above to calculate settlement has limitations. The calculations carried out do not account for the presence of non-engineered fill, the breakdown of organic soils and peats, large fluctuations in the groundwater table, construction tolerance issues, or structural deterioration of building elements.

9.6 Geotechnical Ultimate Bearing Capacity

With reference to the Dynamic Cone Penetrometer, in accordance with NZS3604:2011 and the MBIE Guidance, an Ultimate Bearing Capacity (UBC) of 200 kPa is available within the natural soil at a depth of between 0.2 m and 0.4 m bgl. Dynamic Cone Penetrometer testing indicates that isolated pockets of soft soil may be present do depths of 1.0 m bgl which will require over excavation and backfilling during the earthworks stage of the subdivision.

In accordance with the principles of AS/NZS1170.0:2002 Section 3.2, a Strength Reduction Factor of Φ = 0.5, as per B1/VM4 Section 3.5, should be applied to the Ultimate Bearing Capacity, which should then equal or exceed the factored Ultimate Limit State design actions.

9.7 Expansive Soils

In line with the AS2870 methodology of utilising a visual-tactile identification and knowledge of the site soils, we have based our assessment on our investigations and the available geotechnical information for the site. We consider the proposed building to be underlain with Class A, low plasticity non-Expansive soils.

9.8 Hazardous Activities and Industries List (HAIL)

Based on a review of the Listed Land Use Register (LLUR), the site indicates HAIL activities are recorded to have taken place at the site, according to the register persistent pesticide bulk storage or use and storage tanks or drums for fuel, chemicals or liquid waste has taken place on site. This does not confirm the site has soil contamination, but only indicates the regional council does have records of potentially hazardous activities taking place at the site that could lead to soil contamination.

Our site walkover and investigations did not encounter any obvious evidence of site contamination or hazardous activities.

10. Assessment Against RMA Section 106

10.1 Criteria

In accordance with the Resource Management Act 1991 (RMA), the site has been assessed in accordance with Section 106 for natural hazards. Section 106 of the Resource Management Act (RMA) states:

- *There is significant risk from natural hazards; or*
- *Sufficient provision has not been made for legal and physical access to each allotment to be created by the subdivision.*

For the purpose of subsections 1a, an assessment of the risk from natural hazards requires a combined assessment of:

- *The likelihood of natural hazards occurring;*
- *The material damage to land in respect of which consent is sought, other land or structures that would results from natural hazards;*
- *Any likely subsequent use of land in respect of which the consent is sought that would accelerate, worsen or result in material damage of the kind referred to in paragraph b.*

10.2 Assessment

The site is considered, based on site mapping, site investigations and research of local information, to not be subject to the following natural hazards:

- Fault Rupture – the site is not situated within an identified active fault hazard zone and geological mapping indicates there are no mapped active faults within 10 km.
- Slope Stability – The site and surrounding areas are relatively level and low lying. Consequently, slope instability risk can be discounted.
- Inundations (soil, rock debris) – the site is not located at the base of a major slope and debris inundation can be discounted.

However, we consider the site may be subject to the following hazards, which will need to be mitigated as part of the development design:

- Liquefaction and settlement – Our liquefaction analysis of the site in its current state indicates there is a risk of minor to moderate liquefaction induced ground damage consistent with TC2 classification. We consider the risk from liquefaction induced settlement and ground subsidence would be mitigated to low, providing the recommendations of this report are followed.
- Inundations (flooding) – CCC plans indicate the site to be partly within a mapped "Flood Management Area". Advice should be sought from CCC for any minimum requirements for Finished Floor Level (FFL).

In our opinion, under Section 106 of the RMA, there are no geotechnical reasons preventing the development, provided the developer takes the appropriate measures as recommended in this report and follows appropriate industry standards for erosion control.

11. Foundation Recommendations

We consider new dwelling foundations may comprise enhanced foundation solutions in accordance with Section 5 of the MBIE Guidelines for the proposed subdivision. An Ultimate Bearing Capacity of 200 kPa is available between 0.2 m and 0.4 m bgl.

Whilst any of the above mentioned MBIE Guidance Section 5 Options 1, 2, 3 and 4 enhanced foundation solutions would be suitable, we recommend that a waffle slab solution be considered which is consistent with an Option 4 solution. A 400 mm thick waffle slab would need to be considered for a two-story heavy-weight clad construction with either a heavy or light roof cladding.

Alternatively, a specifically designed foundation solution can also be considered. This will need to allow for the perceived TC2 equivalent vertical and lateral spreading displacements recommended within this report.

12. Construction Considerations

12.1 Site Formation Works

All earthworks should be carried out to the requirements of NZS 4431:1989, 'Code of Practice for Earthfilling for Residential Development'. All unsuitable materials (vegetation, organic or deleterious material, topsoil and non-engineered fill etc.) should be stripped from any areas of earthworks and stockpiled well clear of earthwork operations or carted from the site. Compaction of non-cohesive fill should be carried out using pad foot compaction plant of a minimum 10tonne static weight, in loose layers no greater than 200mm thickness. All fill materials should be clear of unsuitable materials as described above.

Prior to commencing earthworks, a sediment control system should be constructed to ensure Council requirements are met.

12.2 Excavations and Dewatering

Temporary excavation sidewalls should be battered no steeper than 1V:3H and where this cannot be safely achieved due to proximity to site boundaries then temporary retaining will be required.

We recommend construction be undertaken during the drier summer months and that groundwater levels be investigated just prior to excavations to determine whether dewatering or a drainage blanket is required. Site wide dewatering may be required if measured groundwater levels are within or close to depths of excavation. Isolated sumps and pumps may provide a sufficiently dry excavation base which to work from, however well points or more extensive dewatering may be required dependent on the groundwater depth at the time of excavation. If significant groundwater inflow is experienced into the excavation a 200mm thick drainage blanket of geotextile (A19 Bidim Cloth or equivalent) wrapped railway ballast may need to be installed in the base of the excavation to provide a free-draining platform from which to conduct fill placement and compaction.

Dewatering and excavation side-wall retention are the responsibility of the contractor.

12.3 Local Soft / Organic Ground

Soft soils or those rich in organic matter should be treated as unsuitable. If encountered during excavations these materials should be placed in a designated unsuitable stockpile for removal and disposal off site.

12.4 Fill and Backfill

We consider engineered fill should be placed on a suitable subgrade in layers not exceeding 200mm thickness and each layer compacted to achieve a Maximum Dry Density Ratio of at least 95%. A geotechnical engineer should be engaged to assist in assessing suitable subgrade and excavations. Certification testing should also be taken at appropriate spacings and lift intervals.

12.5 Stormwater Control

Concentrated stormwater flows from all impermeable areas must be collected and directed in sealed pipes to the Council system. Uncontrolled stormwater must not be allowed to saturate the ground as this will potentially affect foundation performance both statically and during future seismic activity (liquefaction potential and liquefaction induced settlement both increase with a higher groundwater table which can result from uncontrolled disposal of stormwater).

12.6 Pavement Areas

Vegetation, any organic or deleterious material, topsoil and non-engineered fill should be removed from beneath pavement areas prior to aggregate placement. Based on our observations during testing we consider the natural ground at the site should provide an adequate subgrade for the proposed pavement areas. We recommend for preliminary design a CBR value of 3% or a modulus of subgrade reaction of 20kPa/mm, for flexible or rigid pavements respectively.

The thickness of the basecourse would depend on the final CBR/modulus of subgrade reaction used for the subgrade and the traffic loads anticipated. Laboratory CBR testing is recommended prior to construction. The compaction of the basecourse should be carried out with a vibratory roller of appropriate static weight and energy.

12.7 Underground Services

Flexible connections should be constructed where all service drains and ducts enter/exit either concrete floor slabs or areas of ground improvement. Service trench backfill should comprise well graded crushed stone aggregate (i.e. GAP 65) treated with 3% cement by weight.

The contractor is responsible for ascertaining whether any major services are present within the site. This should be confirmed prior to any earth-working.

13. Further Geotechnical Involvement

13.1 Geotechnical Drawing Review

A geotechnical engineer familiar with the findings of this report should be engaged to review the final working drawings of the proposed development prior to submission to the Building Consent Authority, to ensure the geotechnical recommendations of this report have been implemented correctly. Further geotechnical analysis may be warranted at this stage subject to the specifics of the development proposal.

13.2 Construction Observations

A Geotechnical Engineer familiar with the findings of this report should be engaged to carry out observations during foundation excavations to confirm soil and foundation design criteria are consistent with those adopted within this report. Inspections will not be carried out prior to Council issuing the required Resource and/or Building Consents, and unconsented works will not be inspected.

The recommendations given in this report are based on limited site data from discrete locations. Variations in ground conditions could exist across the site. It is in the interests of all parties that we be retained to observe excavations and foundation conditions exposed during construction, so that ground conditions can be compared with those assumed in formulating this report. In any event, we should be notified of any variations in ground conditions from those described or assumed to exist.

Without sufficient observations during the subgrade preparation prior to placement of fill or concrete, CGW Consulting Engineers will not be in a position to provide engineering signoff (i.e. Earthworks Completion Report, Professional Opinion or Producer Statement PS4). We recommend once a Resource and/or Building Consent be issued it be forwarded to us for review. We will then on-forward a schedule of inspections required by us in order to meet the consent conditions. Areas where concrete or fill are placed without prior geotechnical observation will be specifically excluded from completion documentation.

14. Statement of Professional Opinion

A statement of professional opinion with regards to the proposed development is provided in Appendix G.

15. References

a. Brown L.J. & Weeber J.H. 1992. Geology of the Christchurch Urban Area. Institute of Geological & Nuclear Sciences 1:25,000 geological map 1. 104 p + 1 map sheet. GNS Science, Lower Hutt, New Zealand.

b. Canterbury Earthquake Recovery Authority (CERA), 2015. Canterbury Geotechnical Database (CGD), Available at https://canterburygeotechnicaldatabase.projectorbit.com [accessed 15/11/2020]

c. Department of Building and Housing, 2011. Compliance Document for New Zealand Building Code: Clause B1 Structure.

d. Forsyth, P.J.; Barrell, D.J.A.; Jongens, R. (compilers) 2008. Geology of the Christchurch Area, Scale 1:250,000, GNS Science, Institute of Geological & Nuclear Sciences, Lower Hutt. Geological Map 16.

e. LandTech Consulting Engineers, Geotechnical Assessment Report for Proposed Residential Subdivision, 102 Birkdale Drive, Westhaven, Christchurch, ref. LTC21320, Rev. A dated 2021.

f. Ministry of Business, Innovation and Employment, 2012. Repairing and rebuilding houses affected by the Canterbury earthquake sequence, Christchurch, New Zealand.

g. Ministry of Business, Innovation and Employment, 2014a. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure, Verification Method B1/VM4, Foundations, New Zealand.

h. Ministry of Business, Innovation and Employment, 2014b. Clarifications and updates to the Guidance 'Repairing and rebuilding houses affected by the Canterbury earthquakes', Issue 7, October 2014.

i. NZGS, 2005. Field Description of Soil and Rock. Guideline for the Field Classification and Description of Soil and Rock for Engineering Purposes, NZ Geotechnical Society Inc, Wellington, New Zealand.

Appendix A: Limitations

This report has been prepared solely for the benefit of our client, Suburban Estates Limited, as per our brief and an agreed consultancy agreement. The reliance by any other parties on the information or opinions contained in this report shall, without our prior agreement in writing, be at such parties' sole risk.

The conclusions and recommendations contained within this report are based on the investigations as described in detail above. The nature and continuity of subsoil conditions are inferred and it must be appreciated that actual conditions could vary considerably. Defects and unforeseen ground conditions may remain undetected which might adversely affect the stability of the site and the recommendation made herein.

This report has been prepared solely to address the issues raised in our brief, and shall not be relied on for any other purpose.

Where we have provided comments on aesthetic issues these need to be confirmed by an architect or other expert in the field.

In the event the third party investigation data has been provided to us, the client acknowledges that we have placed reliance on this information to produce our report and CGW will accept no liability resulting from any errors or defect in the third party data provided to us.

Appendix B: Test Location Plan

Approximate True North

Legend:

HA/DCP	Approximate Hand Auger & Scala Locations
Piezo	Approximate Piezometer Locations
CPT	Cone Penetration Test Locations
CPT	Nearby CPT Investigation Locations taken from NZGD

Notes:

1. CGW Consulting Engineers Test Location Plan adapted from Ecan or Google maps.
2. It should be borne in mind that locations of features are approximate only.
3. Original plan size A4.

CGW Consulting Engineers

Civil Structural Environmental Geotechnical

Nelson Ph: 548 - 8259
Christchurch Ph: 348 - 1000

DATE:	May 2022
DRAWN:	GG
SCALE:	NTS
CAD REF:	220343

Test Location Plan

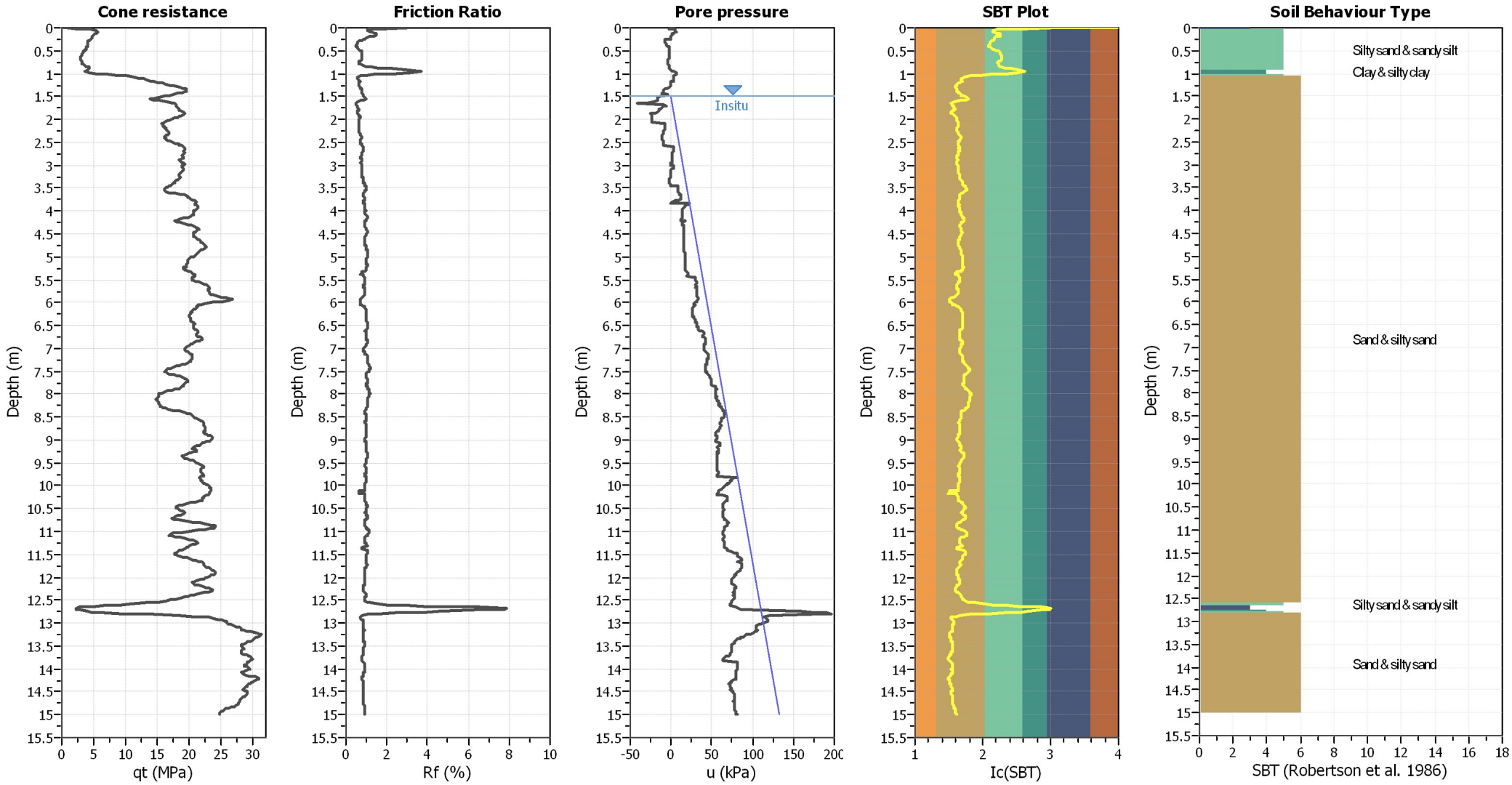
Shirley Golf
Christchurch

DRAWING NO: **220343/1**

SHEET 1 OF 1

Appendix C: Nearby Geotechnical Data

CPT basic interpretation plots



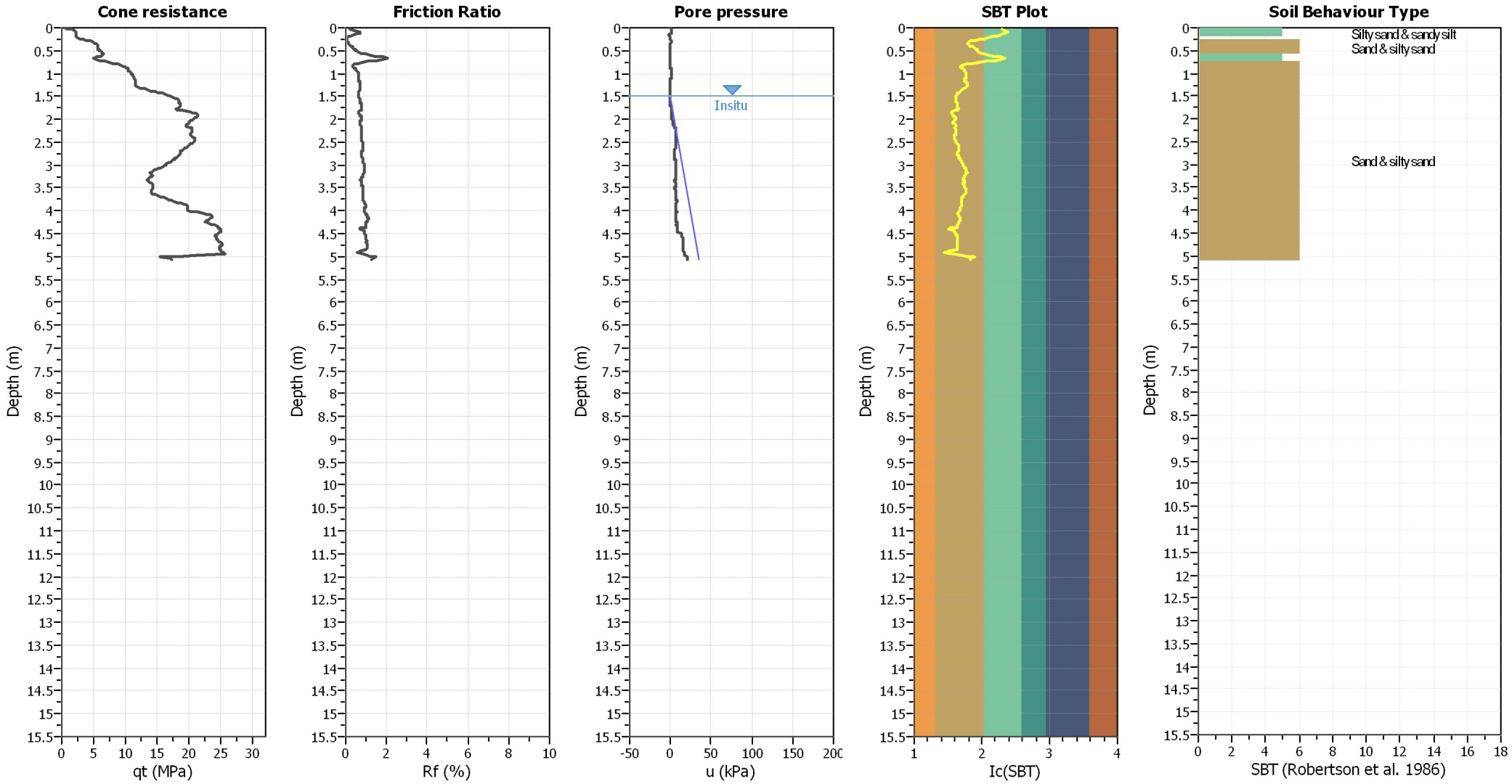
Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	3	Transition detect. applied:	Sands only
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	.
Peak ground acceleration:	0.35	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.50 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots



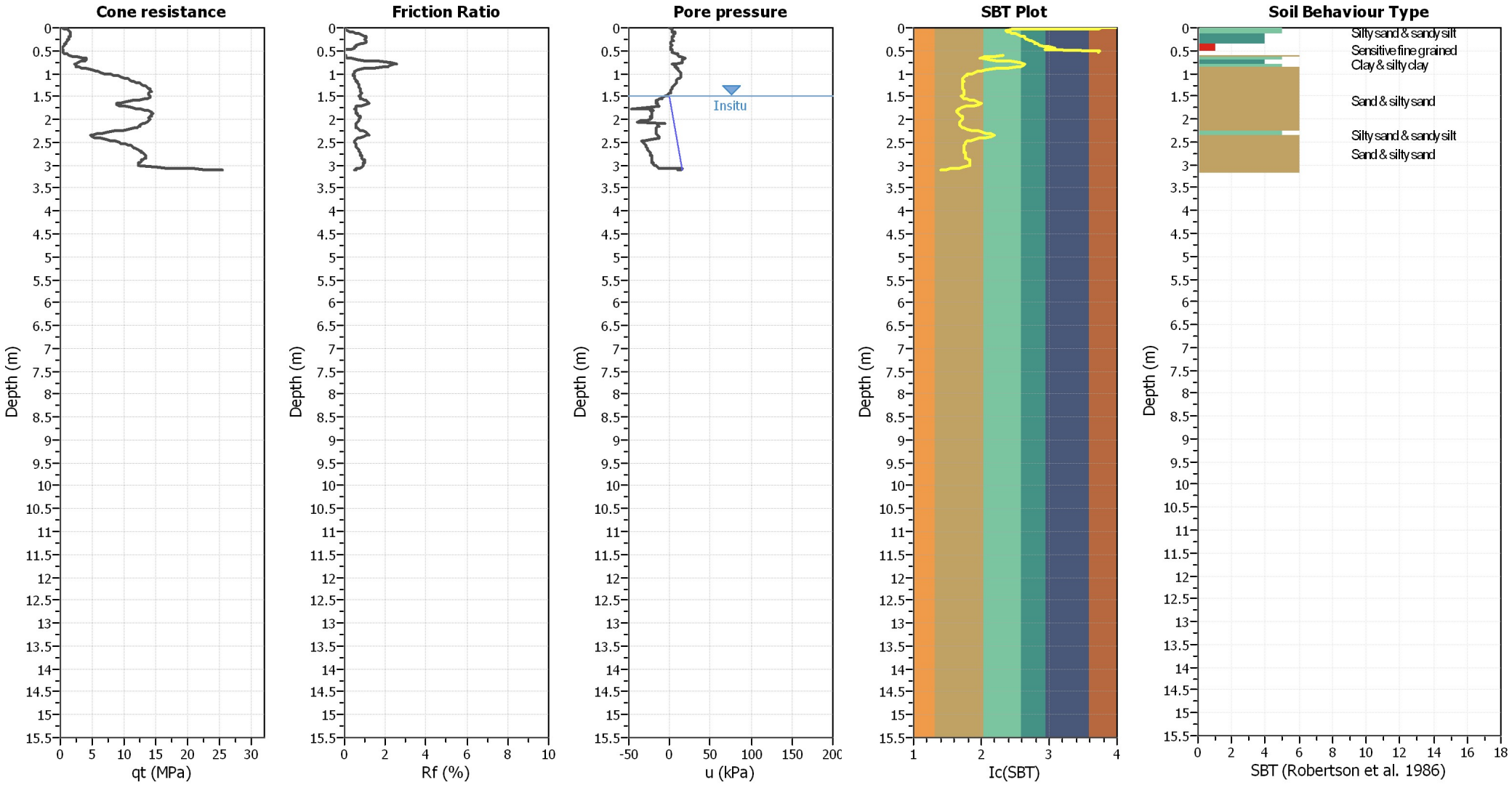
Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	3	Transition detect. applied:	Sands only
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	.
Peak ground acceleration:	0.35	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.50 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots



Input parameters and analysis data

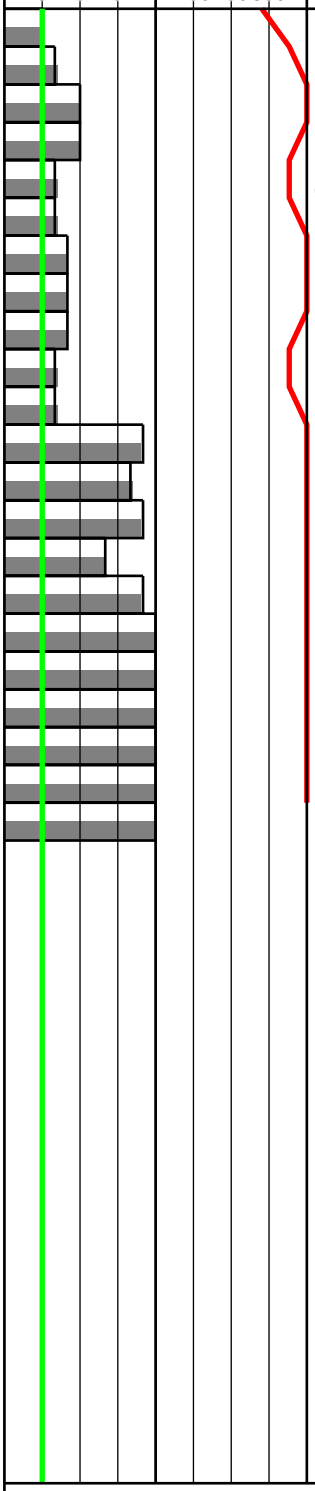
Analysis method:	I&B (2008)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	3	Transition detect. applied:	Sands only
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	.
Peak ground acceleration:	0.35	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.50 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Appendix D: Hand Auger & Scala Logs

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP01
	GL (mAOD): 3.22	N Coord: -43.49067	E Coord: 172.672194
Date: 06/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Samples / Testing	Level mAHD	Legend	Depth (m)	Description	Water
				Silty Fine SAND, trace fine sand, dark greyish brown. Stiff, moist, non-plastic, trace rootlets. (TOPSOIL)	
	2.92		0.30		
0.5 V-93-47				SILT, trace fine sand, dark greyish brown. Firm, moist, non-plastic. (DUNE DEPOSITS)	
	2.62		0.60		
				Fine SAND, minor silt, greyish brown. Medium dense, moist. (DUNE DEPOSITS)	
1 V-93-47	2.22		1.00	0.80 Colour changes to grey.	
	2.12		1.10		
				SILT, trace fine sand, brown. Stiff, moist, moderately plastic. (MARINE DEPOSITS)	
	1.92		1.30		
				Fine to medium SAND, trace silt, light grey. Dense, wet. (DUNE DEPOSITS)	▼
				1.50 Colour changes to grey.	
				1.70 Becomes saturated.	
	1.32		1.90		
	1.22		2.00	End Of Hole At 1.90 m	
	0.22		3.00		

KEY

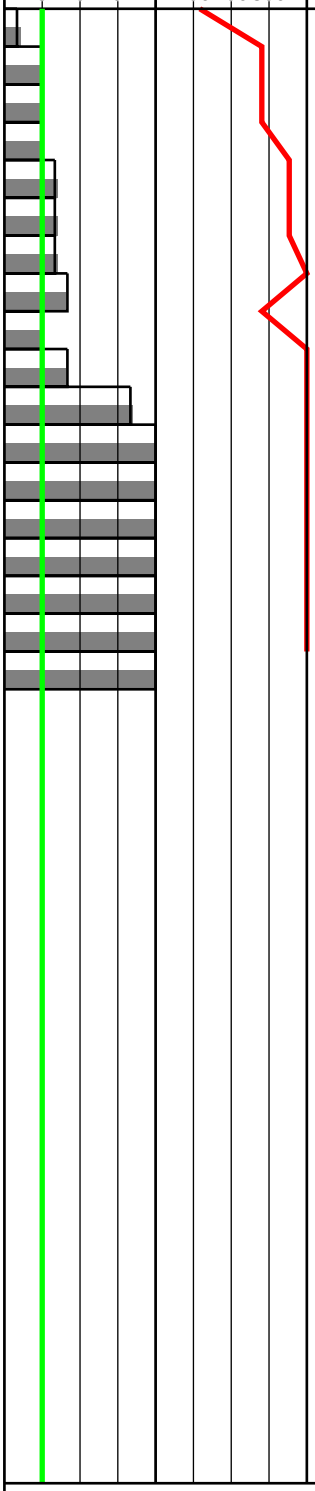
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP02
	GL (mAOD): 3.19	N Coord: -43.491081	E Coord: 172.672284
Date: 06/05/2022	Method: Hand Auger/Scala	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Samples / Testing	Level mAHD	Legend	Depth (m)	Description	Water
				SILT, some fine sand, dark brown. Stiff, moist, non-plastic, trace rootlets. (TOPSOIL)	
	2.89		0.30		
				Fine SAND, trace silt, light grey. Medium dense, moist. (DUNE DEPOSITS)	
	2.29		0.90	0.80 Becomes moist to wet.	
1 V-109-37	2.19		1.00	SILT, trace fine sand, greyish brown. Stiff, moist to wet, moderately plastic (MARINE DEPOSITS)	
	2.09		1.10		
				Fine to medium SAND, trace silt, greyish brown. Dense, wet. (DUNE DEPOSITS)	▼
				1.60 Colour changes to grey, saturated.	
	1.39		1.80		
				End Of Hole At 1.80 m	
	1.19		2.00		
	0.19		3.00		

KEY

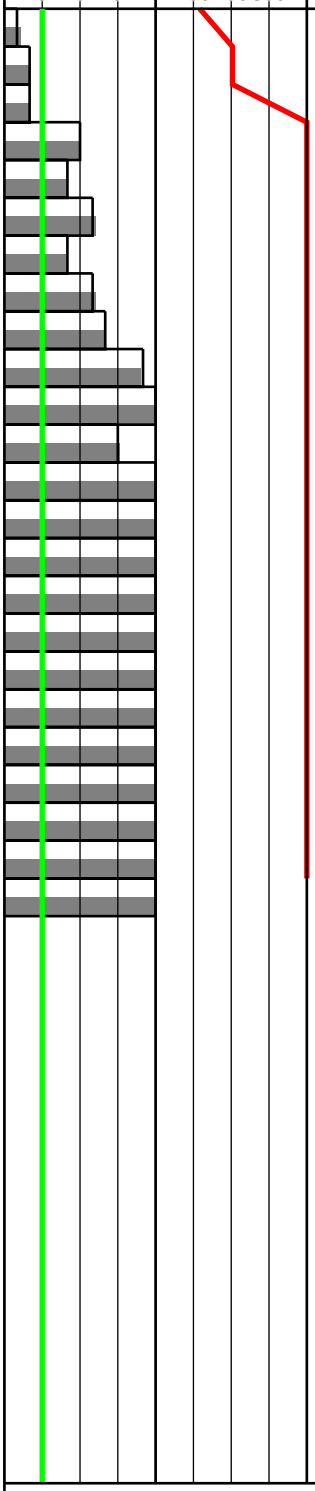
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP03
	GL (mAOD): 3.22	N Coord: -43.491415	E Coord: 172.672023
Date: 06/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Level mAHD	Legend	Depth (m)	Description	Water
3.12		0.10	Fine SAND, grey. Medium dense, dry. (NON-ENGINEERED FILL)	
2.82		0.40	SILT, some fine sand, dark brown. Firm, moist, non-plastic, trace rootlets. (BURIED TOPSOIL)	
			Fine SAND,trace silt, grey. Medium dense, moist. (DUNE DEPOSITS)	
2.22		1.00	0.90 Becomes moist to wet.	
2.02		1.20		
1.82		1.40	SILT, trace fine sand, greyish brown. Stiff, wet, moderately plastic, trace partially decomposed roots. (MARINE DEPOSITS)	
			Fine to medium SAND, minor silt, greyish brown. Dense, wet. (DUNE DEPOSITS)	▼
1.22		2.00	2.10 Colour changes to grey, saturated.	
0.92		2.30	End Of Hole At 2.30 m	
0.22		3.00		

KEY

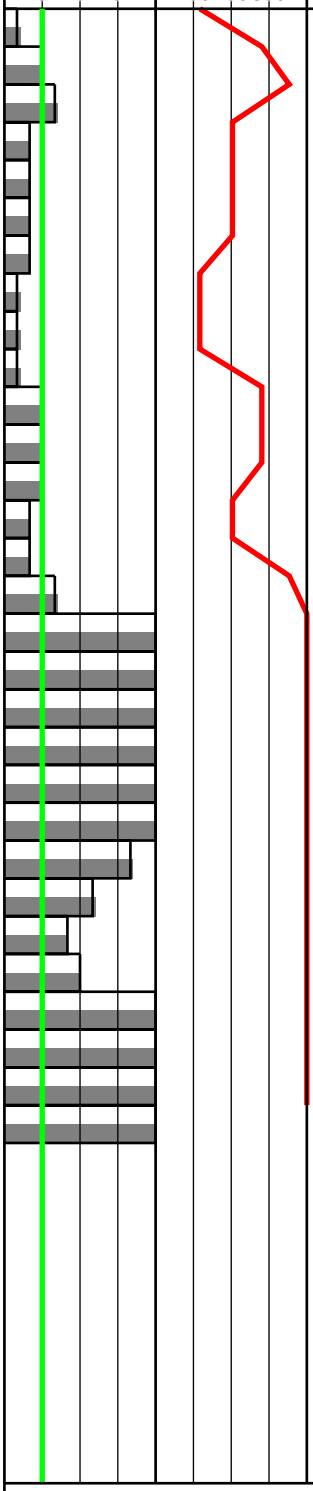
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP04
	GL (mAOD): 4.55	N Coord: -43.491255	E Coord: 172.67151
Date: 06/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Level mAHD	Legend	Depth (m)	Description
			Fine SAND, grey. Medium dense, moist, trace rootlets. (TOPSOIL)
4.35		0.20	Fine SAND, greyish brown. Medium dense, moist. (DUNE DEPOSITS)
			0.80 Fine to medium SAND.
3.55		1.00	
			1.40 Trace silt.
			1.60 Minor silt, trace fine to medium, subrounded gravel, dense.
			1.80 Trace silt, moist to wet.
2.55		2.00	
			2.10 Becomes wet.
1.55		3.00	End Of Hole At 3.00 m

Water

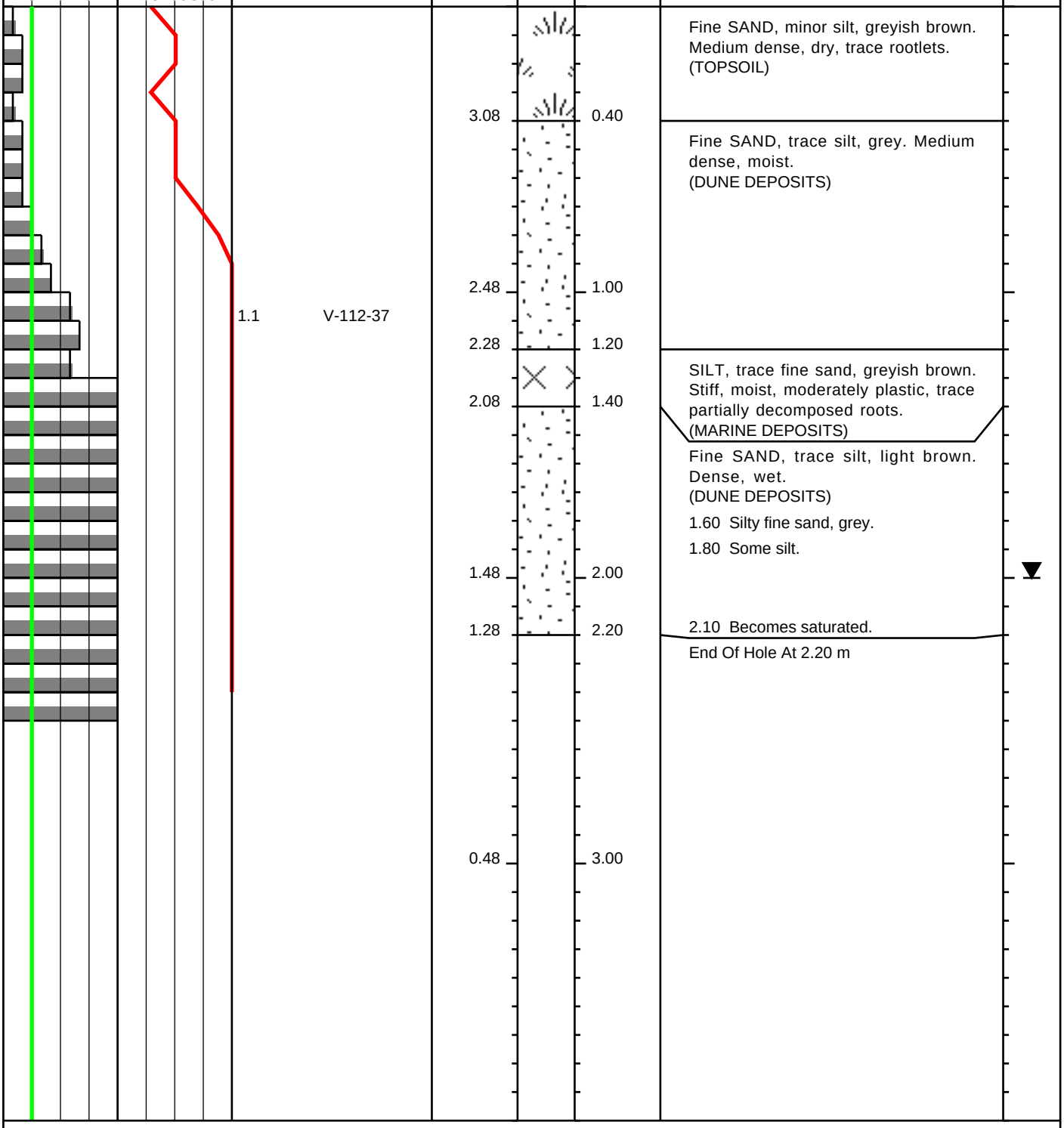
KEY

D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa
▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

No Groundwater Encountered
Terminated at target depth

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP05
	GL (mAOD): 3.48	N Coord: -43.490765	E Coord: 172.671285
Date: 09/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



KEY

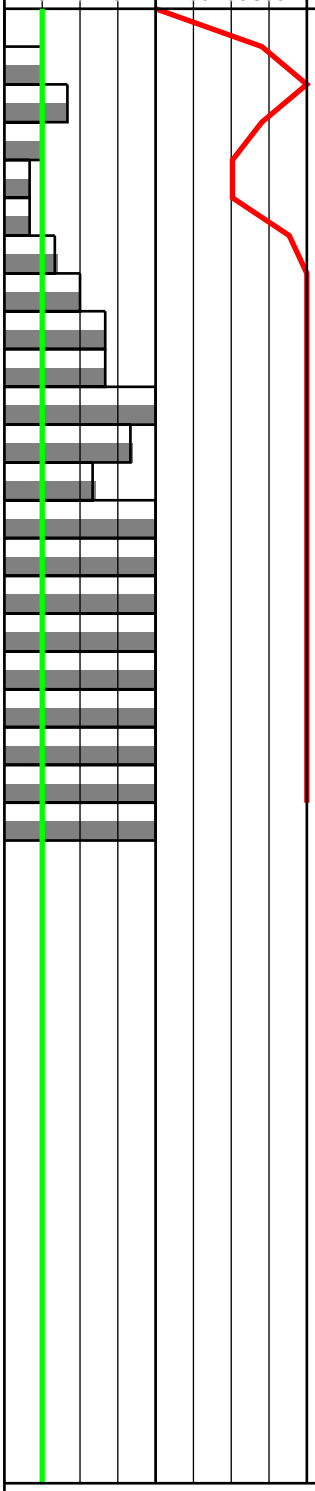
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP06
	GL (mAOD): 3.02	N Coord: -43.490228	E Coord: 172.671358
Date: 09/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Level mAHD	Depth (m)	Description	Water
2.72	0.30	Fine SAND, some silt, dark brown. Medium dense, moist, trace rootlets. (TOPSOIL)	
		Fine SAND, trace silt, greyish brown. Medium dense, moist (DUNE DEPOSITS)	
2.02	1.00	0.90 Colour changes to grey, becomes moist to wet.	
1.92	1.10	SILT, trace fine sand, greyish brown. Stiff, wet, moderately plastic. (MARINE DEPOSITS)	
1.72	1.30	Fine SAND, trace silt, grey. Dense, wet. (DUNE DEPOSITS)	
1.42	1.60	End Of Hole At 1.60 m	
1.02	2.00		
0.02	3.00		

KEY

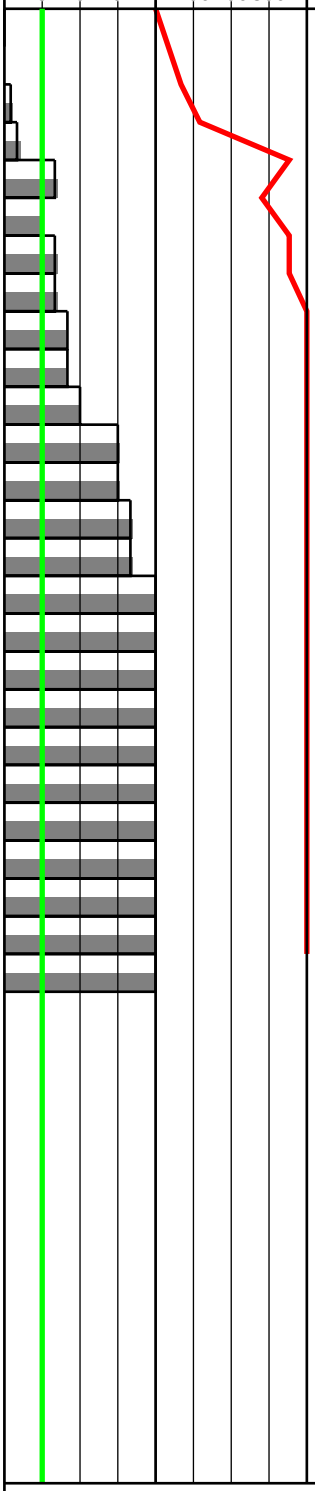
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

No Groundwater Encountered
Terminated due to dense substrate encountered

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP07
	GL (mAOD): 3.45	N Coord: -43.489906	E Coord: 172.671387
Date: 09/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Samples / Testing	Level mAHD	Legend	Depth (m)	Description	Water
				Fine SAND, trace silt, greyish brown. Medium dense, moist, trace rootlets. (TOPSOIL)	
	3.15		0.30		
				Fine SAND, trace silt, grey. Medium dense, moist. (DUNE DEPOSITS)	
	2.45		1.00	0.90 Becomes moist to wet.	
	2.35		1.10		
				SILT, trace fine sand, greyish brown. Stiff, wet, moderately plastic. (MARINE DEPOSITS)	
	2.15		1.30		
				Fine to medium SAND, trace silt, greyish brown. Dense, wet. (DUNE DEPOSITS)	▼
	1.55		1.90	1.80 Becomes saturated.	
	1.45		2.00	End Of Hole At 1.90 m	
	0.45		3.00		

KEY

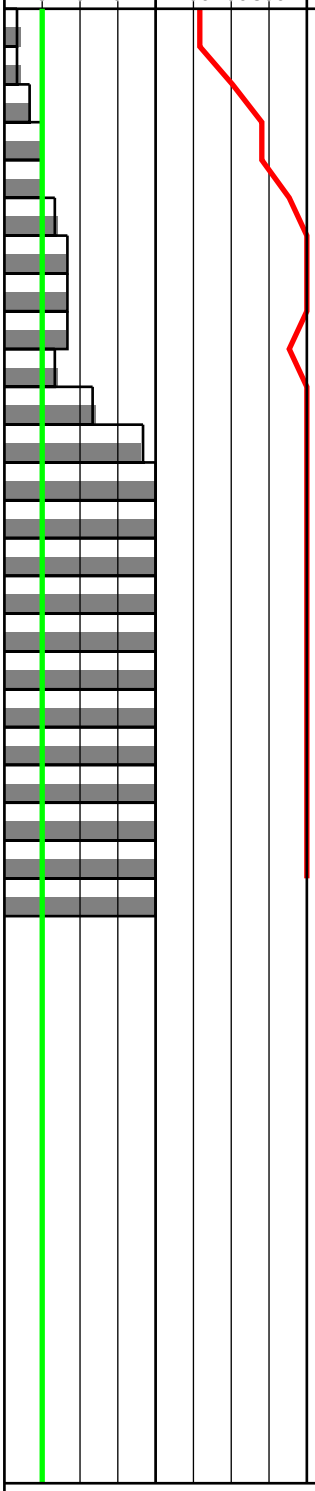
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP08
	GL (mAOD): 3.90	N Coord: -43.489992	E Coord: 172.671932
Date: 09/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Samples / Testing	Level mAHD	Legend	Depth (m)	Description	Water
	3.70		0.20	Fine SAND, trace silt, dark brown. Medium dense, moist, trace rootlets. (TOPSOIL)	
				Fine SAND, trace silt, light brown. Medium dense, moist. (DUNE DEPOSITS)	
	3.00		0.90	0.80 Becomes moist to wet.	
	2.90		1.00	SILT, trace fine sand, greyish brown. Stiff, wet, moderately plastic, partially decomposed roots. (MARINE DEPOSITS)	
	2.80		1.10		
				Fine to medium SAND, trace silt, greyish brown. Dense, wet. (DUNE DEPOSITS)	▼
	2.00		1.90	1.80 Becomes saturated	
	1.90		2.00	End Of Hole At 1.90 m	
	0.90		3.00		

KEY

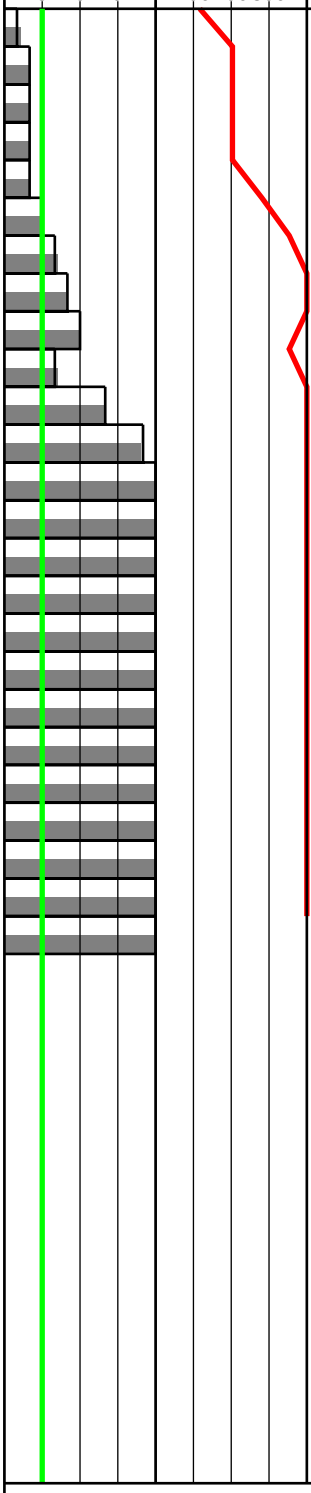
D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

CGW Consulting Engineers	Project Title: Shirley Golf, Christchurch		
	Project Number: 220343	Client: Suburban Estates Ltd	HA/DCP09
	GL (mAOD): 3.45	N Coord: -43.490873	E Coord: 172.671727
Date: 09/05/2022	Method: Hand Auger/DCP	Logged By: GG	Scale: 1:20 Sheet 1 Of 1



Samples / Testing	Level mAHD	Legend	Depth (m)	Description	Water
				Fine SAND, some silt, dark brown. Medium dense, moist, trace rootlets. (TOPSOIL)	
	3.05		0.40		
				Fine SAND, trace silt, light grey. Medium dense, moist. (DUNE DEPOSITS)	
	2.55		0.90	0.80 Becomes moist to wet.	
1 V-187-37	2.45		1.00	SILT, trace fine sand, greyish brown. Very stiff, wet, moderately plastic. (MARINE DEPOSITS)	
	2.35		1.10		
				Fine to medium SAND, minor silt, grey. Dense, wet. (DUNE DEPOSITS)	
				1.70 Becomes saturated.	
	1.55		1.90		
	1.45		2.00	End Of Hole At 1.90 m	
	0.45		3.00		

KEY

D - Disturbed Sample
B - Bulk Sample
W - Water Sample
V - Hand Shear Vane kPa

▽ - Groundwater Strike
▼ - Groundwater Level

REMARKS

Hole collapsed / No recovery

Appendix E: Cone Penetration Tests

CGW Consulting Engineers
https://www.cgwl.co.nz/

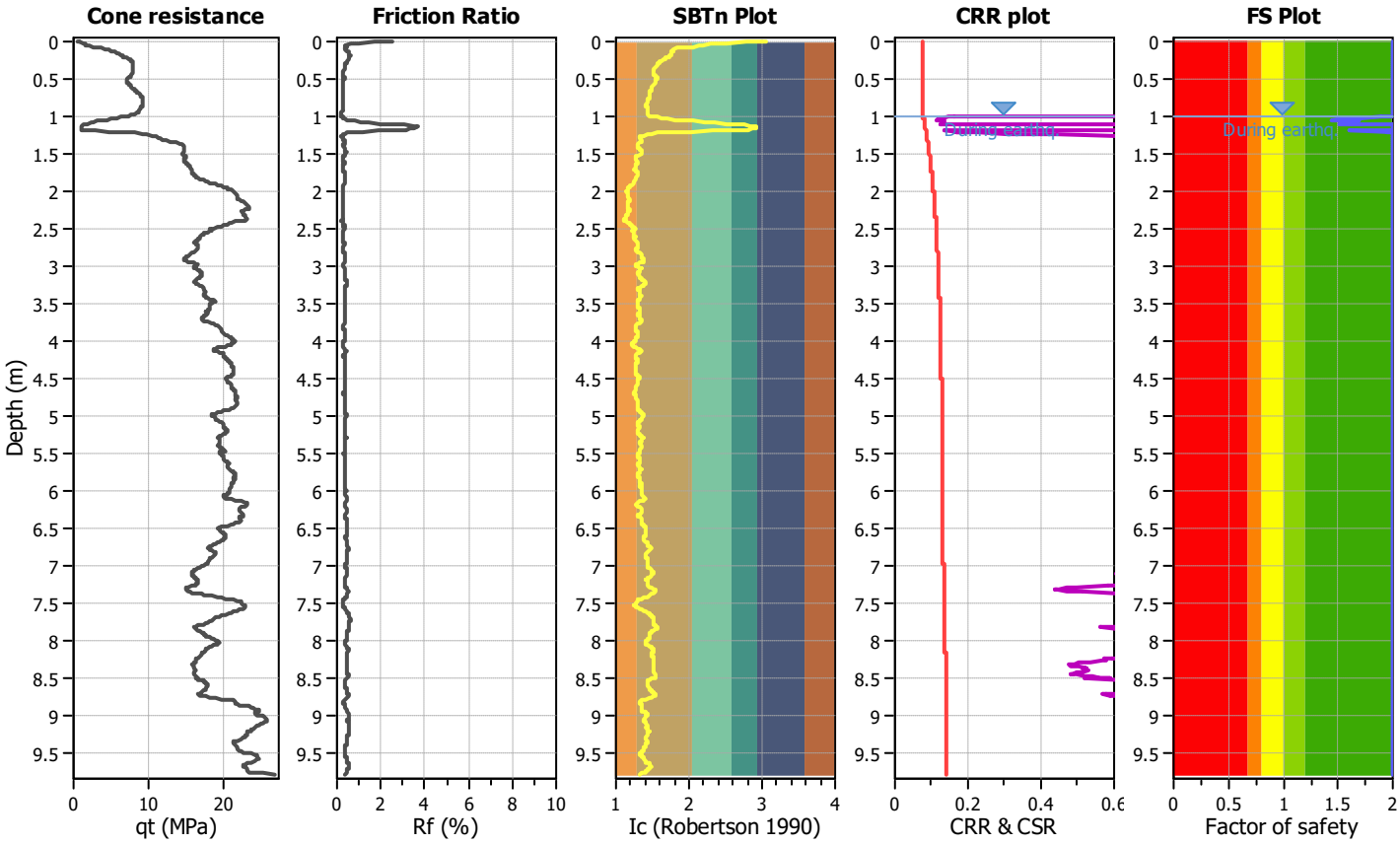
LIQUEFACTION ANALYSIS REPORT

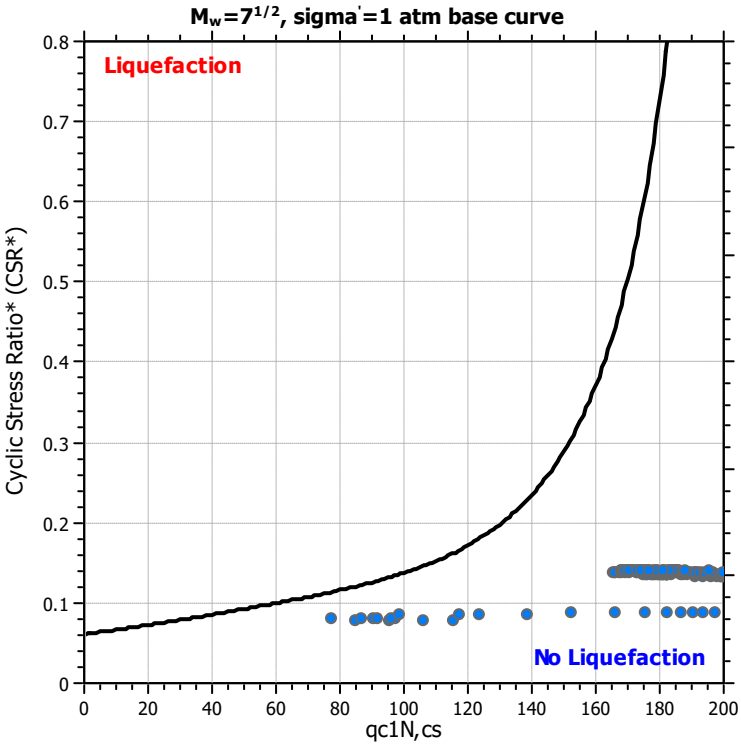
Project title : 220343 - Liquefacion Analysis **Location : Shirley Golf Club, Shirley, Christchurch**

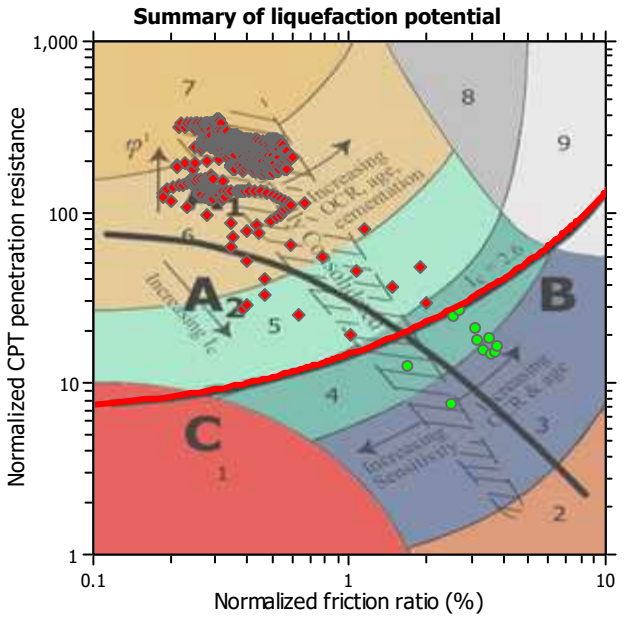
CPT file : CPT01 - SLS1

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.50	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method
Peak ground acceleration:	0.13	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

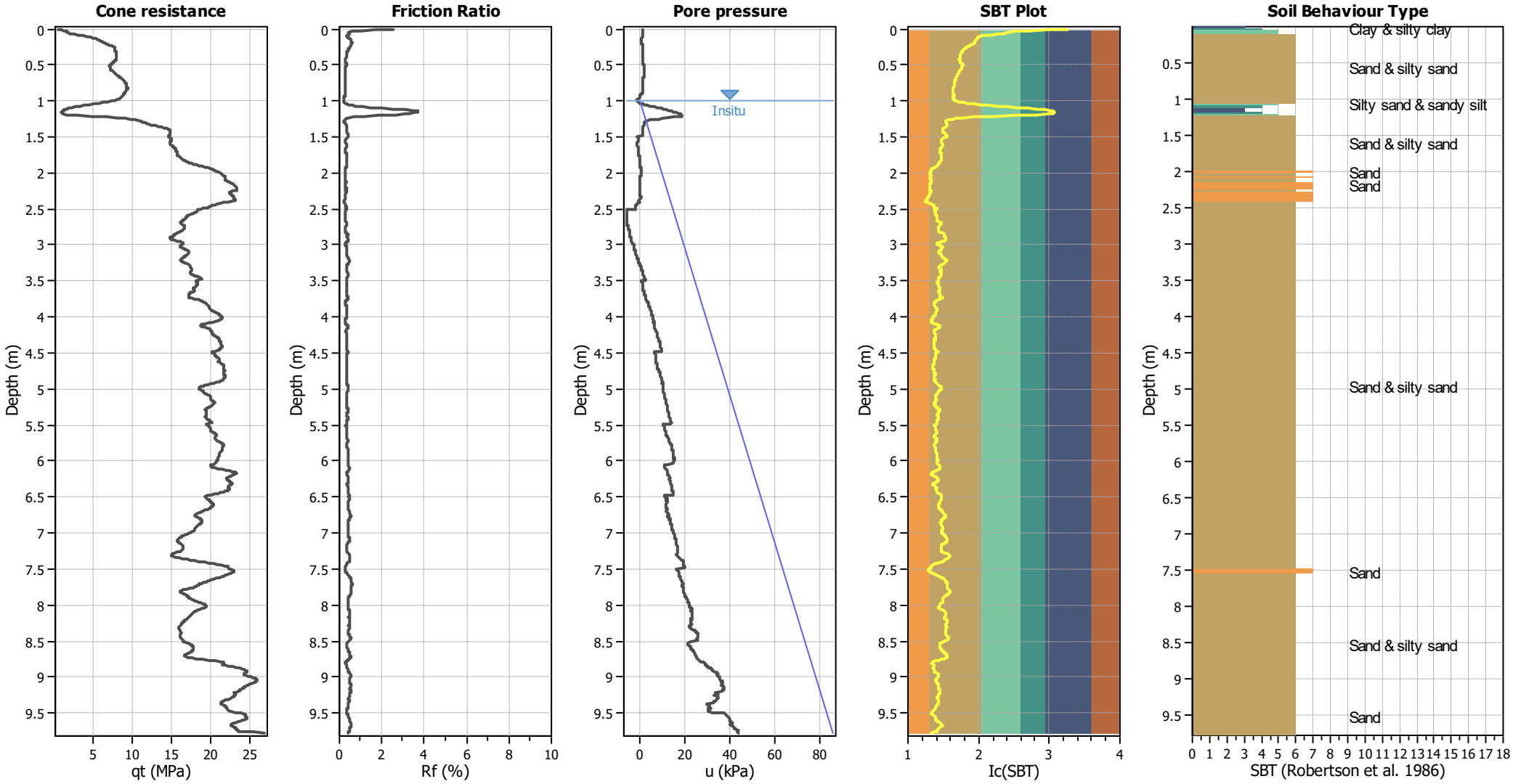






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.13	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

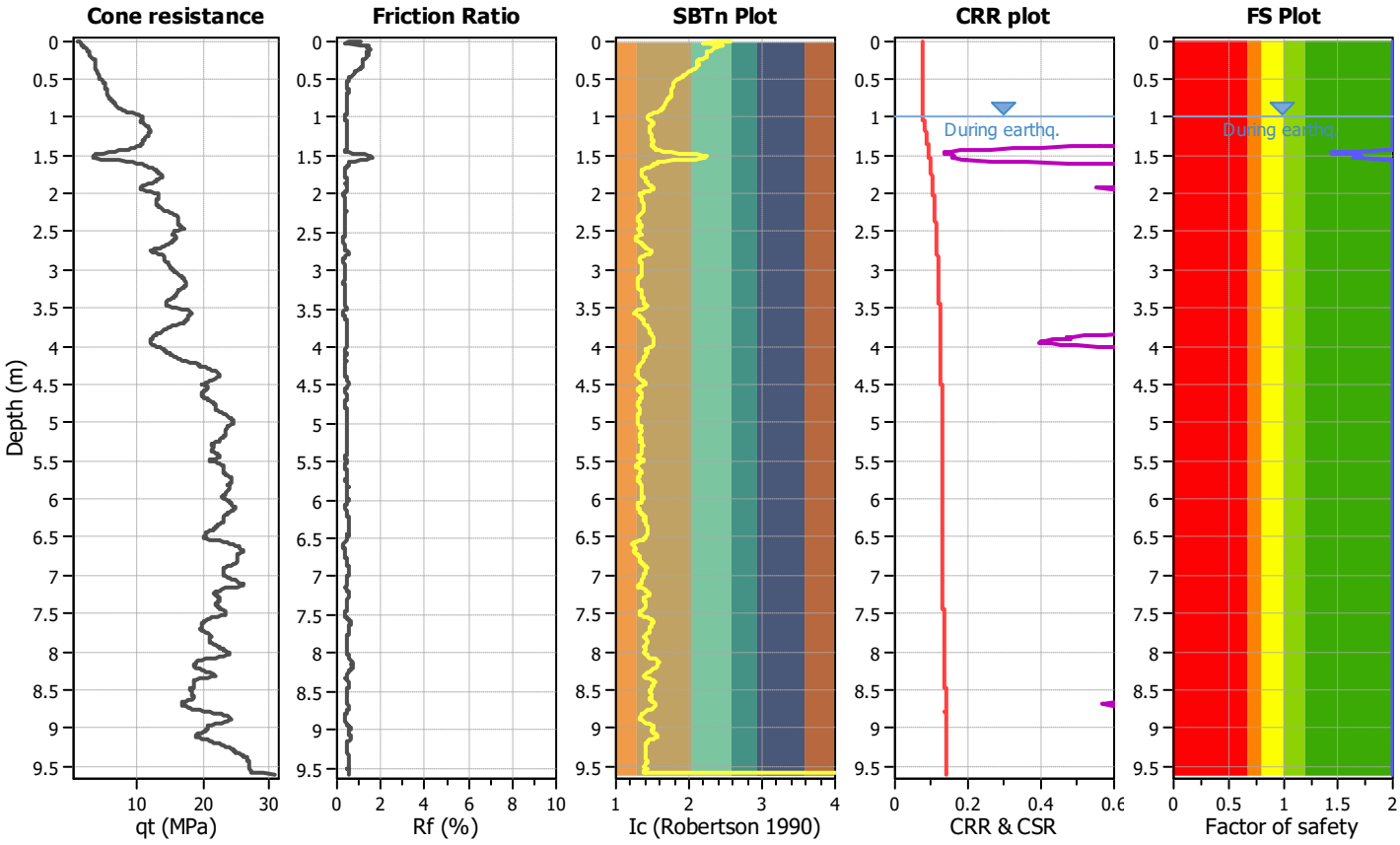
LIQUEFACTION ANALYSIS REPORT

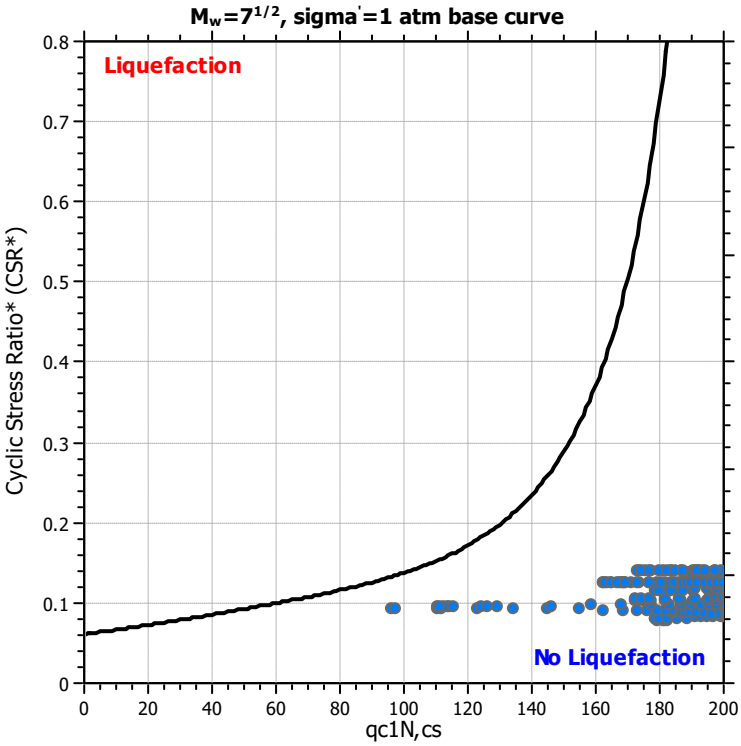
Project title : 220343 - Liquefacion Analysis **Location : Shirley Golf Club, Shirley, Christchurch**

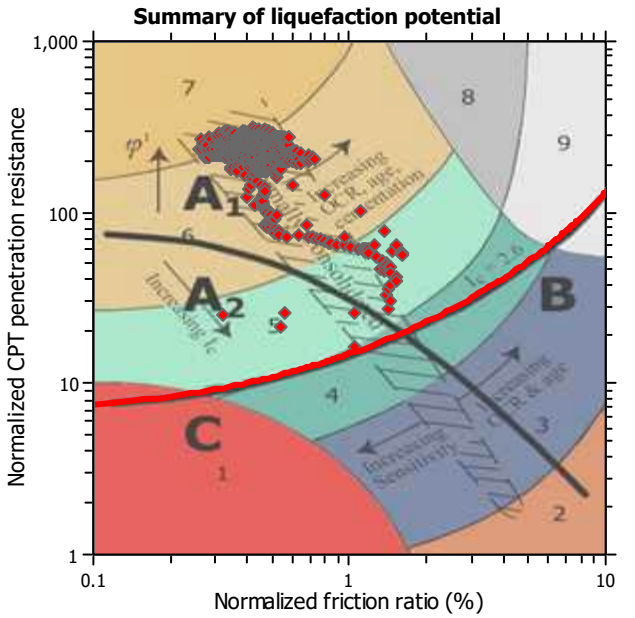
CPT file : CPT02 - SLS1

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.50	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method
Peak ground acceleration:	0.13	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

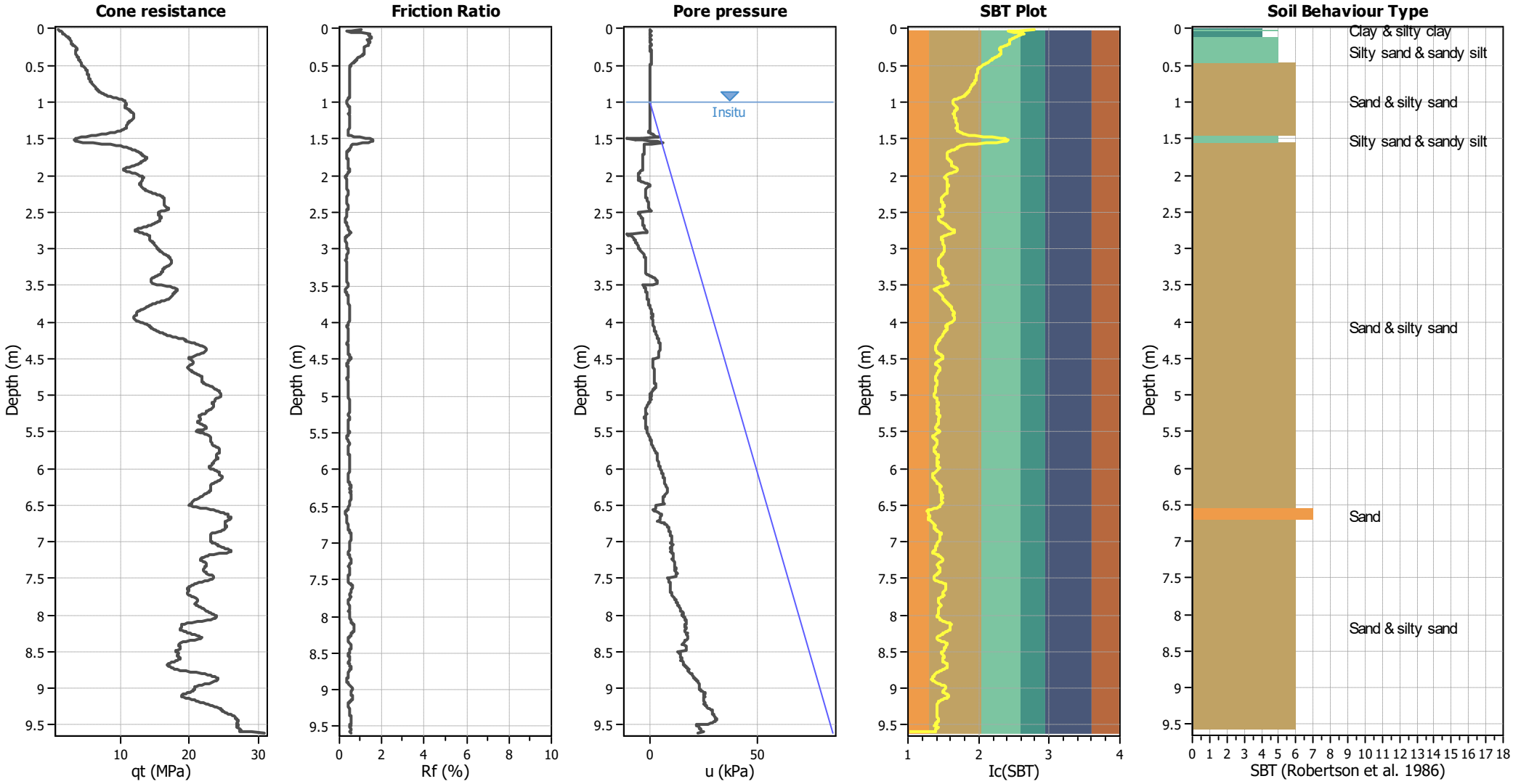






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



Input parameters and analysis data

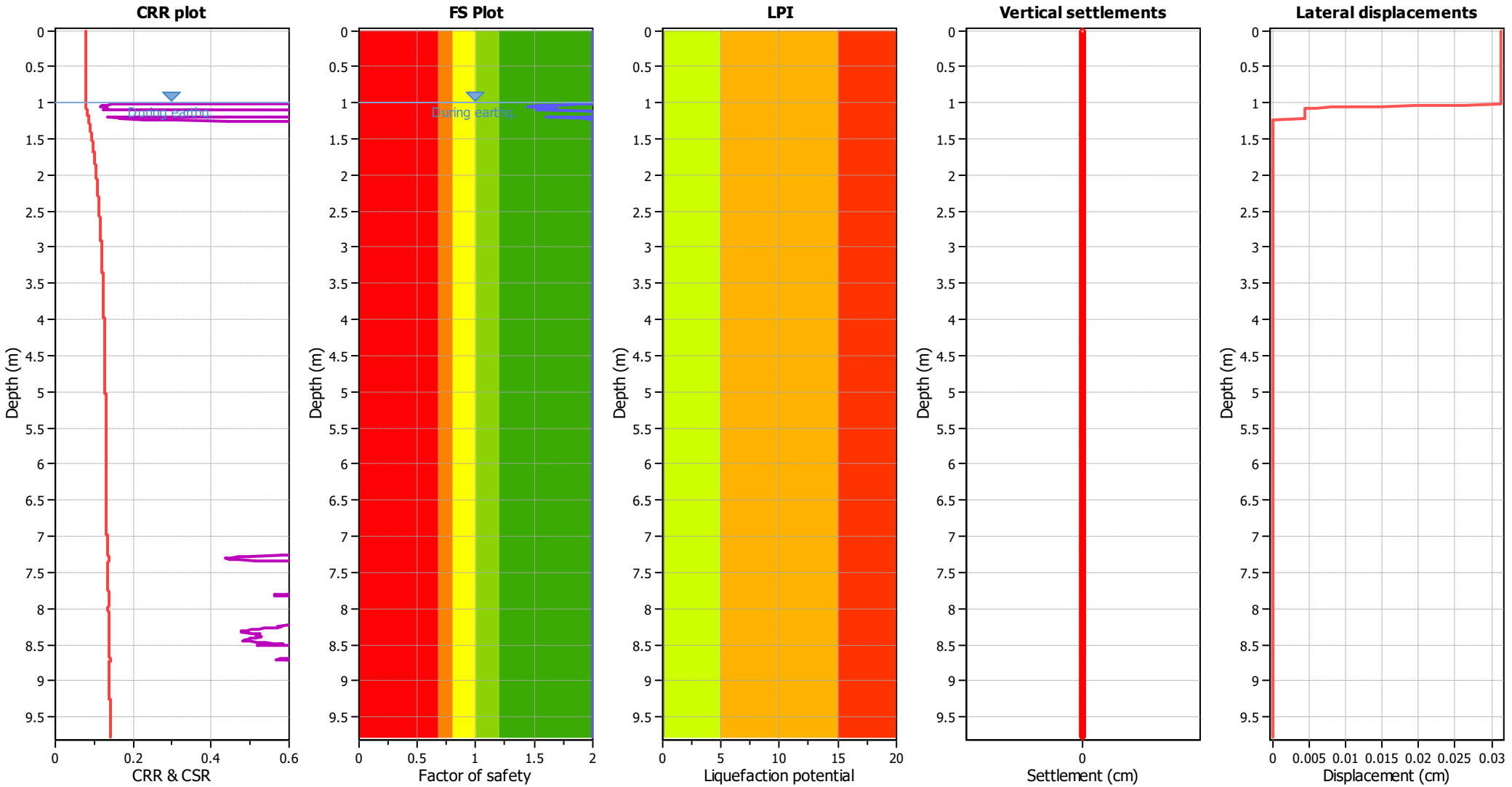
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.13	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Appendix F: Liquefaction Analysis Outputs

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.13	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

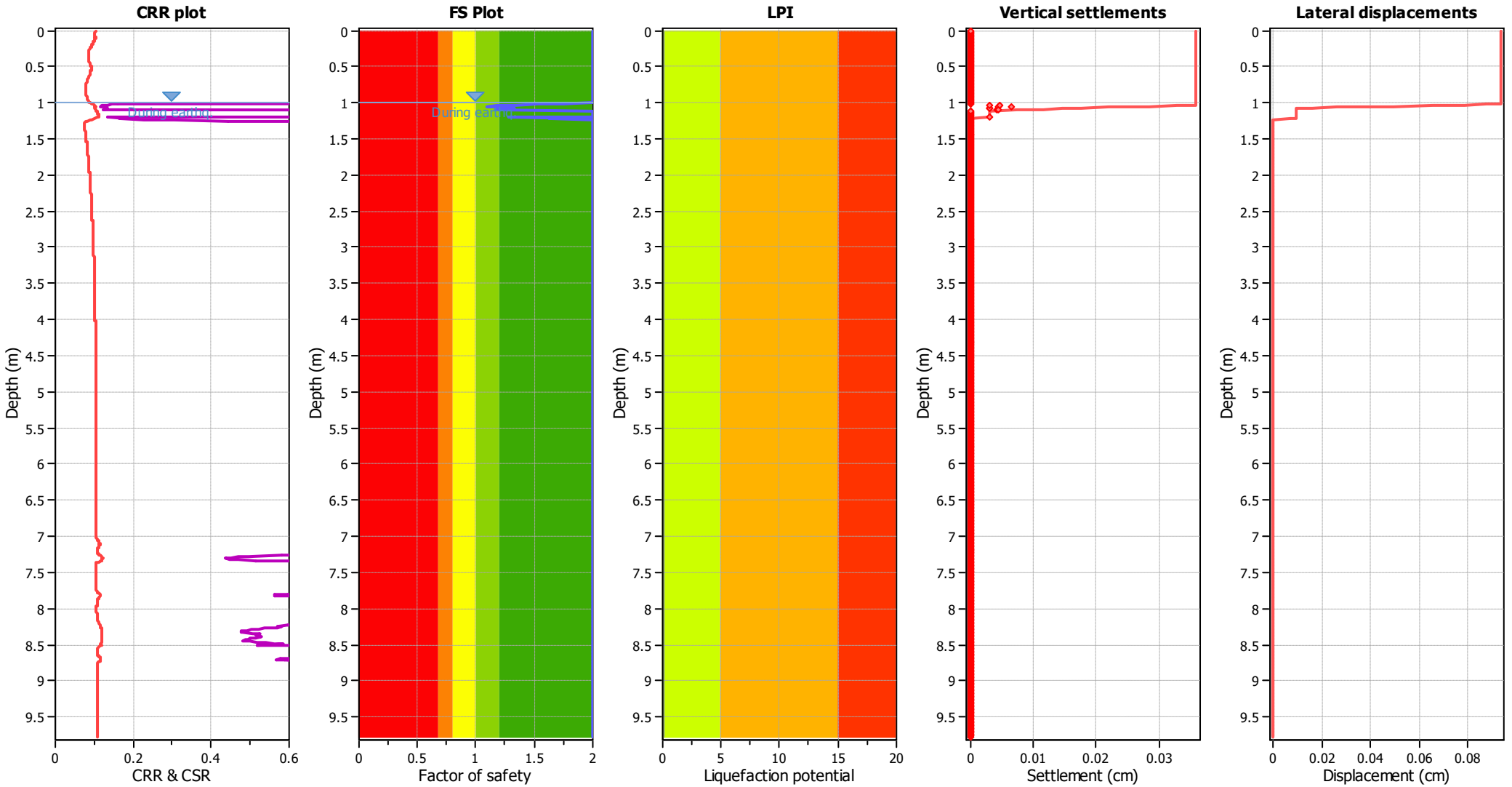
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.00	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.19	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

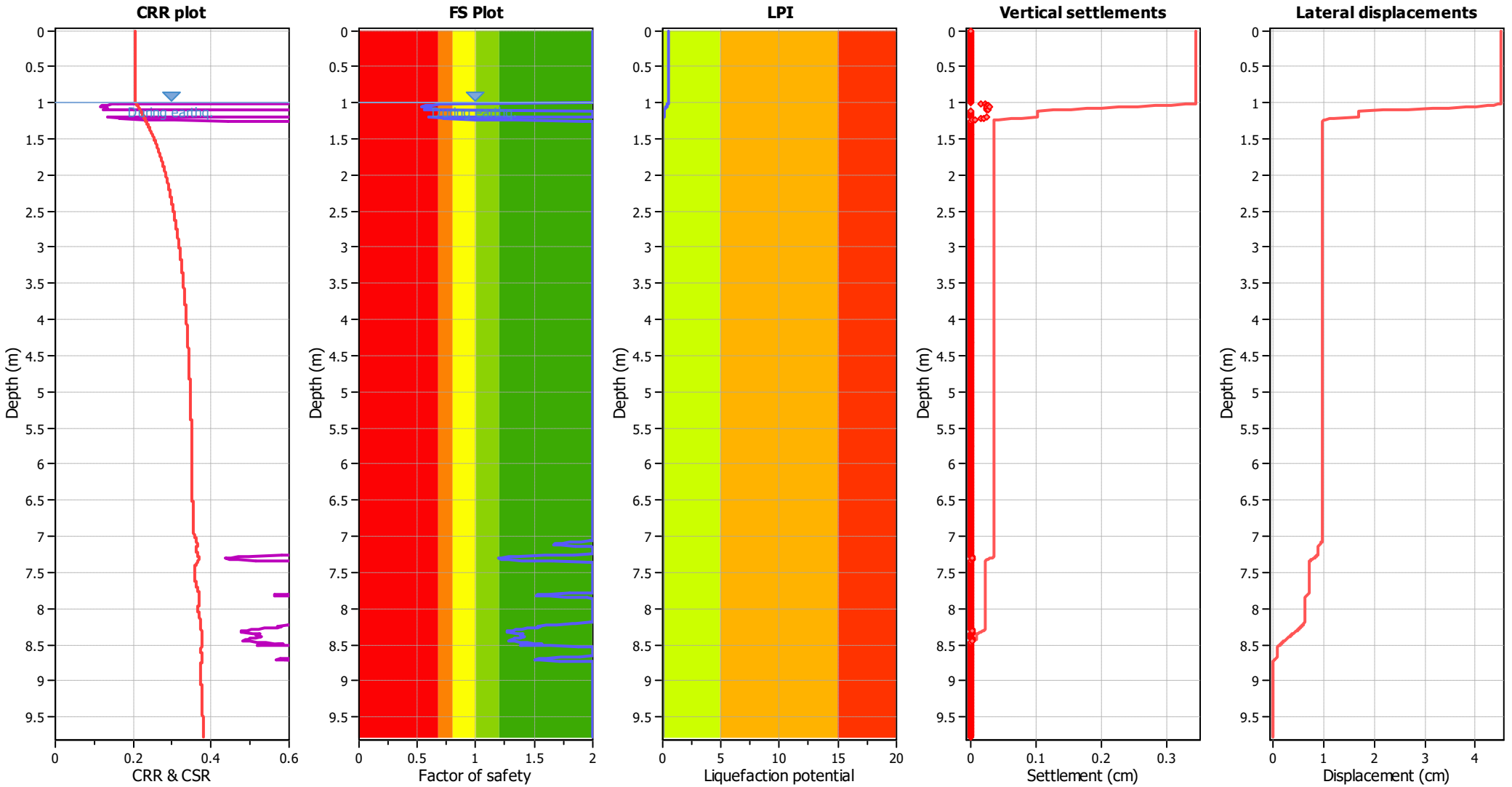
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.35	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

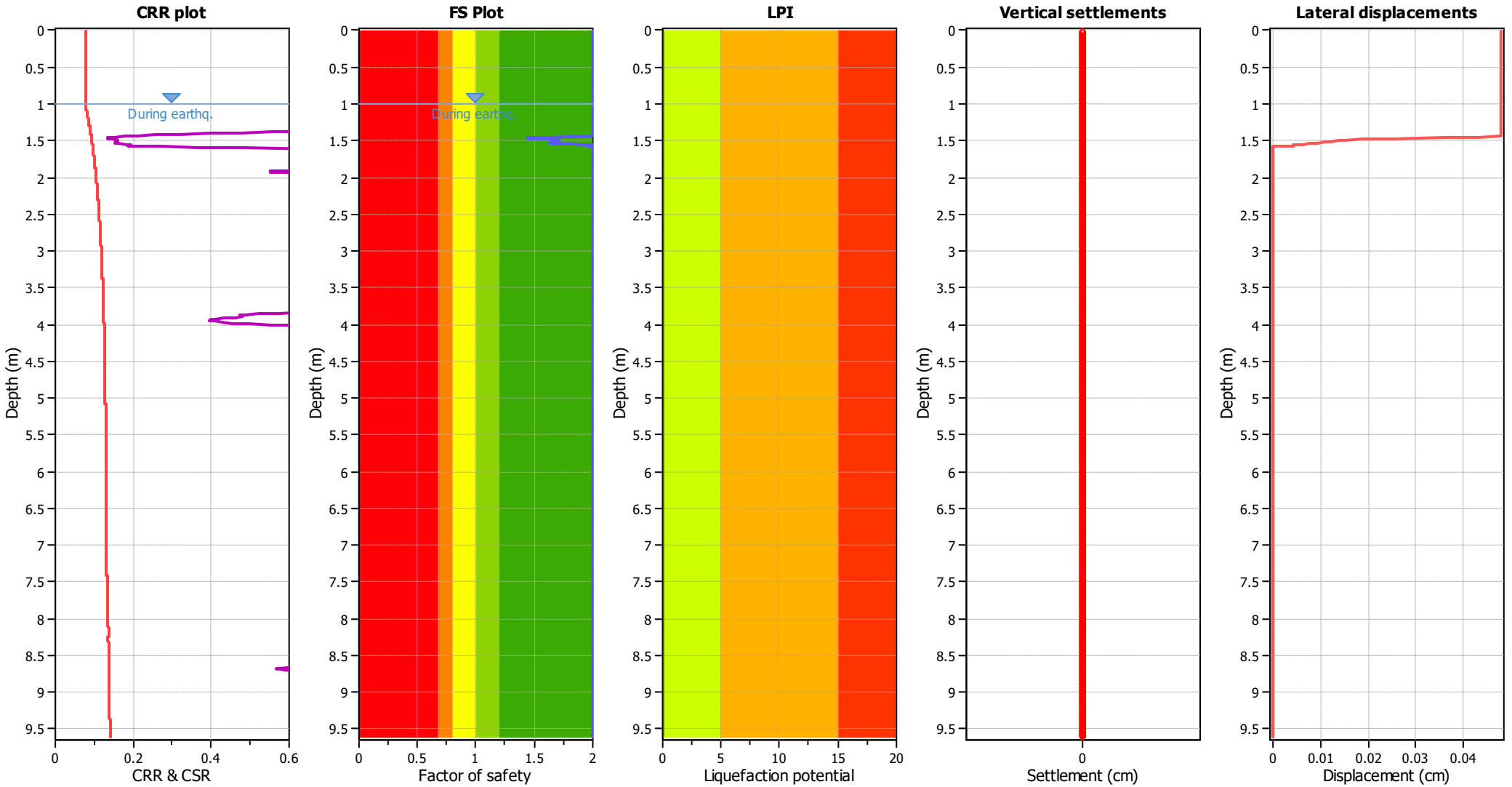
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.13	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

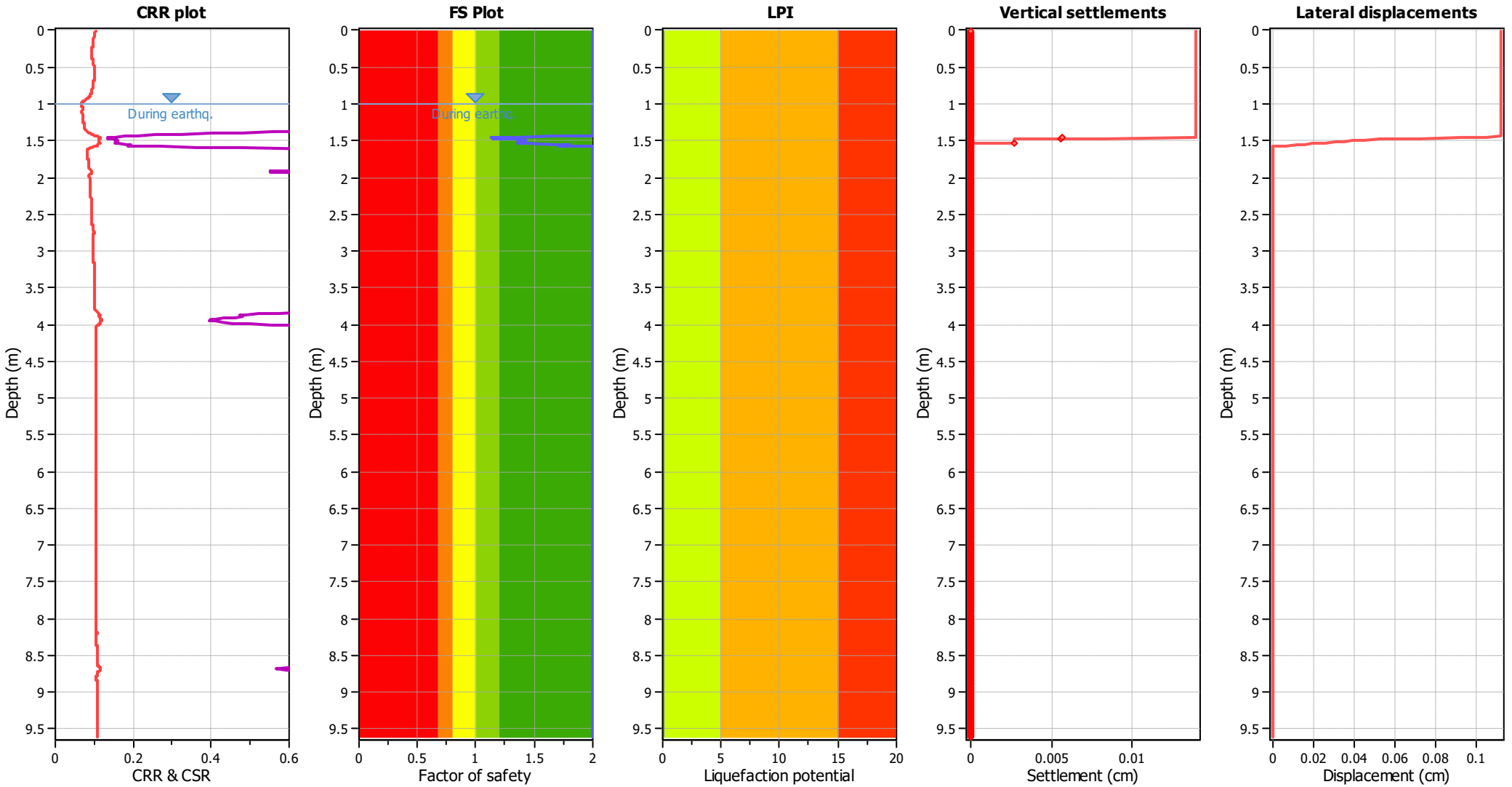
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.00	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.19	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

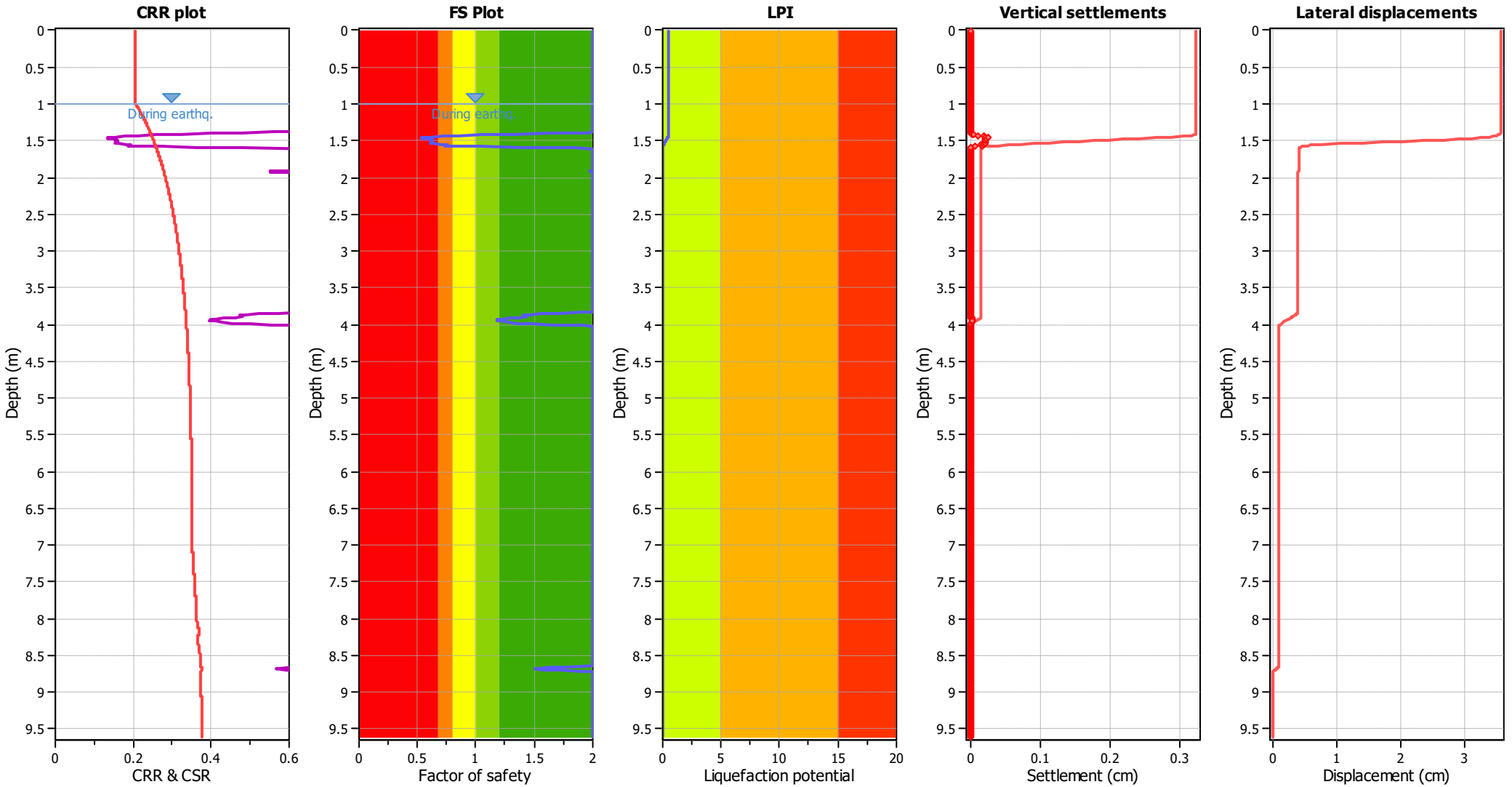
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.35	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

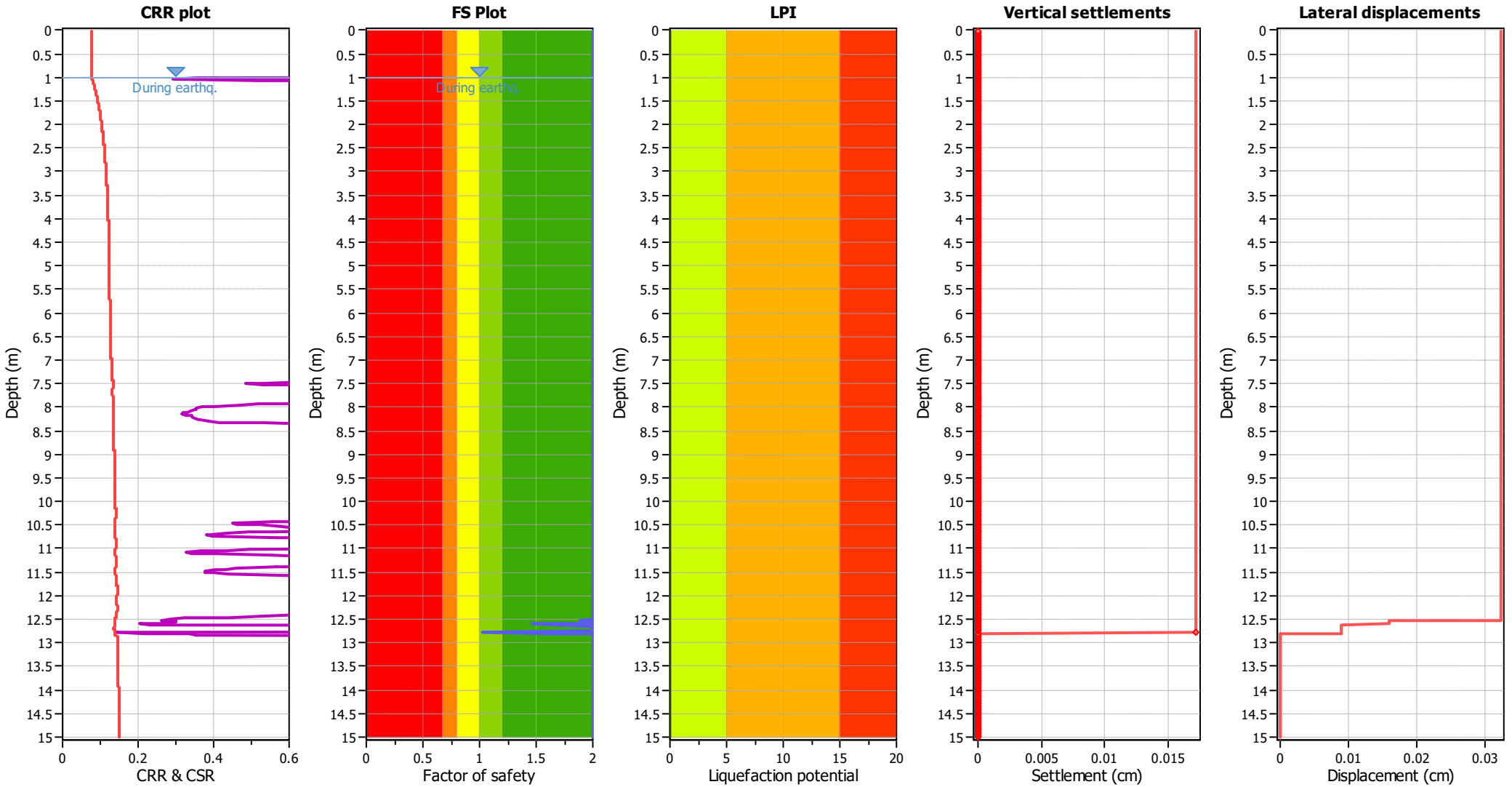
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.13	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

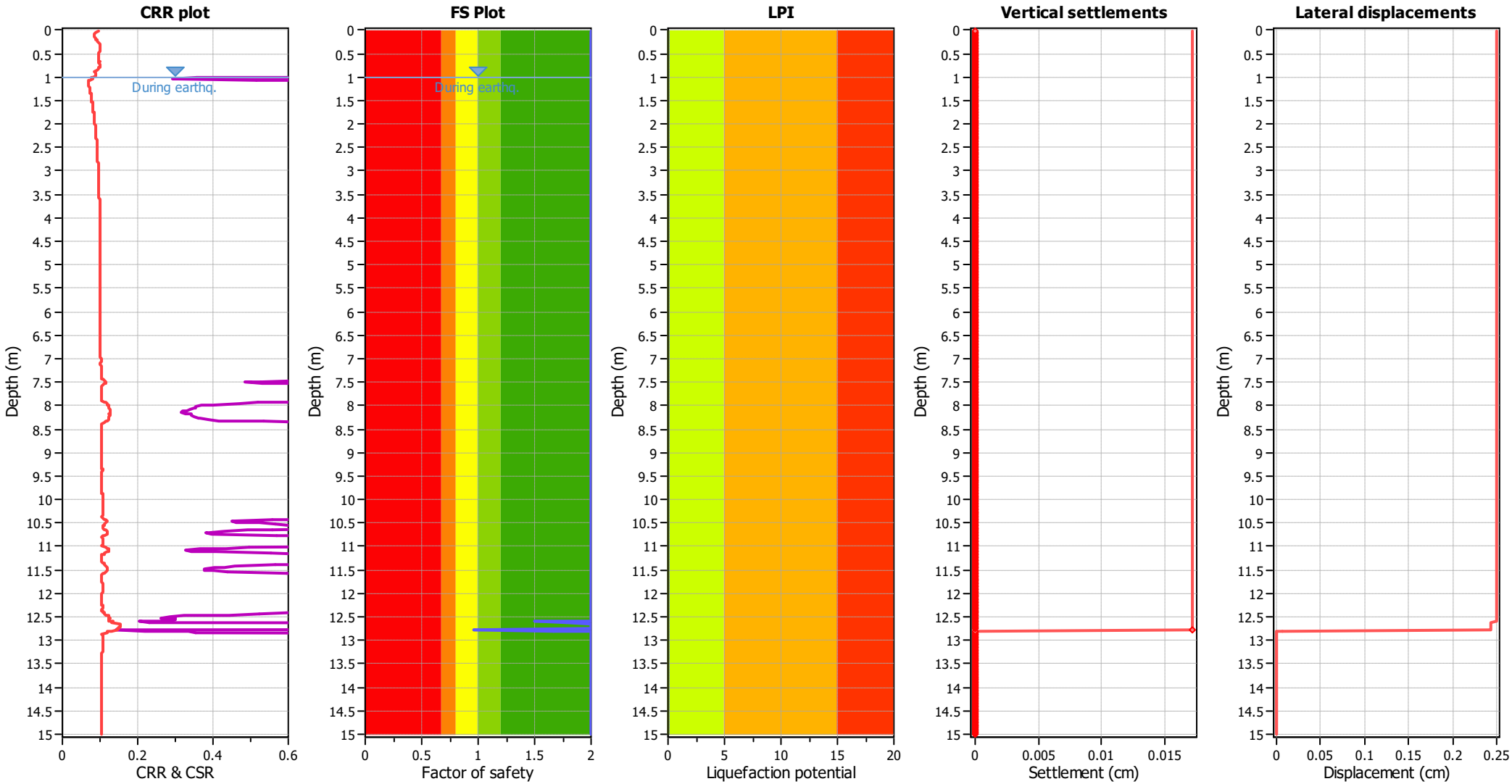
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.00	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.19	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

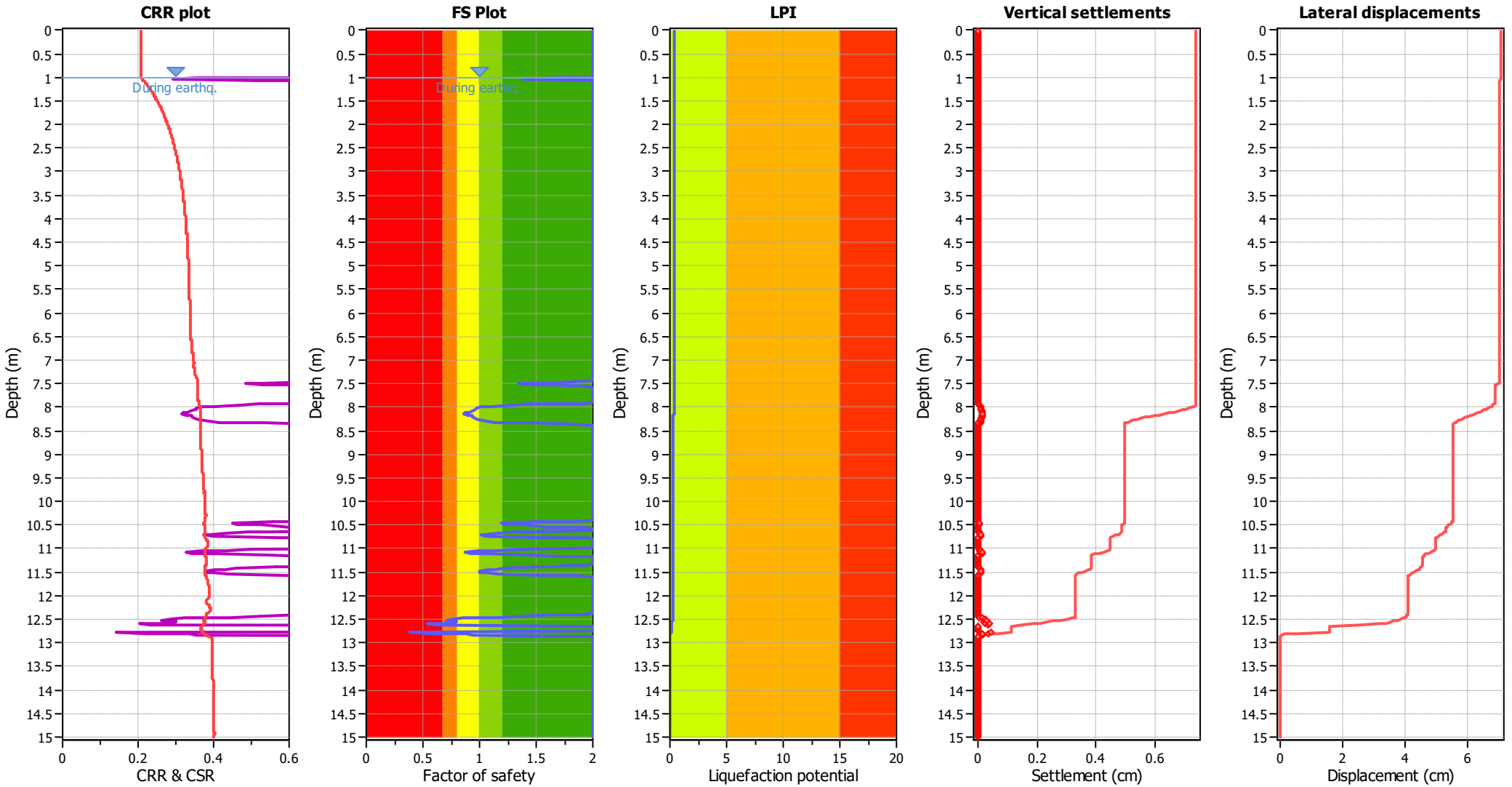
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

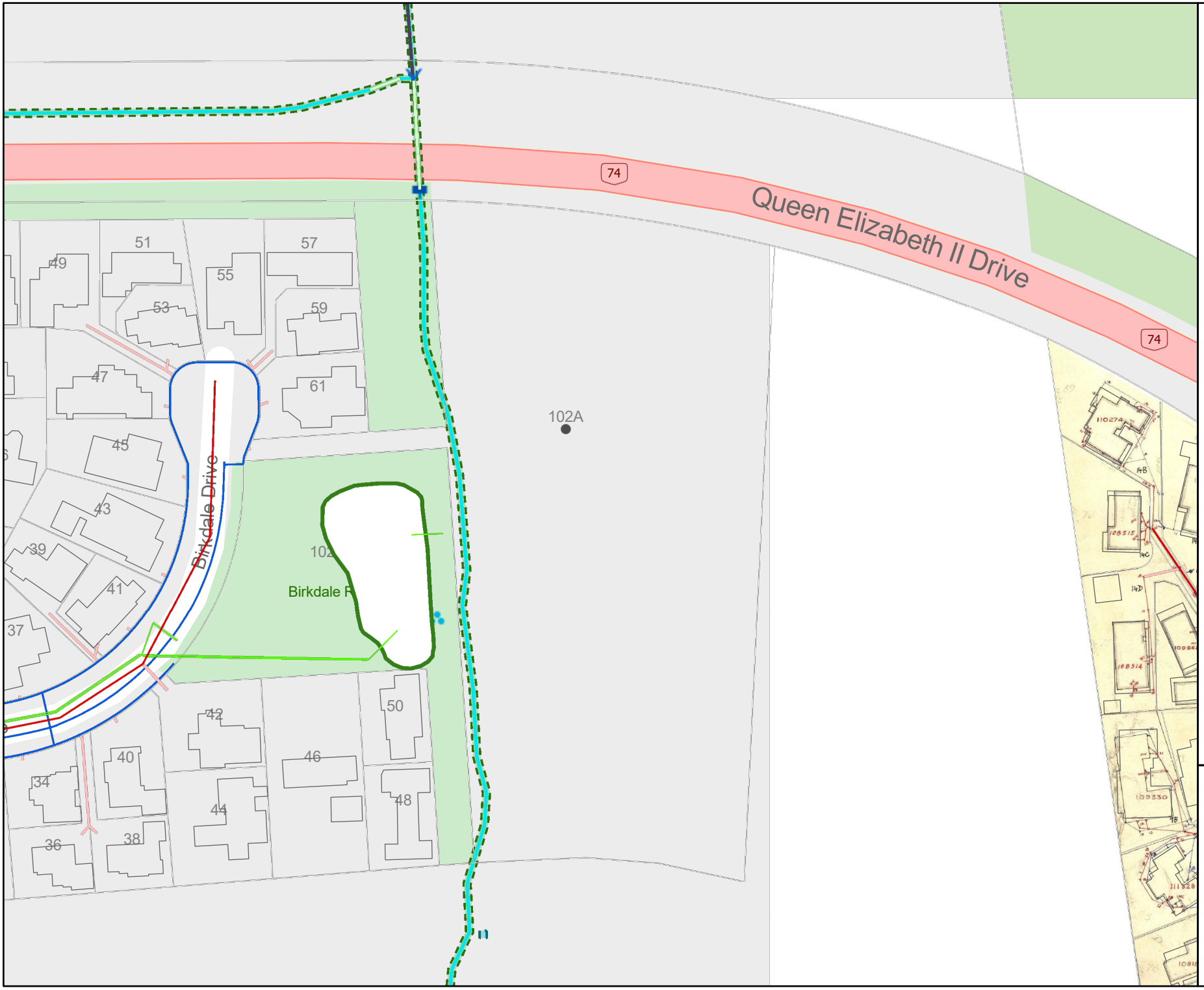
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.35	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk



Property of interest address

WwPrivateDrainFieldNo
WwPump
WwAccess
Type
Flush Manhole
Flushing Point
Trap
Inspection Point
Sealed Manhole
Standard Manhole
Vacuum Storage Manhole
Vented Manhole
WwValve
WwVent
WwAirGapSeparator
WwLocalPressureBoundaryK
WwLocalPressureControlPa
WwLocalPressureTankSyste
WwOutfall
WwPipeRestraint
WwFitting
Type
Change
End Cap
Junction
WwEye
Type
Eye
Eye (Vertical)
WwLateralFitting
Type
Raised Inspection Point
Lateral Fitting
WwVacuumBreather
WwVacuumChamber
Type
Collector
Interceptor Tank
Valve
Riser
WwVacuumBreatherPip
WwPipeFlowDirection
WwPipeBlockageCount
NumberOfBlockages
2 or less Blockages
3 or more Blockages
WwPipe
NominalDiameter
Diameter is 200mm or smaller
Diameter is greater than 200mm, up to 450mm
Diameter is greater than 450mm
Other (non-circular pipes)
WwPipe (non-gravity)
NominalDiameter
Diameter is 200mm or smaller
Diameter is greater than 200mm, up to 450mm
Diameter is greater than 450mm
Other (non-circular pipes)
WwLateral
WwPipeProtection
WwFlushTank
WwStructure
WwStation
WwPumpStationCatchme
WwPipe (non CCC)
In Service
Abandoned
Removed
Out of Service
WwLateral (non CCC)
In Service
Abandoned
Removed
Out of Service
Proposed
SwPrivateDrainFieldNot
SwPump
SwFacilityDischargePoin
SwAccess
SwValve
Type
Check
Duck Bill
Flap
Gate
Inline Check
Sluice
Valve
SwHeadwall
Type
Inlet
Outlet
SwFlowRestriction
SwGrill
Type
Inlet
Outlet
SwInlet
Type
Single Sump
Dome Sump
Double Sump
Triple Sump
Inlet
Pipe End
Gross Debris Trap
Silt Trap
SwOutlet
SwPipeRestraint
SwFitting
Type
Change
Bend
Junction
End Cap
SwEye
SwPipeFlowDirection
SwLateralFitting
Type
Single Sump
Double Sump
Inspection Point
Manhole
Lateral Fitting
Soak Pit
SwPipe
NominalDiameter
Diameter is 450mm or smaller
Diameter is greater than 450mm, up to 700mm
Diameter is greater than 750mm
Other (non-circular pipes)
SwLateral
SwPipeProtection
SwFacility
SwStructure
SwStation
SwRainGarden
SwPipe (non CCC)
In Service
Abandoned
Removed
Out of Service
Proposed
SwLateral (non CCC)
In Service
Abandoned
Removed
Out of Service
WsPump
WsValve
NormalPosition,Type
Air Release
Backflow Prevention
Butterfly
Gate
Non Return
Pressure Activated
Sluice
Sluice, Normally Closed
Valve
WsHydrant
WsInlet
WsConnection
Type
Fire
Restrictor
Toby
Meter
WsOutlet
WsPipeRestraint
WsFieldNote
WsFitting
Type
Bellows
End Cap
Connector
WsPipeProtection
WsPipe
NominalDiameter
Diameter is 110mm or smaller
Diameter is greater than 110mm, up to 225mm
Diameter is greater than 225mm
Other (non-circular pipes)
WsPipe (non Potable)
NominalDiameter
Diameter is 110mm or smaller
Diameter is greater than 110mm, up to 225mm
Diameter is greater than 225mm
Other (non-circular pipes)
WsLateral
WsStructure
WsReservoir
WsStation
WsPipe (non CCC)
In Service
Abandoned
Removed
Out of Service
Unknown
WsLateral (non CCC)
In Service
Abandoned
Removed
Out of Service
Proposed
BGConnector
BGEndCap
BGValve
BGPipe

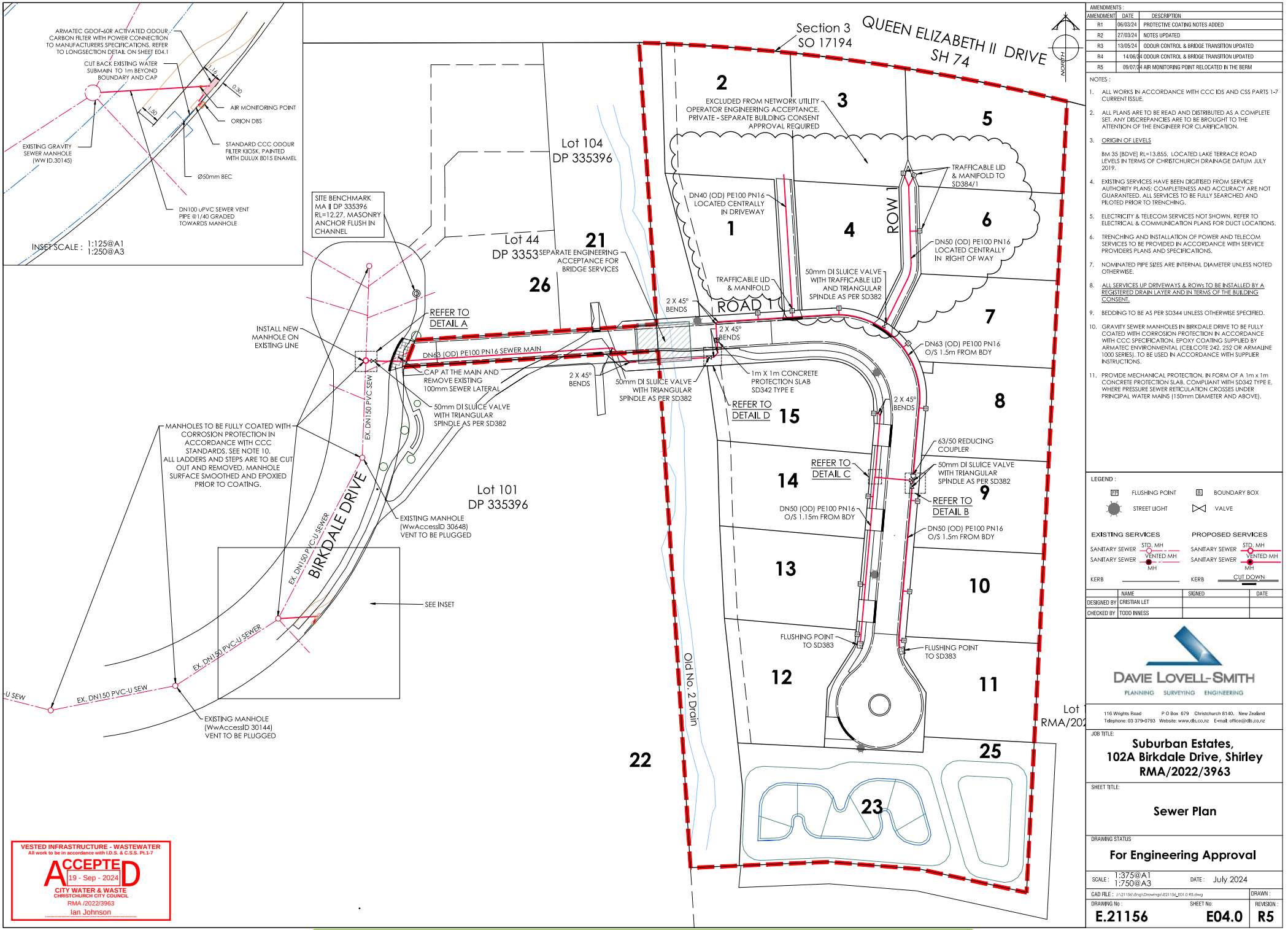
Christchurch City Council
ph: 03 941 8999 web: ccc.govt.nz

Accuracy not guaranteed. Onsite verification required.
Display of data scale dependant.
Client selected legend.

N

Date: 23/02/2026 2:29 PM
Scale: 1: 1,400 on A4

0 5 10 20 30 40
Metres



VESTED INFRASTRUCTURE - WASTEWATER
All work to be in accordance with I.D.S. & C.S.S. Pt.1:7
ACCEPTED
19 - Sep - 2024
CITY WATER & SERVICES
CHRISTCHURCH CITY COUNCIL
RMA /2022/3963
Ian Johnson

AMENDMENTS :

AMENDMENT	DATE	DESCRIPTION
R1	06/03/24	PROTECTIVE COATING NOTES ADDED
R2	27/03/24	NOTES UPDATED
R3	13/05/24	ODOUR CONTROL & BRIDGE TRANSITION UPDATED
R4	14/06/24	ODOUR CONTROL & BRIDGE TRANSITION UPDATED
R5	09/07/24	AIR MONITORING POINT RELOCATED IN THE BERM

NOTES :

1. ALL WORKS IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7 CURRENT ISSUE.
2. ALL PLANS ARE TO BE READ AND DISTRIBUTED AS A COMPLETE SET. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
3. ORIGIN OF LEVELS
   BM 35 [BDVE] RL=13.855, LOCATED LAKE TERRACE ROAD LEVELS IN TERMS OF CHRISTCHURCH DRAINAGE DATUM JULY 2019.
4. EXISTING SERVICES HAVE BEEN DIGITISED FROM SERVICE AUTHORITY PLANS: COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. ALL SERVICES TO BE FULLY SEARCHED AND PILOTED PRIOR TO TRENCHING.
5. ELECTRICITY & TELECOM SERVICES NOT SHOWN. REFER TO ELECTRICAL & COMMUNICATION PLANS FOR DUCT LOCATIONS.
6. TRENCHING AND INSTALLATION OF POWER AND TELECOM SERVICES TO BE PROVIDED IN ACCORDANCE WITH SERVICE PROVIDERS PLANS AND SPECIFICATIONS.
7. NOMINATED PIPE SIZES ARE INTERNAL DIAMETER UNLESS NOTED OTHERWISE.
8. ALL SERVICES UP DRIVEWAYS & ROWs TO BE INSTALLED BY A REGISTERED DRAIN LAYER AND IN TERMS OF THE BUILDING CONSENT.
9. BEDDING TO BE AS PER SD344 UNLESS OTHERWISE SPECIFIED.
10. GRAVITY SEWER MANHOLES IN BIRKDALE DRIVE TO BE FULLY COATED WITH CORROSION PROTECTION IN ACCORDANCE WITH CCC SPECIFICATION. EPOXY COATING SUPPLIED BY ARMATEC ENVIRONMENTAL (CEILCOTE 242, 252 OR ARMALINE 1000 SERIES). TO BE USED IN ACCORDANCE WITH SUPPLIER INSTRUCTIONS.
11. PROVIDE MECHANICAL PROTECTION, IN FORM OF A 1m x 1m CONCRETE PROTECTION SLAB, COMPLIANT WITH SD342 TYPE E, WHERE PRESSURE SEWER RETICULATION CROSSES UNDER PRINCIPAL WATER MAINS (150mm DIAMETER AND ABOVE).

LEGEND :

FP FLUSHING POINT
B BOUNDARY BOX
STREET LIGHT
VALVE

EXISTING SERVICES		PROPOSED SERVICES	
SANITARY SEWER	STD. MH	SANITARY SEWER	STD. MH
SANITARY SEWER	VENTED MH	SANITARY SEWER	VENTED MH
	MH		MH
KERB		KERB	CUT DOWN

	NAME	SIGNED	DATE
DESIGNED BY	CRISTIAN LET		
CHECKED BY	TODD INNESS		

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:
Suburban Estates, 102A Birkdale Drive, Shirley RMA/2022/3963

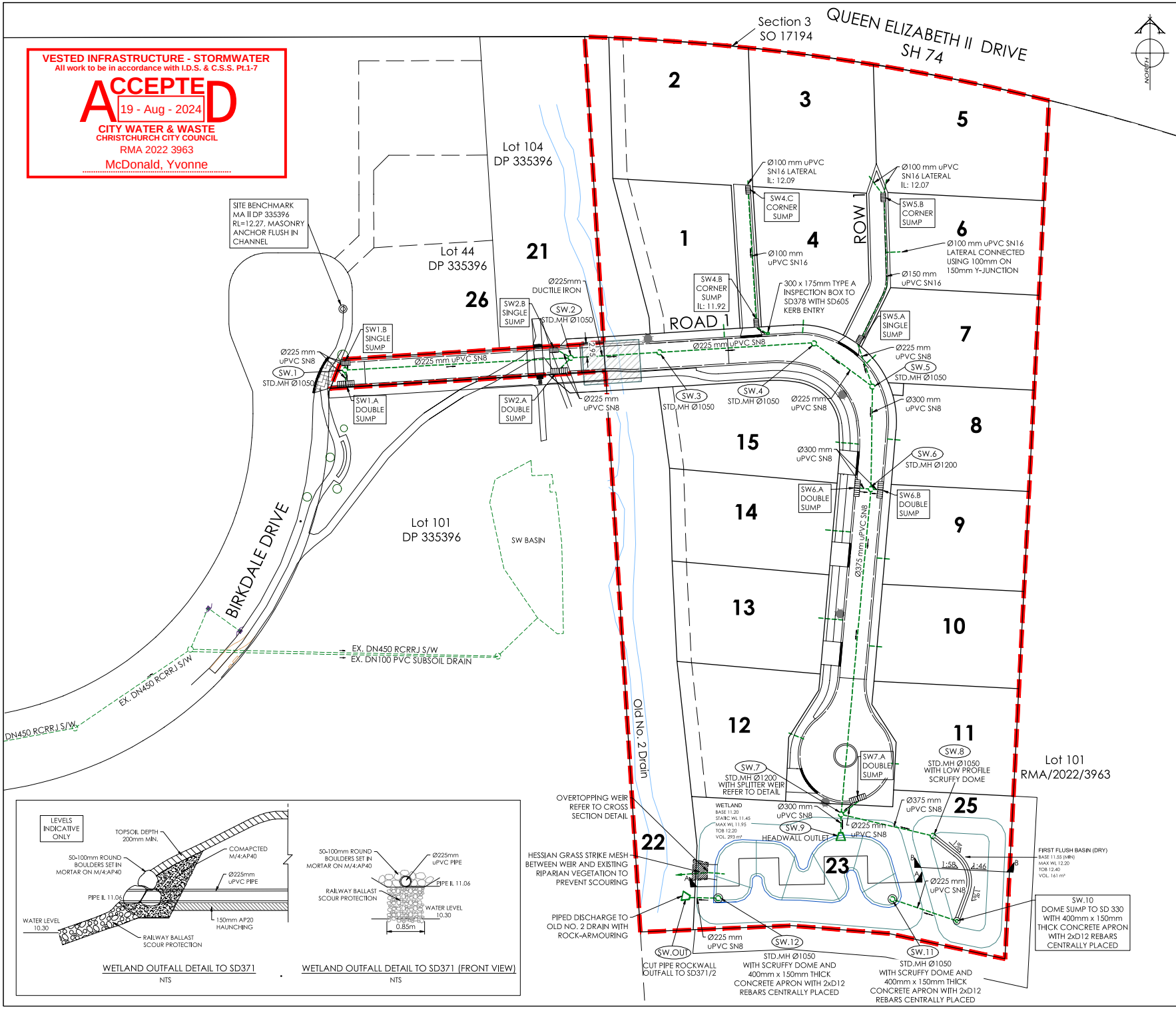
SHEET TITLE:
Sewer Plan

DRAWING STATUS
For Engineering Approval

SCALE : 1:375@A1 1:750@A3
DATE : July 2024
CAD FILE : J:\21156\Eng\Drawings\E21156_E01.0 R5.dwg
DRAWN :
DRAWING No : **E.21156**
SHEET No: **E04.0**
REVISION : **R5**

VESTED INFRASTRUCTURE - STORMWATER
All work to be in accordance with I.D.S. & C.S.S. Pt.1-7

ACCEPTED
19 - Aug - 2024
CITY WATER & WASTE
CHRISTCHURCH CITY COUNCIL
RMA 2022 3963
McDonald, Yvonne



WETLAND OUTFALL DETAIL TO SD371
NTS

WETLAND OUTFALL DETAIL TO SD371 (FRONT VIEW)
NTS

AMENDMENTS :

AMENDMENT	DATE	DESCRIPTION
R1	06/03/24	BASINS RESHAPED & SW NETWORK UPDATED
R2	27/03/24	OUTFALL DETAILS ADDED
R3	13/05/24	SW10, BRIDGE MANHOLES AND BASINS UPDATED
R4	14/06/24	SW3.B CHANGED TO BUBBLE UP, 150mm PIPE REMOVED
R6	15/08/24	STORMWATER NETWORK UPDATED

NOTES :

1. ALL WORKS IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7 CURRENT ISSUE.
2. ALL PLANS ARE TO BE READ AND DISTRIBUTED AS A COMPLETE SET. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
3. ORIGIN OF LEVELS
   BM 35 [BDVE] RL=13.855, LOCATED LAKE TERRACE ROAD LEVELS IN TERMS OF CHRISTCHURCH DRAINAGE DATUM JULY 2019.
4. EXISTING SERVICES HAVE BEEN DIGITISED FROM SERVICE AUTHORITY PLANS: COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. ALL SERVICES TO BE FULLY SEARCHED AND PILOTED PRIOR TO TRENCHING.
5. ELECTRICITY & TELECOM SERVICES NOT SHOWN. REFER TO ELECTRICAL & COMMUNICATION PLANS FOR DUCT LOCATIONS.
6. TRENCHING AND INSTALLATION OF POWER AND TELECOM SERVICES TO BE PROVIDED IN ACCORDANCE WITH SERVICE PROVIDERS PLANS AND SPECIFICATIONS.
7. REFER TO LONGSECTIONS FOR ALL STORMWATER LEVELS.
8. NOMINATED PIPE SIZES ARE INTERNAL DIAMETER UNLESS NOTED OTHERWISE.
9. ALL UPVC PIPES SHALL CONFORM TO AS NZS 1260:1999 AND SHALL HAVE THE FOLLOWING STIFFNESS NUMBERS AS SET OUT IN THE STANDARD: DN 100 AND 150...SN16; DN225 AND LARGER ... SN8.
10. ALL SERVICES UP DRIVEWAYS & ROWs TO BE INSTALLED BY A REGISTERED DRAIN LAYER AND IN TERMS OF THE BUILDING CONSENT.
11. ALL STORMWATER LATERALS TO BE LAID AT 1:60. MINIMUM GRADE AND LAID TO 1.0m WITHIN LOTS.
12. ALL RESIDENTIAL STORMWATER LATERALS TO BE 100mm DIAMETER AND INDUSTRIAL LATERALS TO BE A MINIMUM OF 150mm.
13. RAMPED RISERS ARE TO BE USED FOR LATERALS TO ENSURE A MAXIMUM DEPTH OF 1.5m COVER AT THE LOT BOUNDARY.
14. BEDDING TO BE AS PER SD344 UNLESS OTHERWISE SPECIFIED.

LEGEND :

STREET LIGHT
SUMP

EXISTING SERVICES	PROPOSED SERVICES
STORMWATER MH	STORMWATER MH
KERB	KERB CUT DOWN

	NAME	SIGNED	DATE
DESIGNED BY	CRISTIAN LET		
CHECKED BY	TODD INNESS		

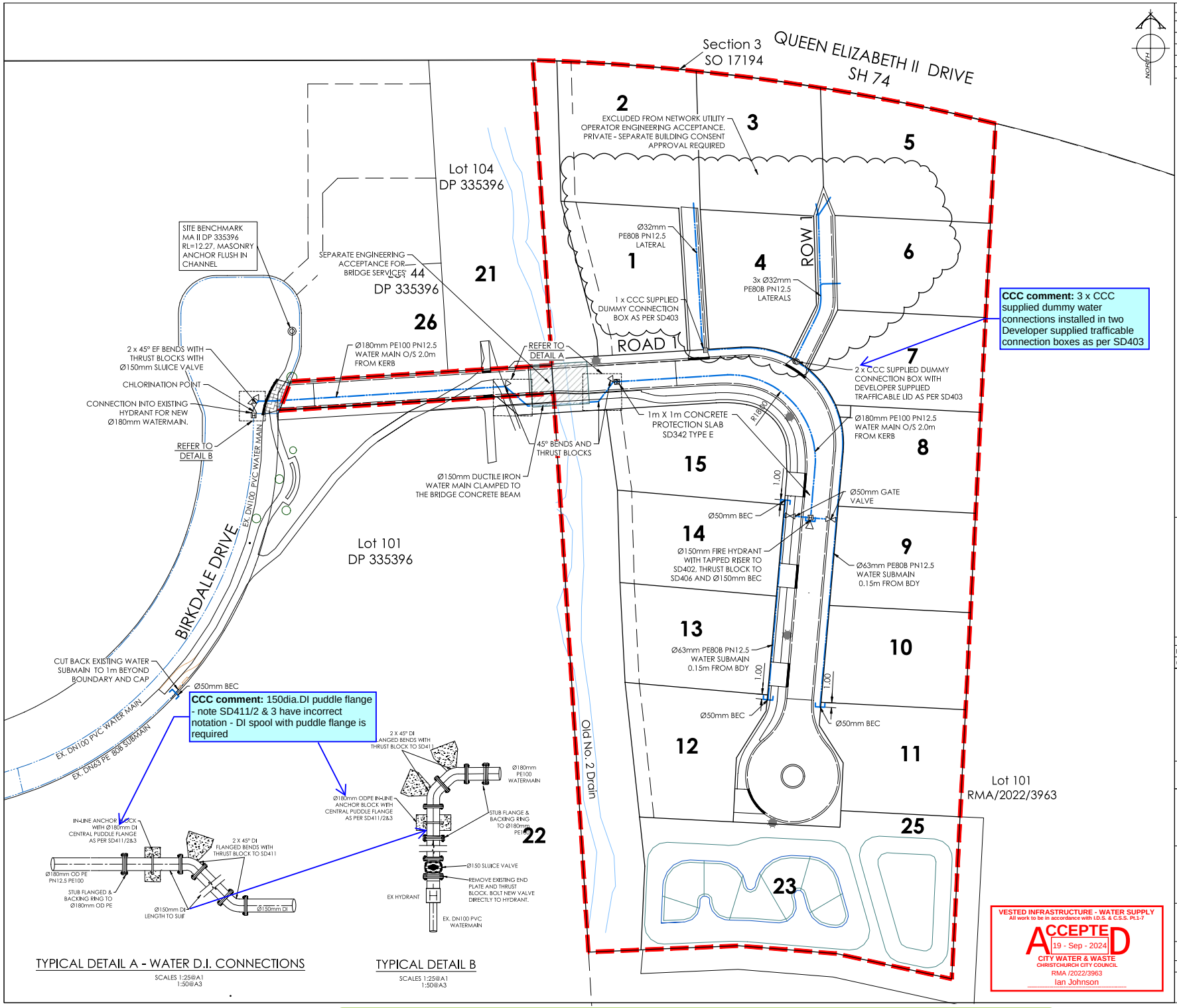
DAVIE LOVELL-SMITH
PLANNING SURVEYING ENGINEERING
116 Wrights Road P O Box 679 Christchurch 8140. New Zealand
Telephone: 03 379-0793 Website: www.dls.co.nz E-mail: office@dls.co.nz

JOB TITLE:
Suburban Estates,
102A Birkdale Drive, Shirley
RMA/2022/3963

SHEET TITLE:
Stormwater Plan

DRAWING STATUS
For Engineering Approval

SCALE : 1:375@A1 1:750@A3
DATE : August 2024
CAD FILE : J:\21156\Eng\Drawings\E21156_E01.0 R6.dwg
DRAWN : JS
DRAWING No : **E.21156**
SHEET No: **E04.3**
REVISION : **R6**



TYPICAL DETAIL A - WATER D.I. CONNECTIONS

SCALES 1:25@A1
1:50@A3

TYPICAL DETAIL B

SCALES 1:25@A1
1:50@A3

VESTED INFRASTRUCTURE - WATER SUPPLY
All work to be in accordance with I.D.S. & C.S.S. Pt.1-7

ACCEPTED
19 - Sep - 2024
CITY WATER & WASTE
CHRISTCHURCH CITY COUNCIL
RMA /2022/3963
Ian Johnson

AMENDMENTS :

AMENDMENT	DATE	DESCRIPTION
R1	06/03/24	TYPICAL DETAILS ADDED
R2	27/03/24	NO CHANGES ON THIS SHEET
R3	13/05/24	BRIDGE TRANSITIONS RELOCATED
R4	14/06/24	BRIDGE TRANSITIONS RELOCATED, DETAIL A UPDATED
R5	09/07/24	NO CHANGES ON THIS SHEET

NOTES :

1. ALL WORKS IN ACCORDANCE WITH CCC IDS AND CSS PARTS 1-7 CURRENT ISSUE.
2. ALL PLANS ARE TO BE READ AND DISTRIBUTED AS A COMPLETE SET. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
3. ORIGIN OF LEVELS

   BM 35 (BDVE) RL=13.855. LOCATED LAKE TERRACE ROAD LEVELS IN TERMS OF CHRISTCHURCH DRAINAGE DATUM JULY 2019.
4. EXISTING SERVICES HAVE BEEN DIGITISED FROM SERVICE AUTHORITY PLANS; COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. ALL SERVICES TO BE FULLY SEARCHED AND PILOTED PRIOR TO TRENCHING.
5. ELECTRICITY & TELECOM SERVICES NOT SHOWN, REFER TO ELECTRICAL & COMMUNICATION PLANS FOR DUCT LOCATIONS.
6. TRENCHING AND INSTALLATION OF POWER AND TELECOM SERVICES TO BE PROVIDED IN ACCORDANCE WITH SERVICE PROVIDERS PLANS AND SPECIFICATIONS.
7. CONTRACTOR TO INSTALL WATER MAIN TO ENSURE NO CLASHES WITH OTHER SERVICES. TO BE INSTALLED IN ACCORDANCE WITH THE IDS 7.9.5.
8. ALL WATER PIPES TO BE PE PN12.5 AND ALL FITTINGS TO BE PN16.
9. WATERMAINS AND SUBMAINS TO BE INSTALLED AT THE OFFSET STATED ON THE PLAN AND AGREED WITH ENGINEER.
10. WATERMAINS TO HAVE A MINIMUM COVER OF 0.75m.
11. REGISTERED CRAFTSMAN PLUMBER TO INSTALL ALL REAR LOT LATERALS. REFER TO THE BUILDING CODE.
12. CONTRACTORS ATTENTION IS DRAWN TO THE COUNCILS REQUIREMENTS FOR PE WELD TESTING.
13. PROVIDE MECHANICAL PROTECTION, IN FORM OF A 1m x 1m CONCRETE PROTECTION SLAB, COMPLIANT WITH SD342 TYPE E, WHERE PRESSURE SEWER RETICULATION CROSSES UNDER PRINCIPAL WATER MAINS (150mm DIAMETER AND ABOVE).

LEGEND :

W WATER METER
THRUST BLOCK
H FIRE HYDRANT
VALVE

EXISTING SERVICES		PROPOSED SERVICES	
WATER	FH VALVE	WATER	FH VALVE METER
KERB		KERB	CUT DOWN

	NAME	SIGNED	DATE
DESIGNED BY	CRISTIAN LET		
CHECKED BY	TODD INNESS		

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:

Suburban Estates,
102A Birkdale Drive, Shirley
RMA/2022/3963

SHEET TITLE:

Water Plan

DRAWING STATUS

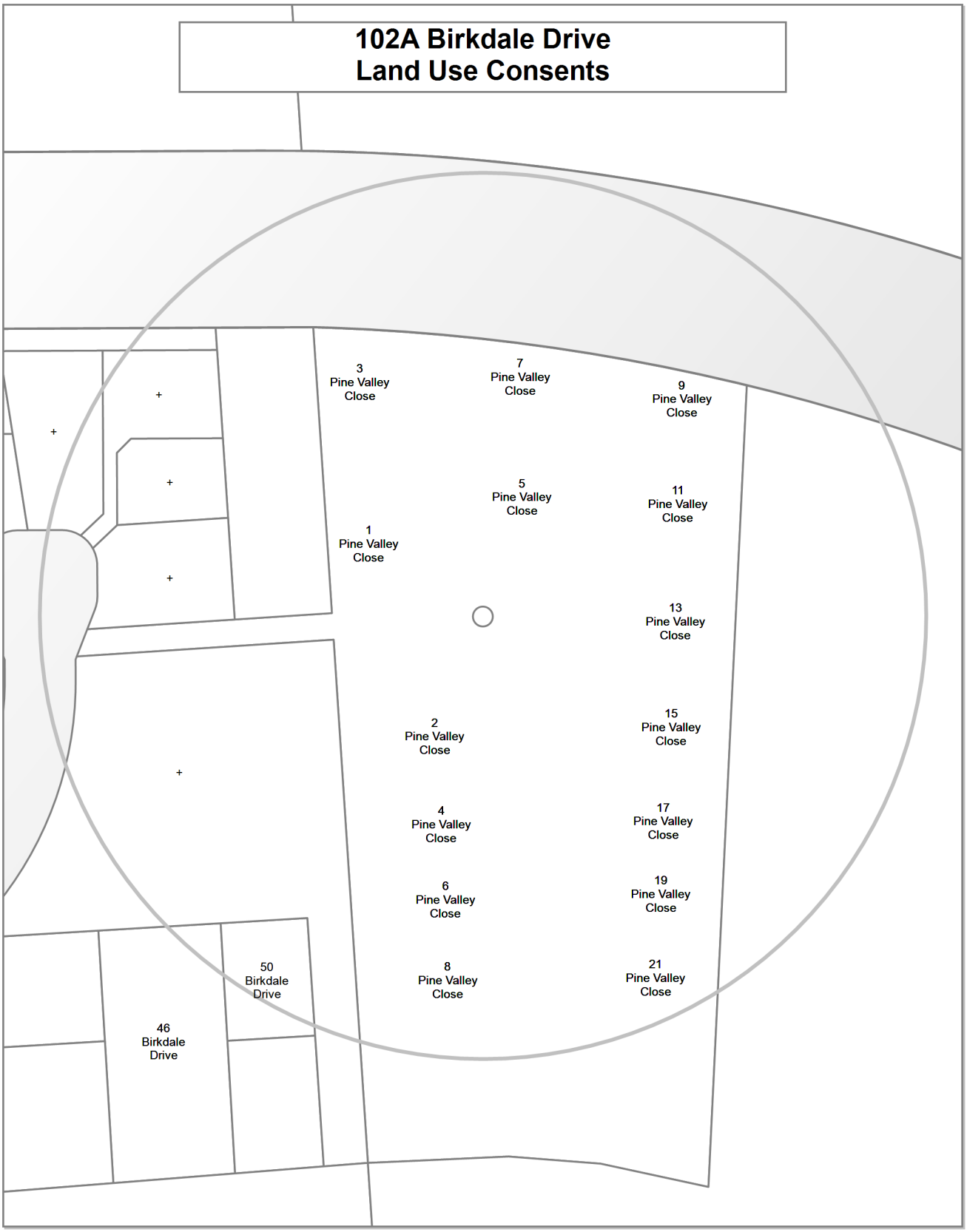
For Engineering Approval

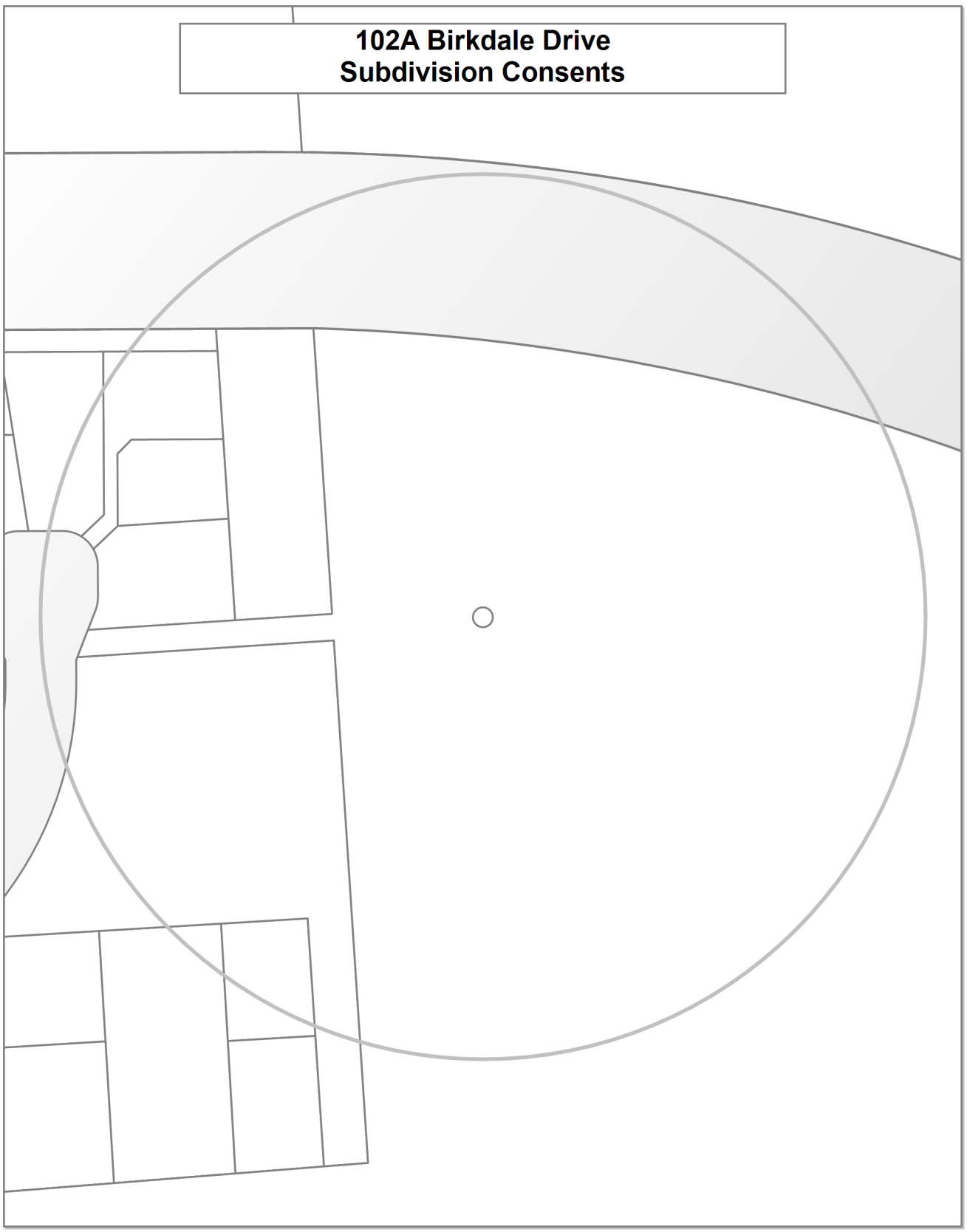
SCALE : 1:375@A1 1:750@A3 DATE : July 2024

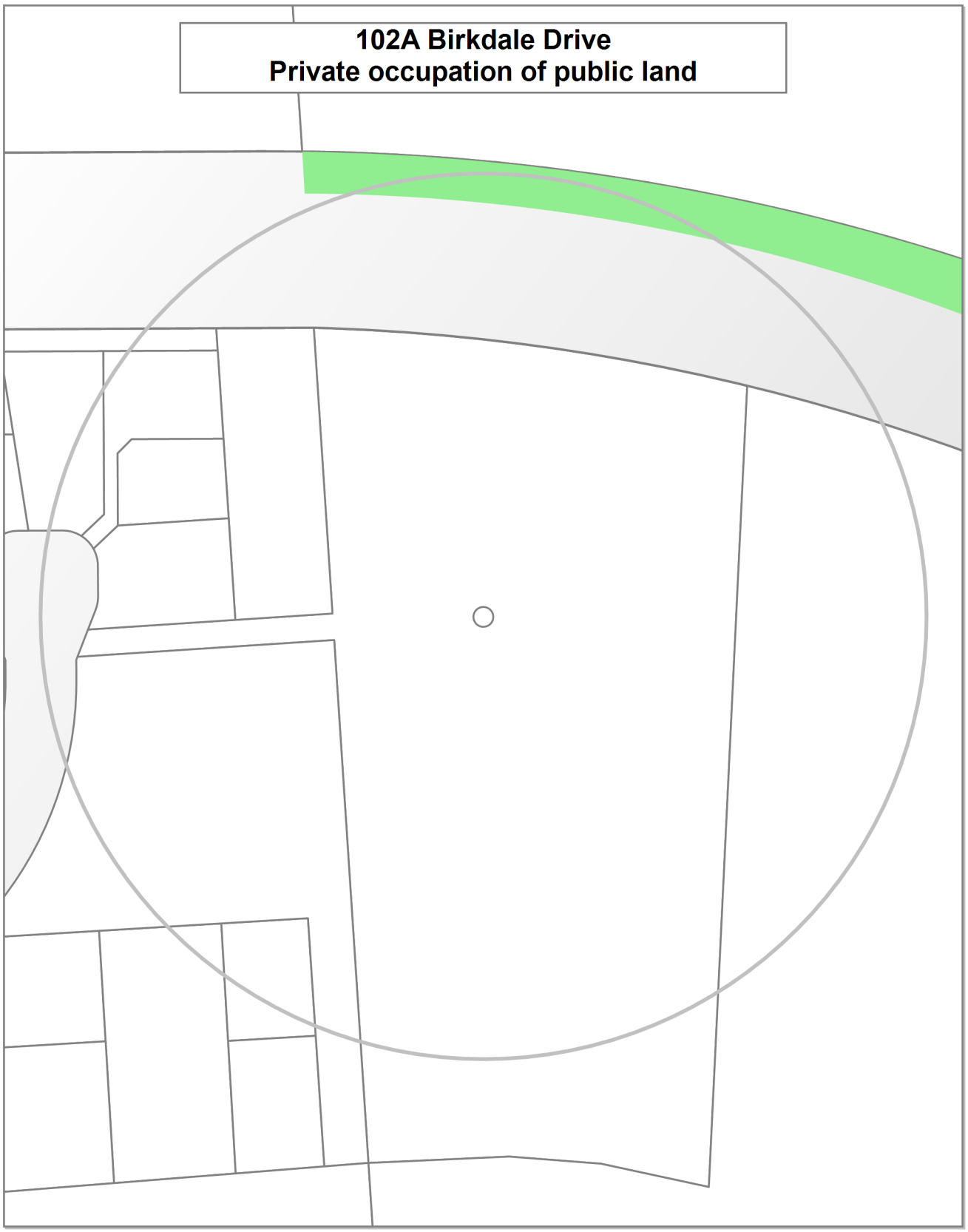
CAD FILE : J:\21156\Eng\Drawings\E21156_E01.0 R5.dwg DRAWN :

DRAWING No : **E.21156** SHEET No: **E05.0** REVISION : **R5**

102A Birkdale Drive
Land Use Consents




102A Birkdale Drive
Subdivision Consents


102A Birkdale Drive
Private occupation of public land

Land Use Resource Consents within 100 metres of 102A Birkdale Drive

Note:This list does not include subdivision Consents and Certificates of Compliance issued under the Resource Management Act.

---

1 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

11 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

13 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

148 Lake Terrace Road

RMA/1996/3616

To excavate a portion of the grounds. - Historical Reference RMA338

Processing complete

Applied 06/03/1996

RMA/2002/1057

Construction of two bridges over Old No 2 Drain which intrude into the road and waterway setback. - Historical Reference RMA20010048

Processing complete

Applied 09/05/2002

Decision issued 10/07/2002

Granted 09/07/2002

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

15 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

17 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

19 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

2 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

21 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

3 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

4 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

46 Birkdale Drive

RMA/2002/896

To address the Rural H zone under the transitional plan - Historical Reference RMA20009880

Processing complete

Applied 18/04/2002

Decision issued 24/04/2002

Granted 24/04/2002

RMA/2004/3063

Garage which intrudes the recession plane on the southern boundary. - Historical Reference RMA20018719

Processing complete

Applied 01/12/2004

Decision issued 05/01/2005

Granted 23/12/2004

5 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

50 Birkdale Drive

RMA/2012/1438

Dwelling with attached garage - Historical Reference RMA92020841

Processing complete

Applied 12/09/2012

Decision issued 20/09/2012

Granted 20/09/2012

6 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

7 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

8 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

9 Pine Valley Close

RMA/2022/3963

Fee simple subdivision - 15 lots and land useLodged in conjunction with RMA/2023/11

s223 Certificate issued

Applied 22/12/2022

Conditions changed/cancelled - s127 12/07/2024

Amended decision issued - s133A 29/06/2023

s223 Certificate issued stage 1 21/07/2023

s223 Certificate issued stage 2 25/09/2025

s224 Certificate issued stage 1 21/07/2023

Decision issued 22/06/2023

Granted 22/06/2023

RMA/2023/11

Global consent to excavate within five metres of a street tree without arborist supervision. Lodged in conjunction with RMA/2022/3963

Processing complete

Applied 22/12/2022

Decision issued 29/06/2023

Granted 29/06/2023

Data Quality Statement

Land Use Consents

All resource consents are shown for sites that have been labelled with an address. For sites that have been labelled with a cross (+) no resource consents have been found. Sites that have no label have not been checked for resource consents. This will be particularly noticeable on the margins of the search radius. If there are such sites and you would like them included in the check, please ask for the LIM spatial query to be rerun accordingly. This will be done free of charge although there may be a short delay. Resource consents which are on land occupied by roads, railways or rivers are not, and currently cannot be displayed, either on the map or in the list. Resource consents that relate to land that has since been subdivided, will be shown in the list, but not on the map. They will be under the address of the land as it was at the time the resource consent was applied for. Resource consents that are listed as Non-notified and are current, may in fact be notified resource consents that have not yet been through the notification process. If in doubt. Please phone (03)941 8999.

The term “resource consents” in this context means land use consents. Subdivision consents and certificates of compliance are excluded.

Subdivision Consents

All subdivision consents are shown for the sites that have been labelled with consent details. For Sites that have been labelled with a cross (+) no records have been found. Sites that have no label have not been checked for subdivision consents. This will be particularly noticeable on the margins of the search radius. If there are such sites and you would like them included in the check, please ask for the LIM spatial query to be rerun accordingly. This will be done free of charge although there may be a short delay.

The term “subdivision consents” in this context means a resource consent application to subdivide land. Non subdivision land use resource consents and certificates of compliance are excluded.

This report will only record those subdivision applications which have not been completed i.e once a subdivision has been given effect to and the new lots/properties have been established the application which created those lots will not be shown

All subdivision consent information is contained on the map and no separate list is supplied