

PLACE CONTEXT			DESIGN ENVIRONMENT				LINK CONTEXT				TYPICAL PLAN AND CROSS SECTION SEE APPENDIX E FOR LARGER VERSION OF FIGURES	FIGURE NUMBER
Area	Land use	Local attributes	Locality served	Target operating speed (km/h)	Min. road width (m)	Max. grade	Pedestrians	Passing, parking, loading, and shoulder	Cyclists	Movement lane (excluding shoulder)	Classification	
Notes	See 3.2.4, table 3.1.1 & 3.1.1.6	See table 3.1	See table 3.1	See 3.2.5	See 3.2.2, 3.3.1.5, & 3.4.1.6		See 3.3.1.1	See 3.3.6 & 3.3.1.4	See 3.3.1.5, 3.3.1.7, & 3.3.1.2	See 3.2.2, 3.3.1.1, 3.3.1.2, 3.3.1.3, 3.3.1.10, 3.3.1.13	See 3.2.4.2 & 3.3.1.9 (Typical max. volumes)	
Suburban	Live and play	Side or rear service access	Up to 100 m in length between streets, 1 to 20 lots	10	6	16%	Shared (in movement lane)	Allow for passing up to every 50 m	Shared (in movement lane)	2.75 - 3.00	Lane (~ 200 vpd)	E10
	Live and play	Access to houses/townhouses	1 to 20 du	20	9	16%	Shared (in movement lane)	Shared (in movement lane)	Shared (in movement lane)	5.5 - 5.7	Lane (~ 200 vpd)	E11
	Live and play	Primary access to housing	1 to 200 du	40	15	12.5%	1.5 m one side or 1.5 m each side where more than 20 du or more than 100 m in length	Shared parking in the movement lane up to 100 du, separate parking required over 100 du	Shared (in movement lane)	5.5 - 5.7	Local road (~ 2,000 vpd)	E12

Figure 8 – Excerpt from NZS 4404:2010 for suburban road cross section standards

28. Both cross sections generally comply with the functional criteria shown for E11 and E12 and are appropriate to serve the subdivision, except for the initial extent of the main loop road where it intersects with Wakari Road (discussed below). In regard to on-street parking, and in accordance with the policy direction contained in the National Policy Statement on Urban Development 2020³, the developer does not wish to define on-street parking at this stage. Rather, they would prefer to address any on-street parking provisions through the detailed design process (though indicative cross sections are provided on the concept plans demonstrating how indented parking could feasibly be accommodated). It is considered acceptable from an assessment perspective to address provision of on-street parking at the detailed design stage given the overarching policy regarding parking contained in the NPS-UD.
29. The proposed carriageway width of 6.3m is slightly wider than the listed E11/E12 cross section widths of 5.5m to 5.7m. In assessment of this width, in areas where indented parking is not provided, the proposed carriageway width is assessed as being unlikely to cause confusion between movement and parking functions, particularly in the proposed low-speed environment where most road users are residents and familiar with operation of the road. Conversely, where indented parking is provided, movement and parking functions are clearly defined and confusion between movement and parking functions is therefore similarly considered unlikely.
30. As noted earlier in this report, the initial extent of the “loop” road is required to have a narrower legal width due to existing land ownership constraints, with a footpath being proposed for the southwestern side in this location only. The legal width of this section of the road, reflecting the existing land ownership of the developer, is 12.1m wide. To use of this width effectively, it is proposed that the formed carriageway is 6.3m wide, with a footpath on

³ National Policy Statement on Urban Development 2020 ([environment.govt.nz](https://environment.govt.nz/national-policy-statement-on-urban-development-2020/))

the southwestern side of the carriageway only. Specific deviations from the E12 cross section in NZS 4404:2010 are identified and assessed below:

Legal Road Width

31. The E12 standard requires a 15m legal road width, whereas the legal road width available due to existing boundary positions is 12.1m. The legal road width is an existing constraint due to current site boundaries and cannot be remedied by the developer. As this is the only legal frontage to the site, access cannot be achieved in another location for Stage 1 of the proposed development. While future stages of the development are intended to feature secondary access to Wakari Road to the northeast of the Stage 1 site, it is essential to have access in the proposed location for overall network connectivity.
32. The narrower legal road width results in infrastructural departures from NZS 4404:2010 in terms of road infrastructure, primarily being:
 - Provision of a footpath on only one side of the road for the initial extent of the main loop road, from Wakari Road.
 - A narrow residual width to accommodate grass berms.
33. The effect of these infrastructural departures are discussed in more detail below.

Footpath Provisions

34. The E12 standard requires a 1.5m wide footpath on both sides of the main loop road, whereas it is proposed to construct a single 1.5m wide footpath on the southern side of the road for its initial extent only (see concept plan in Figure 4). Provision of a single footpath on the southwestern side of the proposed new road will primarily impact users of two potential routes:
 - Pedestrians walking to and from Wakari Road from the proposed subdivision.
 - Pedestrians wanting to access the adjoining reserve/park land from the new road.
35. Both scenarios above would require a pedestrian to cross the main loop road twice. Based on the peak vehicle trips on the main loop road outlined earlier in this report, Figure 6.1 from the Waka Kotahi Pedestrian Planning and Design Guide (shown below) shows that this road can be crossed safely and efficiently (to an “Excellent” level of service) with little to no delay to pedestrians, even without physical aid such as kerb extensions (see red star on the chart). It is therefore apparent that while there is a slight reduction in convenience, effects in terms of level of service will be minimal for pedestrians walking to and from Wakari Road, and for accessing the adjoining reserve/park land.

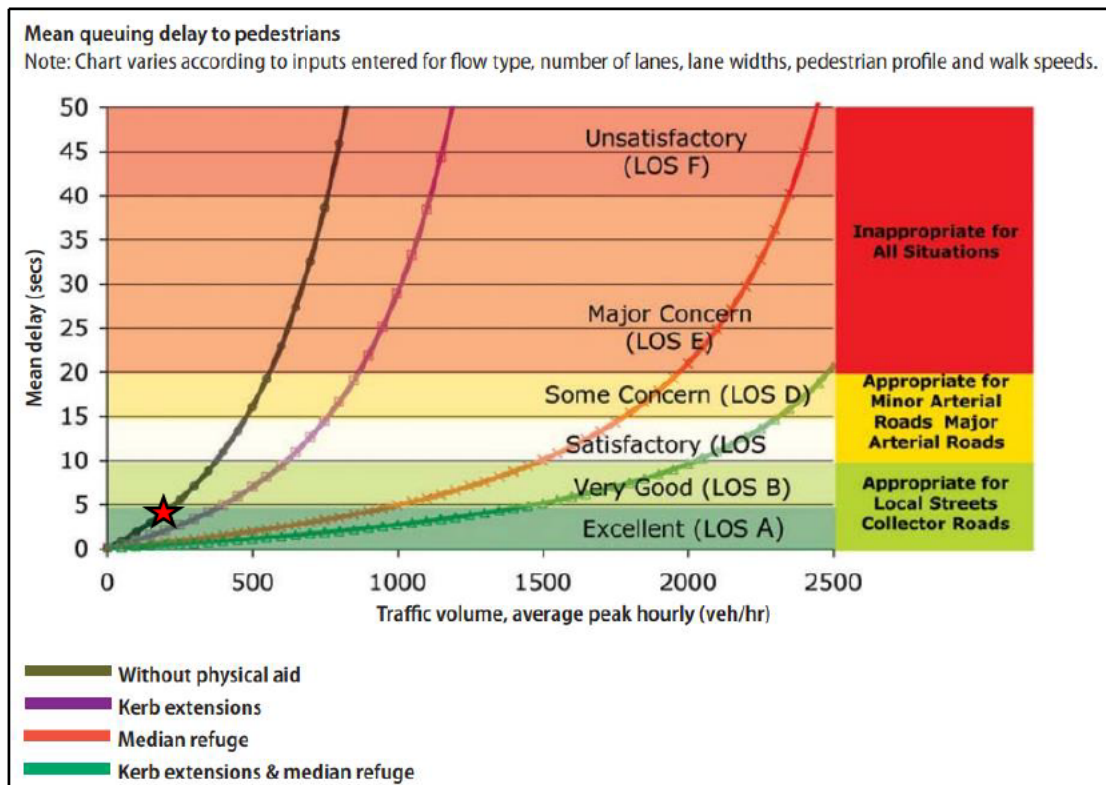


Figure 9 – Footpath level of service chart (source: Waka Kotahi Pedestrian Planning and Design Guide)

36. It should also be noted that the provision of a single footpath only affects a relatively short section of the proposed new road. Furthermore, there will be a level of public access through the existing reserve immediately to the northeast of the new road. If allowable to Council's Parks and Recreation department, the developer proposes to construct a footpath through the reserve, linking the subdivision directly to Wakari Road and the reserve (see Figure 10).

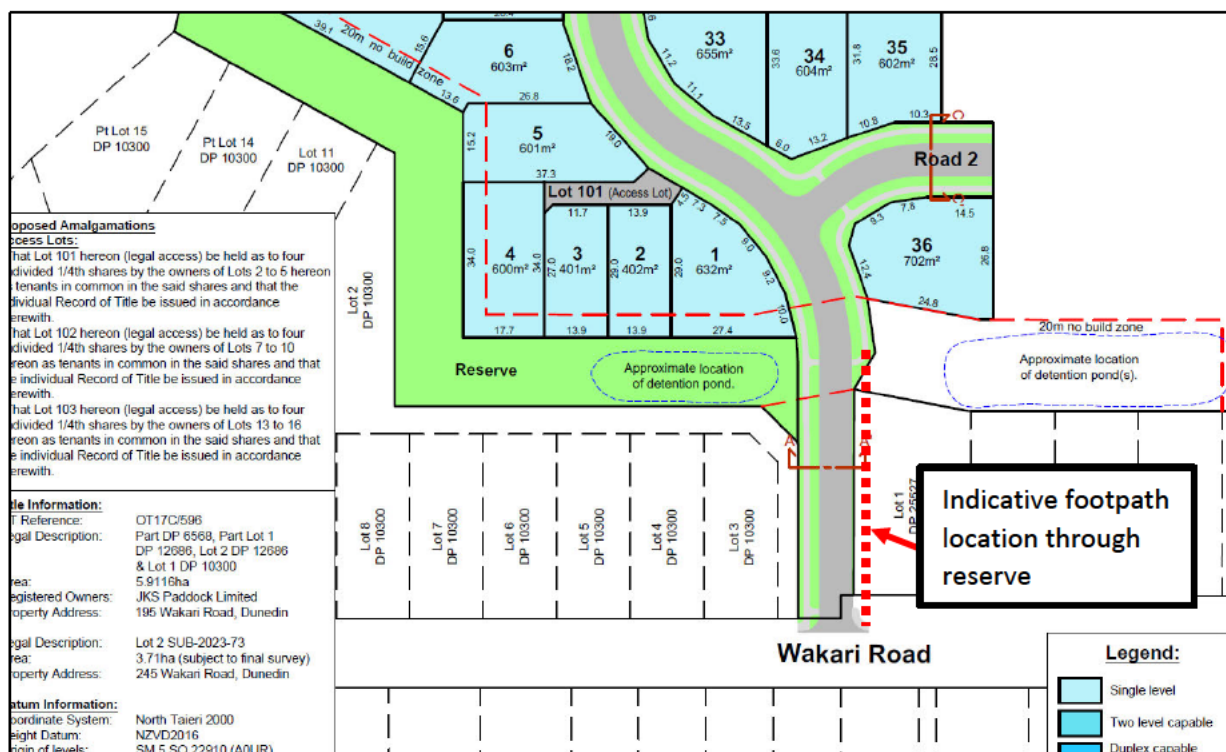


Figure 10 – Indicative location of proposed footpath through adjacent reserve

37. While it is acknowledged that having a second footpath adjacent to the park would be desirable, the proposed road design, including a footpath on the southwestern side of the new loop road only, is more advantageous for maximizing separation between the new road intersection and right of way access. As sight lines along this the new loop road are good in this location, and vehicle speeds expected to be low due to vehicles approaching the new road intersection, adverse effects on the safety in relation to the use of the reserve and lack of footpath on that side of the road are assessed as being minor.

Other Matters

38. While the available legal road width will result in reduced berm widths, there is sufficient space to provide normal road infrastructure such as street lighting, and other necessary subsurface infrastructure such as 3 Waters, electricity, and telecommunications.

Traffic Generated Effects

39. The proposed development will generate in the range of 312 traffic movements per day, and peak hour traffic movements of about 34 traffic movements per hour. It is estimated that the peak hour traffic volume of Wakari Road is in the order of 8% to 10% of daily traffic volumes, equating to 69 to 86 traffic movements per hour.
40. At unsignalized intersections between major and secondary roads, where turning movements are largely unconstrained, capacity considerations are usually insignificant and detailed capacity analysis is unnecessary. The 2009 edition of the Austroads Guide to Traffic Management Part 3, Traffic Studies and Analysis, contains guidance on traffic volume thresholds below which such analysis is not required. These thresholds are shown in the Table below:

	Traffic Volumes - Vehicles Per Hour (vph)	
	Major Road (Wakari Road)	Secondary Road (New Road)
Two-Lane Road	400	250
	500	200
	600	100

41. Predicted traffic volumes turning at this intersection are considered to be well within the threshold parameters shown in the above table, and it is therefore considered unnecessary to undertake specific traffic modelling of the new intersection with Wakari Road as the level of service at this intersection is expected to be good.

Public Transport

42. Public transport is not currently provided on Wakari Road in the vicinity of the site. Nevertheless, the existing route could possibly be extended though details for this would need

to be discussed with the Otago Regional Council. Furthermore, it would be prudent for any future upgrades to Wakari Road to include provisions for buses.

Pedestrians and Cyclists

43. Analysis of crash records does not indicate an overall traffic safety problem in the vicinity of the subdivision. The greatest potential impact on traffic and pedestrian and cyclist safety will occur at the new intersection to the site from Wakari Road.
44. In respect of the impact on traffic and pedestrian/cyclist safety associated with the proposal, the following is noted:
 - Vehicles exiting the subdivision have adequate sight distance available which makes it easier to select appropriate gaps in the traffic stream.
 - The vehicle access to the site ensures good levels of inter-visibility between vehicles entering and exiting the site and pedestrians.
45. These aspects combine to ensure that the overall effect of the development on traffic and pedestrian/cyclist safety in the area will be no more than minor.

FUTURE DEVELOPMENT

46. It is noted that the proposed subdivision is Stage 1 of a larger residential development that will eventually incorporate the adjoining land to the northeast of the site. Connectivity to future stages of the development is facilitated by the proposed road network, including to location of vehicle carriageways and footpaths.
47. Future stages of the development are likely to include a secondary intersection to Wakari Road (i.e. continuation of the “loop” road previously mentioned in this report), enhancing connectivity and resilience for the proposed transport network.
48. The applicant owns land that provides potential for a secondary access from Wakari Road. It is noted that if this is put forward in future applications, the location may be in close proximity to the existing Wakari Road/Caleb Place intersection. Effects on road safety between these two roads would likely be no more than minor given the good intervisibility between them, and limited use of Caleb Place, though these would be more comprehensively assessed at the time of any future subdivision consent.

CONCLUSION AND RECOMMENDATIONS

49. Based on the assessments described in this report, the following conclusions can be made in respect of the proposed subdivision at 195 Wakari Road, Dunedin:

- The estimated traffic generation of the proposal is likely to be in the order of 312 traffic movements per day with peak hour traffic generation in the order of 34 traffic movements per hour.
- The traffic generated by the proposal can be accommodated on the road network with little or no adverse effects on safety or functionality.
- The subdivision is designed to an appropriate standard and has good connections (pedestrian and vehicle) to the existing public road network.
- The proposed intersection is designed to a suitable standard and has adequate sight distances available on Wakari Road.
- Existing constraints on the legal width of the new road mean that its initial extent does not meet typical formation requirements, such as a footpath being located on one side of the road only, and separation of the new road intersection from the adjacent right of way access. However, impacts on safety and functionality are assessed as being no more than minor.

50. The following consent conditions are recommended:

- i. Detailed engineering design plans, showing all proposed construction details for the new road to vest, shall be submitted to the Council prior to construction. The plans must specifically include:
 - Typical cross section details in accordance with Appendix A of this report.
 - Provision of minimum Approach Sight Distances at the proposed intersection in accordance with Austroads guidance.
 - All signage and markings within the proposed road network should be in accordance with the Waka Kotahi Traffic Control Devices manual.
- ii. All works required by condition (i) are completed prior to issue of titles for the subdivision.

APPENDIX A – Site Plans & Typical Cross Sections



FOR RESOURCE CONSENT
DETAIL, AREAS & DIMENSIONS
SUBJECT TO DETAILED ENGINEERING
DESIGN & FINAL SURVEY

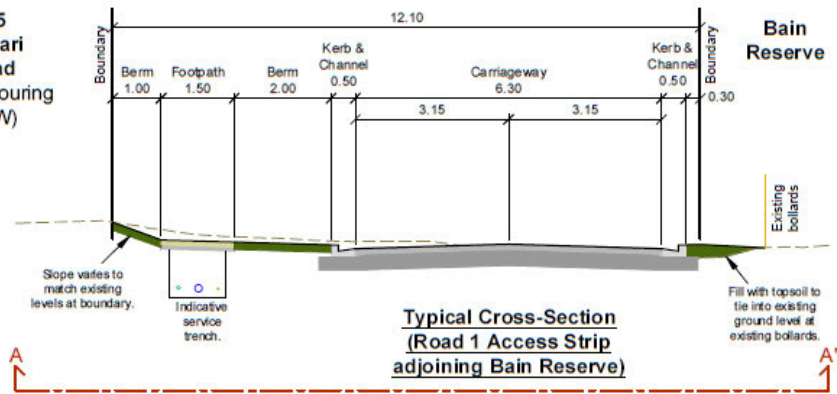
Title Information:

RT Reference: OT17C/596
Legal Description: Part DP 6568, Part Lot 1
DP 12686, Lot 2 DP 12686
& Lot 1 DP 10300
Area: 5.9116ha
Registered Owners: JKS Paddock Limited
Property Address: 195 Wakari Road, Dunedin
Legal Description: Lot 2 SUB-2023-73
Area: 3.71ha (subject to final survey)
Property Address: 245 Wakari Road, Dunedin

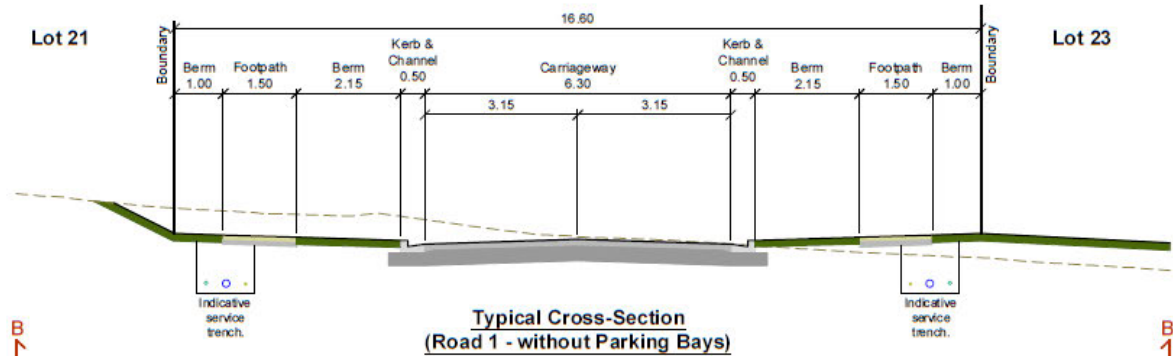
Datum Information:

Coordinate System: North Taieri 2000
Height Datum: NZVD2016
Origin of Levels: SM 5 SO 22910 (A0UR)
RL 199.62m

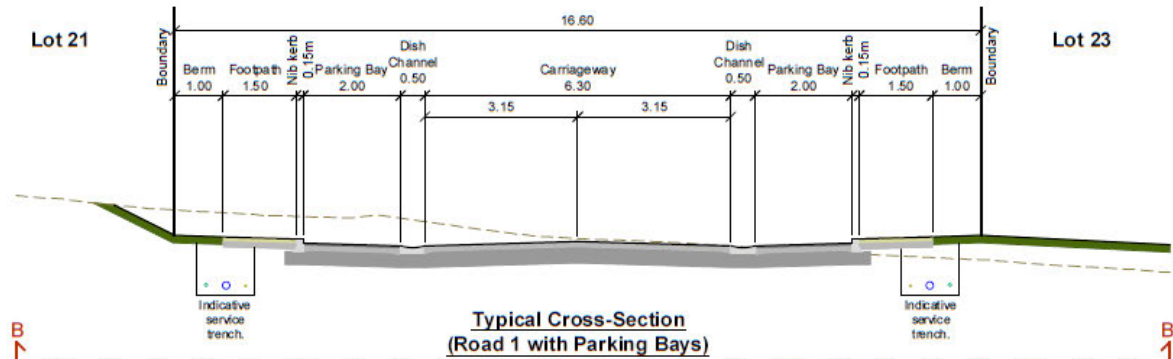
**175
Wakari
Road
(Neighbouring
ROW)**



Lot 21



Lot 21



Lot 35

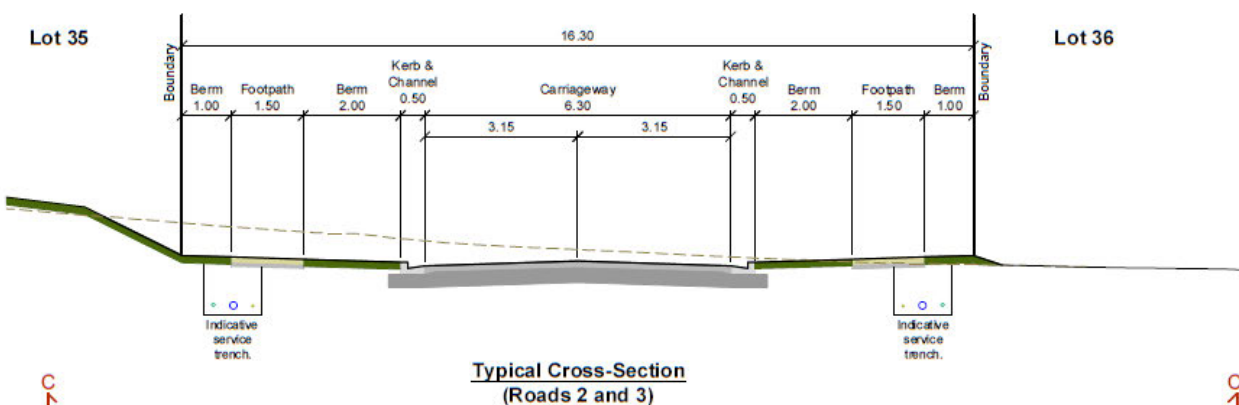


Image Quality due
to Condition
of Original

MEMORANDUM OF ACCEPTANCE OF RESTRICTION AS TO
BUILDING LINE.

241814

Copy of a Resolution of the Dunedin City Council passed at
the ordinary Meeting of the Council held on the 20th day
of November 1961.

EXEMPTION - WAKARI ROAD & UNNAMED STREET.

The Dunedin City Council being the local authority having
control of the streets in the City of Dunedin by Resolution
declares that the provisions of Section 128 of The Public
Works Act, 1928, shall not apply to the north-western side
of the portion of Wakari Road and both sides of Un-named
Street adjoining Sections 56, 58 & part 60 and Sections 62
and 64 Wakari District being all of the land in Certificate
of Title, Volume 185, Folio 272 and part of the land in
Certificate of Title Volume 266, Folio 61 Ltd., Otago Registry
subject to the condition that no building, or part of a
building, shall at any time be erected on the said land
within a distance of 33 feet from the centre lines of the
said portions of the said streets.

I HEREBY CERTIFY that the foregoing is
a true and correct copy
of the Resolution passed by the Dunedin
City Council on the 20th day of November 1961

TOWN CLERK

ACCEPTANCE.

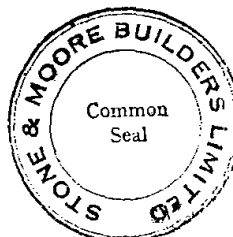
We, Stone & Moore Builders Ltd., of Dunedin, being the owners
of all that piece of land being Sections 56, 58 & part 60 and
Sections 62 & 64 Wakari District and being all of the land in
Certificate of Title Volume 185, Folio 272, and part of the
land in Certificate of Title Volume 266, Folio 61 Ltd., Otago
Registry, hereby accept the condition of the above Resolution
that no building or part of a building shall be erected on
the land specified in the said Resolution within a distance
of 33 feet from the centre lines of the portions of Wakari Road
and Un-named Street adjoining the said land.

DIRECTORS.

Witness: John Lean

Occupation: Regd. Surveyor

Address: Dunedin



The Land Transfer (Compulsory Registration of Titles) Act, 1924.

CAVEAT GIVING NOTICE OF ESTATE OR INTEREST.

To

The District Land Registrar of the District of

(1) Name of Caveator.

TAKE NOTICE that I,⁽¹⁾

(2) Occupation and address.

of⁽²⁾

(3) Here state the nature of the estate or interest claimed and the ground on which such claim is founded.

claiming estate or interest⁽³⁾

(4) Here describe land by reference to plan to be endorsed hereon.

in⁽⁴⁾

hereby give notice of such claim.

(5) Here state an address within the registration district.

And I appoint⁽⁵⁾

as the place at which notices relating hereto may be served.

Dated this

day of

, 192

Signed by the above-named

as Caveator, in the presence of—

(6) Signature, occupation, and address of witness.

(6)



Re Section

District [or Town] of

Abstract No.	36
Fee: \$	
Time:	11-23
20 DEC 1961	
From:	800
Nature:	Memo/Map
LAND & DISTRICT	

CAVEAT GIVING NOTICE OF ESTATE
OR INTEREST.

1.00/3/25-22557

Ch. 187/272 made 2/1/62

17C/319
nd/350



Asst. Land Registrar

the day of 20 DEC 1961

Vol. 185 fol. 273, 266/61

Particulars entered in the Register-book

241814

Memorandum of Transfer

STONE & MOORE (BUILDERS) LIMITED an incorporated Company having its
registered office at Dunedin, being registered as proprietor
of an estate in fee simple _____

_____ subject however to such encumbrances
liens and interests as are notified by memoranda underwritten or endorsed hereon ^{Firstly} in all
that piece of land situated in the WAKARI DISTRICT _____

containing by admeasurement Thirty-one (31) acres thirty-nine (39) poles

be the same a little more or less being sections 56 and 58 and part of section
60 of the said District and being all of the land comprised in Certificate
of Title Register Book Volume 185 Folio 272 and

Secondly in all that piece of land situated in the WAKARI DISTRICT
containing by admeasurement Twenty-eight (28) acres One (1) rood and
Twenty-three (23) poles be the same a little more or less being sections
62 and 64 of the said district and section 3 of 40 Block V Dunedin and East
Taieri District and being all the land comprised in Certificate of Title
Register Book Volume 266 Folio 61 ~~Limited as to Rights~~

In Consideration of the sum of

ONE SHILLING (1/-)

paid to it by THE MAYOR COUNCILLORS

AND CITIZENS OF THE CITY OF DUNEDIN (hereinafter called "the said Corporation")

the receipt of which sum it hereby acknowledges _____

~~Do hereby transfer to the said~~ doth hereby transfer and grant unto the said Corporation full and free right liberty and licence to extend onto the said land comprised in the said Certificates of Title fronting the road or street known as Wakari Road (hereinafter called the "said Street") to an extent not exceeding 15 feet from the boundaries of the said land with the said Street the better to make and support the said street and from time to time and at all times hereafter for ~~all estate and interest in the said piece of land~~ the said Corporation its servants workmen and contractors with or without implements and vehicles laden or unladen to make all such entries and do all such further acts and things as shall be necessary in and upon the said land comprised in the said Certificates of Title fronting the said street for the purposes of constructing the said street.

In Witness whereof these presents have been executed ~~hereunto subscribed~~ name this 21st day of December one thousand nine hundred and sixty-one.

THE COMMON SEAL of STONE & MOORE BUILDERS LIMITED was

hereto affixed in the presence of: ~~as Transferor in the presence of~~



[Signature]

P J Stone

} Directors

No. 242163

Correct for the purposes of "The Land Transfer Act."

TRANSFER of Batter Rights over
Sections 56, 58, 62 and 64 and part
Section 60.

situated in the WAKARI DISTRICT

J. L. Brent

Solicitor for the Purchaser

STONE & MOORE (BUILDERS)
LIMITED Vendor

THE MAYOR COUNCILLORS AND CITIZENS
OF THE CITY OF DUNEDIN Purchaser

Particulars entered in the Register Book, 140/550

Vol. 185 Folio 272 & 266/61

the 19 JAN 1962 19



o'clock

J. L. Kennedy
Assistant District Land Registrar of the
District of Otago.

10:24
10:24

LAND & DEEDS	
Nature:	<i>Grant of Batter Rights</i>
Firm:	<i>R. B. & H.</i>
	19 JAN 1962
Time:	<i>12:04</i>
Fee: £	<i>16/0</i>
Abstract No.	<i>66</i>

~~RAMSAY, HAGGITT~~

& ROBERTSON, BRENT & HAGGITT,
Solicitors,
Dunedin.





DocID: 110268177

MEMORANDUM OF ENCUMBRANCE

WHEREAS

- A **QUENTIN PHILIP MACKINNON** and **GAIL MARY MACKINNON** both of Dunedin (together with their executors administrators and assigns called "the Encumbrancer") is registered as proprietor of an estate in fee simple subject to such encumbrances liens and interests as are notified by memoranda and written or endorsed hereon in all the land described in the Schedule hereto.
- B The Encumbrancer purchased the said land from the **DUNEDIN CITY COUNCIL** (called "the Council") pursuant to an Agreement for Sale and Purchase dated 9 October 2001.
- C The Council agreed to sell the land described in the Schedule hereto to the Encumbrancer on the condition (inter alia) that the Encumbrancer enters into and executes these presents.

NOW THIS MEMORANDUM WITNESSES THAT: -

- 1 The Encumbrancer hereby encumbers interest in all the land described in the Schedule for the benefit of the Council for a term of 999 years with an annual rent charge of **ONE DOLLAR** (\$1.00) to be paid on the 1st day of April in each year if demanded by that date.
- 2 The Encumbrancer covenants with the Council that no building shall be built or erected within a distance of 20 metres perpendicular from that part of the boundary of the land described in the schedule between points A and B where:

Qm A = the north-western corner of the property described as part Lot 15 Deposited Plan 10300 (Certificate of Title 14D/~~500~~ 550) and

B = the north-eastern corner of the property described as Lot 2 Deposited Plan 6234 (Certificate of Title 325/111).

- 3 Section 104 of the Property Law Act 1952 applies to this Memorandum of Encumbrance but otherwise (and without prejudice to the Council's rights of action at common law as a rent charger or Encumbrancee).
- 3.1 The Council shall be entitled to none of the powers and remedies given to the Encumbrancee by the Land Transfer Act 1952 and the Property Law Act 1952; and.
- 3.2 No covenants on the part of the Encumbrancers are implied in this memorandum other than the covenants for further assurance implied by Section 154 of the Land Transfer Act 1952.

IN WITNESS WHEREOF these presents have been executed the
November 2001

6th day of

Qm

SCHEDULE

All that piece of land containing 5.9116ha more or less being Lot 1 Deposited Plan 1030, Part Lot 1 and Lot 2 Deposited Plan 12686 and all Deposited Plan 6568 being all of the land comprised in Certificate of Title 17C/596

SIGNED by **QUENTIN PHILIP**
MACKINNON and GAIL MARY
MACKINNON

in the presence of:

} Gail Mackinnon
Quentin Mackinnon

Witness Signature:

Witness Full Name:

Witness Occupation:

Witness Address:

Howard Travers Alloo
Solicitor
Dunedin

MEMORANDUM OF ENCUMBRANCE
Situating in the

Correct for the purposes of the Land
Transfer Act

Solicitor for the Council

QUENTIN PHILIP MACKINNON
and **GAIL MARY MACKINNON**
"the Encumbrancer"

DUNEDIN CITY COUNCIL
"the Council"

GALLAWAY COOK ALLAN
SOLICITORS
DUNEDIN

16 August 2023

JKS Paddock Limited
C/O Terramark
330 Moray Place
Dunedin 9016

Via email: darryl@terramark.co.nz

Dear JKS Paddock Limited

RESOURCE CONSENT APPLICATION:

**SUB-2023-73
245 WAKARI ROAD
DUNEDIN**

Your application for resource consent was processed on a non-notified basis in accordance with sections 95A to 95G of the Resource Management Act 1991. The application was considered by a Senior Planner, under delegated authority, on 16 August 2023.

The Council has granted consent to the application with conditions. The assessment of the application, including the reasons for the decision, is set out in the report attached to this letter. The consent certificate is attached to the rear of this letter.

The consent certificate outlines the conditions that apply to your proposal. Please ensure that you have read and understand all of the consent conditions.

You may object to this decision or any condition within 15 working days of the decision being received, by applying in writing to the Dunedin City Council at the following address:

Senior Planner - Enquiries
Dunedin City Council
PO Box 5045
Dunedin 9054

You may request that the objection be considered by a hearings commissioner. The Council will then delegate its functions, powers and duties to an independent hearings commissioner to consider and decide the objection. Please note that you may be required to pay for the full costs of the independent hearings commissioner.

Alternatively, there may be appeal rights to the Environment Court. Please refer to section 120 of the Resource Management Act 1991. It is recommended that you consult a lawyer if you are considering this option.

You will be contacted in due course if you are due a partial refund or you have to pay additional costs for the processing of your application.

Development contributions are payable for this resource consent, unless you successfully apply for a deferral or remission. A development contribution notice will be sent in due course outlining how the development contribution has been calculated and when payment is required. You would receive a credit for any future subdivisions at this site.

Please feel free to contact me if you have any questions.

Yours faithfully

A handwritten signature in blue ink, appearing to read "Phil Petersen". The signature is fluid and cursive, with the first name "Phil" and last name "Petersen" clearly distinguishable.

Phil Petersen
Planner

APPLICATION SUB-2023-73: 245 WAKARI ROAD, DUNEDIN

Department: Resource Consents

BACKGROUND

This application is to enable new ownership of the southern part of the site (the “Scott block”) by the applicant, alongside land adjoining further south (the “Kidson block”) which is to be developed into a residential development. At the time of receiving and initially assessing this application for subdivision part of the subject site was subject to a Residential Transition Overlay Zone (applying only to the land at the site within the Rural Residential 2 Zone). On 25 July 2023 the Residential Transition Overlay Zone was uplifted, and the majority of the site land within the Rural Residential 2 Zone was rezoned to be within the General Residential 1 Zone, with two small areas of Rural Residential 2 Zone land remaining within the site along the north-west boundary. Accordingly, all application assessments within this report are based on the recently updated zoning of the site.

DESCRIPTION OF SITE, AND PROPOSAL

The site is 9.6451ha and comprises pasture gently sloping down towards Wakari Road, with a centrally located dwelling and associated outbuildings. Most of the site is surrounded by high shelterbelts, with wire fences forming the remainder of the boundaries. The site contains examples of dry stone walls. The site has one existing vehicle crossing to Wakari Road, and a gravel driveway.

The site is legally described as Lot 1 Deposited Plan 513716 (held in Record of Title 795015).

The proposal is to subdivide the site into two lots, separating 3.71ha in proposed lot 1 from the remainder of the site in proposed lot 2. Access to both lots will continue to be from the existing vehicle crossing, which will be in proposed lot 1. A proposed ROW will be created in proposed lot 1, serving proposed lot 2.



REASONS FOR APPLICATION

Dunedin currently has two district plans: the Operative Dunedin City District Plan 2006 (the “Operative District Plan”), and the Proposed Second Generation Dunedin City District Plan (the “Proposed 2GP”). Until the Proposed 2GP is made fully operative, both district plans need to be considered in determining the activity status and deciding what aspects of the activity require resource consent.

The activity status of the application is fixed by the provisions in place when the application was first lodged, pursuant to section 88A of the Resource Management Act 1991. However, it is the provisions of both district plans in force at the time of the decision that must be had regard to when assessing the application.

Operative District Plan

The relevant rules in the Proposed 2GP below are not under appeal so the relevant rules in the Operative District Plan must be considered inoperative pursuant to s86F of the RMA. Accordingly, the rules of the Operative District Plan are not considered further for the purposes of this application rule assessment.

Proposed 2GP

The Proposed 2GP was notified on 26 September 2015, and some Proposed 2GP rules had immediate legal effect from this date. Some rules became fully operative following the close of submissions, where no submissions were received. Additional rules came into legal effect upon the release of decisions. Those additional rules become fully operative if no appeals are lodged or once any appeals have been resolved. Very few appeals remain on the Proposed 2GP and in this case the relevant 2GP rules are deemed operative.

The site is mostly within the General Residential 1 Zone, with a small strip comprising two areas along the north-west boundary being within the Rural Residential 2 Zone.

The following overlays apply to the site:

- New Development Mapped Area (covers entire site, apart from the two small areas of Rural Residential Zone land at the NW site boundary)
- Structure Plan Mapped Area (Applies to parts of site that are both: within the General Residential 1 Zone, and outside of the High Class Soils Mapped Area)
- High Class Soils Mapped Area (applies only to an approximately 100m-wide strip along the boundary with Wakari Road, and two narrow strips at the NW edge of the site)
- Critical Electricity Distribution Infrastructure Corridor Mapped Area (applies only to a small strip of land within the site along the boundary with Wakari Road)

Wakari Road is not classified in the Proposed 2GP Road Classification Hierarchy so is considered to be a ‘local road’ for the purposes of this report.

The Proposed 2GP provides separate definitions for both ‘site’ and ‘resultant site’ and these are both relevant in this situation in assessing minimum ‘site’ size rule requirements (for new ‘resultant sites’) in the General Residential 1 Zone, and the Rural Residential 2 Zone.

The Proposed 2GP definition of ‘site’ includes the following statement:

if any site is crossed by a zone boundary under this Plan, with the exception of a boundary between two rural zones, the site is deemed to be divided into two or more sites by that zone boundary.

‘Resultant Site’ is defined as follows:

All of the land intended to be held in a separate certificate of title after completion of a subdivision process. For the sake of clarity, this includes both new certificates of title and existing certificates of titles after land is either amalgamated into, transferred out, or both.

As the site is within a New Development Mapped Area and is an application for subdivision, Rule 9.9.X (stormwater management) requires that the application must include a proposed integrated stormwater management plan. The application is proposed as precursor to more intensive subdivision in the future. Consequently, it does not include such a plan as these requirements are anticipated to be addressed in future applications for substantive subdivision and development of the site.

The general subdivision proposal in the General Residential 1 Zone complies with all relevant subdivision performance standards in the Residential Zone, and is a **Restricted Discretionary activity** pursuant to Rule 15.3.5.(2).

The relevant matters for discretion are listed in Rule 15.11.4(1) and include:

- a. Effects on neighbourhood residential character and amenity*
- b. Risk from natural hazards*
- c. Effects on efficiency and affordability of infrastructure*
- X. Effects of stormwater from future development*
- d. Effects on the safety and efficiency of the transport network*

The proposal for general subdivision in the Rural Residential 2 Zone is a **non-complying** activity pursuant to Rule 17.3.5.(3).

Rules 17.12.1(1), and 17.12.5(1) provide guidance regarding the assessment of non-complying subdivision activities in the Rural Residential Zone.

The relevant Rural Residential Zone subdivision performance standards and assessments are:

- Rule 17.7.1 Access – Every resultant site is required to have a legal access way to meet the requirements of Rule 6.8.1. Will comply.
- Rule 17.7.3 Firefighting – The proposal does not comply with Rule 9.3.3 and is a **restricted discretionary** activity pursuant to Rule 9.3.3(3). The matter for discretion in Rule 9.5.3(7)(a) is *effects on health and safety*
- Rule 17.7.4 Service Connections - The proposal does not comply with Rule 9.3.7 and is a **restricted discretionary** activity pursuant to Rule 9.3.7(4). The matter for discretion in Rule 9.5.3(12)(a) is *effects on efficiency and affordability of infrastructure*
- Rule 17.7.5 Minimum Site Size – This performance standard does not place any minimum site size requirements on resultant sites in the Rural Residential 2 Zone. Will comply.
- Rule 16.7.1 Shape – Will comply as no resultant site is intended to be developed as a result of this subdivision

All subdivision activities within the Critical Electricity Distribution Infrastructure Corridor mapped area are subject to additional matters of discretion within Rule 17.10.5.(Y). These matters are:

- a. Risk to the safety of people and property*
- b. Reverse sensitivity effects*
- c. Effects on efficient and effective operation of The National Grid and access to it*

National Environmental Standards

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 came into effect on 1 January 2012. The National Environmental Standard applies to any piece of land on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken. Activities on HAIL sites may need to comply with permitted activity conditions specified in the soil contamination NES and/or might require resource consent.

The applicant has completed a DCC HAIL search application (HAIL-2023-72) which determines based on known information that the site is not a HAIL site. Accordingly, on the basis of the information currently available, the soil contamination NES-CS is not considered applicable to this application.

There are no other National Environmental Standards relevant to this application.

Overall Status

Where an activity requires resource consent under more than one rule, and the effects of the activity are inextricably linked, the general principle from case law is that the different components should be bundled and the most restrictive activity classification applied to the whole proposal.

In this case the proposal is a restricted discretionary activity.

WRITTEN APPROVALS AND EFFECTS ASSESSMENT

Affected Persons

No affected persons forms were submitted with the application. No person or party is considered to be adversely affected by the activity. This is because the environmental effects of the proposal are limited to effects on parties that are less than minor.

Effects on the Environment

Permitted Baseline

Under sections 95D(b) and 104(2) of the Resource Management Act 1991, the Council may disregard an adverse effect of the activity on the environment if the district plan or a national environmental standard permits an activity with that effect.

In this situation no permitted baseline is applicable as subdivision is always at least a restricted discretionary activity under the Proposed 2GP.

Receiving Environment

The existing and reasonably foreseeable receiving environment is made up of:

- The existing environment and associated effects from lawfully established activities;
- Effects from any consents on the subject site (not impacted by proposal) that are likely to be implemented;
- The existing environment as modified by any resource consents granted and likely to be implemented; and
- The environment as likely to be modified by activities permitted in the district plan.

For the subject site which is within the General Residential 1 zone, the existing and reasonably foreseeable receiving environment comprises land currently in pasture that is suitable for further residential development, and fronted by a relatively quiet local road. The existing environment includes Land use consent LUC-2017-46 for (existing) residential activity on the undersized sites established by a boundary adjustment under SUB-2017-46

For adjacent land, the existing and reasonably foreseeable receiving environment comprises rural land uses to the north on steeper land and relatively low intensity rural residential and residential use to the east, west and south. The General Residential 1 zoning on land immediately adjoining the site means that intensification of residential land use is likely to occur on this land in the future.

It is against these that the effects of the activity must be measured.

Assessment Matters/Rules

Consideration is required of the relevant assessment rules in the Proposed 2GP, along with the matters in any relevant national environmental standard. This assessment is limited to the matters to which the Council's discretion has been restricted. No regard has been given to any trade competition or any effects of trade competition.

Rule 15.11.4(1) and include:

- a. Effects on neighbourhood residential character and amenity*
- b. Risk from natural hazards*
- c. Effects on efficiency and affordability of infrastructure*
- X. Effects of stormwater from future development*
- d. Effects on the safety and efficiency of the transport network*

1. *Effects on neighbourhood residential character - Rule 15.11.4(1)(a)*

This subdivision does not include any associated land use activities and is a subdivision for ownership transfer reasons. The proposal is not expected to result in any effects on residential character that differ from the existing situation.

2. *Risk from natural hazards - Rule 15.11.4(1)(b)*

Section 6(h) of the Resource Management Act 1991 requires the Council to recognise and provide for the management of significant risks from natural hazards, as a matter of national importance. In addition, under section 106 of the Resource Management Act 1991, the Council may decline the subdivision consent, or it may grant the subdivision consent subject to conditions, if there is a significant risk from natural hazards.

The assessment of the risk from natural hazards requires a combined assessment of:

- (a) the likelihood of natural hazards occurring (whether individually or in combination); and*
- (b) the material damage to land in respect of which the consent is sought, other land, or structures that would result from natural hazards; and*
- (c) any likely subsequent use of the 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).*

The application was considered by the Council's consultant engineer, Stantec New Zealand Ltd. The Council's consulting engineer, Stantec New Zealand Ltd, finds no record of hazards affecting this land. The consulting engineer advised that they had no concerns regarding the proposals risks from natural hazards, and recommended that the application not be declined on the ground of known natural hazards.

3. *Effects on efficiency and affordability of infrastructure, Effects of stormwater from future development - Rules 15.11.4(1)(c), and (X) (General Subdivision), and Rule 9.5.3(12)(a) (Service Connections)*

The application was forwarded to the Council's 3 Waters department for comment. Comments received can be summarised that the nature of the proposal would not create any effects that would require 3 Waters Department comment as the proposal will not create any further development, and is merely rearranging ownership of the land for future applications for development.

This report considers that the effects of the proposal on the above matters are less than minor.

4. Effects on the safety and efficiency of the transport network - Rule 15.11.4(1)(d)

The application was forwarded to the Council's Transportation Operations department for comment. Transport considers the effects of the proposed development on the transportation network to be less than minor on the basis that no development is proposed and, subject to the following advice notes:

ADVICE NOTES:

- i. *Transport reserves the right to require this access to be hard surfaced or relocated upon future development, regardless of the fact it is an on-going situation if the future application proposes for increases in vehicle movements.*
- ii. *It is advised that in the event of any future development on the site, Transport would assess provisions for access, parking and manoeuvring at the time of resource consent/building consent application.*

5. (a) Risk to the safety of people and property, (b) Reverse sensitivity effects, and (c) Effects on efficient and effective operation of The National Grid and access to it (All subdivision activities within the Critical Electricity Distribution Infrastructure Corridor Mapped Area - Rule 17.10.5.(Y))

These matters are relevant to assessing the activity as it is a proposal to subdivide an area of land containing a Critical Electricity Distribution Infrastructure Corridor Mapped Area.

The subdivision will not result in physical changes to the use of the site and is merely a subdivision to allow an ownership transfer of part of the site ahead of applications for future development. The use of the driveway access will not change due to the creation of the ROW as it is merely being implemented to meet the legal requirements for access. Formation and use of the ROW for its future purpose will not occur until future subdivision and development of the wider site is approved via additional resource consents. Accordingly, this report assesses the current proposal will not cause any adverse effects on the following matters that would exceed a less-than-minor level:

- a) Risks to the safety of people and property
- b) Reverse sensitivity effects
- c) Effects on efficient and effective operation of The National Grid and access to it that would exceed a less-than-minor level

6. Effects on health and safety (Firefighting Rule 9.5.3(7)(a))

The subdivision will not result in physical changes to the use of the site and is merely a subdivision to allow an ownership transfer of part of the site ahead of applications for future development. The resultant sites will cause no effects on health and safety that exceed those caused by the existing situation. Accordingly, these effects are considered to be less-than-minor.

7. Rules 17.12.1(1), and 17.12.5(1) (Assessment of Non-complying subdivision in the Rural Residential Zone)

A very small portion of rural residential land is contained within the site. The priority considerations for assessment in the Rural Residential Zone objectives and policies are assessed in the Proposed 2GP Objectives and policies assessments below. This proposal is considered to cause no-more-than-minor adverse effects regarding these matters.

NOTIFICATION ASSESSMENT

Public Notification

Section 95A of the Resource Management Act 1991 sets out a step-by-step process for determining public notification. Each step is considered in turn below.

Step 1: Mandatory public notification in certain circumstances

- Public notification has not been requested.
- There has been no failure or refusal to provide further information.
- There has been no failure to respond or refusal to a report commissioning request.
- The application does not involve the exchange of recreation reserve land.

Step 2: If not required by Step 1, public notification precluded in certain circumstances

- There are no rules or national environmental standards precluding public notification.
- The application does not involve: a controlled activity, nor a boundary activity. As a result, public notification is not precluded under Step 2.

Step 3: If not precluded by Step 2, public notification required in certain circumstances

- There are no rules or national environmental standards requiring public notification.
- The activity will not have, or be likely to have, adverse effects on the environment that are more than minor.

Step 4: Public notification in special circumstances

- There are no special circumstances that warrant the application being publicly notified. There is nothing exceptional or unusual about the application that makes public notification desirable.

Limited Notification

Section 95B of the Resource Management Act 1991 sets out a step-by-step process for determining limited notification. Each step is considered in turn below.

Step 1: Certain affected groups and affected persons must be notified

- The activity is not in a protected customary rights area; the activity is not an accommodated activity in a customary marine title area; and, the activity is not on or adjacent to, or might affect, land that is the subject of a statutory acknowledgement.

Step 2: If not required by Step 1, limited notification precluded in certain circumstances

- There are no rules or national environmental standards precluding limited notification.
- The application does not involve a controlled activity that is not a subdivision.

Step 3: If not precluded by Step 2, certain other affected persons must be notified

- There are no persons where the activity's adverse effects on the person are minor or more than minor (but are not less than minor).

Step 4: Further notification in special circumstances

- There are no special circumstances that warrant the application being limited notified. There is nothing exceptional or unusual about the application that makes limited notification to any other persons desirable.

SUBSTANTIVE DECISION ASSESSMENT**Effects**

In accordance with section 104(1)(a) of the Resource Management Act 1991, the actual and potential adverse effects associated with the proposed activity have been assessed and outlined above. It is considered that the adverse effects on the environment arising from the proposal are no more than minor.

Offsetting or Compensation Measures

In accordance with section 104(1)(ab) of the Resource Management Act 1991, there are no offsetting or compensation measures proposed or agreed to by the applicant that need consideration.

Objectives and Policies

In accordance with section 104(1)(b) of the Resource Management Act 1991, the objectives and policies of the Operative District Plan and the Proposed 2GP were taken into account when assessing the application.

Operative District Plan

The proposal is considered to be consistent with the following objectives and policies:

- **Objective 4.2.1 and Policy 4.3.1 (Sustainability Section)**
These seek to enhance and maintain the amenity values of the Dunedin area.
- **Objective 8.2.1 and Policy 8.3.1 (Residential Section)**
These seek to ensure that the adverse effects on the amenity values and character of residential areas are avoided remedied or mitigated.
- **Objective 17.2.1 and Policies 17.3.2, 17.3.3, 17.3.4 & 17.3.6 (Hazards and Hazardous Substances Section)**
These seek to avoid, remedy or mitigate the effects of hazards and to control building and development on sites that may be prone to erosion, flooding, sea level rise and coastal hazards.
- **Objective 18.2.1 and Policy 18.3.1 (Subdivision Section)**
These seek to ensure that subdivision activity takes place in a coordinated and sustainable manner.
- **Objective 18.2.2 and Policy 18.3.5 (Subdivision Section)**
These seek to ensure that physical limitations are identified and taken into account at the time of subdivision activity.
- **Objectives 18.2.1, 18.2.2 and 18.2.7 and Policies 18.3.1, 18.3.5, 18.3.7 and 18.3.8 (Subdivision Section)**
These seek to ensure that subdivision activity takes place in a coordinated and sustainable manner, that physical limitations are identified and taken into account at the time of

subdivision activity, and that provision is made at the time of subdivision activity for appropriate infrastructure, including management of associated effects.]

- **Objective 20.2.2 and Policy 20.3.5 (Transportation Section)**

These seek to ensure that activities are undertaken in a manner which avoids, remedies or mitigates adverse effects on the transportation network.

Proposed 2GP

The proposal is considered to be consistent with the following Proposed 2GP objectives and policies:

- **Objective 6.2.3 and Policies 6.2.3.3, 6.2.3.4 and 6.2.3.9 (Transportation Section)**
These seek to ensure that land use, development and subdivision activities maintain the safety and efficiency of the transport network for all travel methods.
- **Objective 15.2.2 and Policy 15.2.2.1 (Residential Zones)**
These seek to ensure that residential activities, development, and subdivision activities provide high quality on-site amenity for residents.
- **Objective 15.2.3 and Policy 15.2.3.1 (Residential Zones)**
These seek to ensure that activities in residential zones maintain a good level of amenity on surrounding residential properties and public spaces.
- **Objective 15.2.4 and Policy 15.2.4.2 (Residential Zones)**
These seek to ensure that subdivision activities and development maintain or enhance the amenity of the streetscape and reflect the current of intended future character of the neighbourhood.
- **Objective 17.2.4 and Policies 17.2.4.1, 17.2.4.2, 17.2.4.4 (Rural Residential Zones)**
These provisions seek that earthworks in a high class soils mapped area retain soils on the site, seek that the productive potential of the rural residential zones for lifestyle blocks or hobby farms is maintained, Seek to only allow land use, development, or subdivision activities that may lead to land use and development in a high class soils mapped area where any adverse effects on high class soils are avoided or, if avoidance is not practicable, are no more than minor, and seek to avoid general subdivision in the Rural Residential 2 Zone unless it does not result in an increase in residential development potential.
- **Policy 11.2.1.13 (Hazards)**
This seeks to only allow subdivision where the risk from natural hazards, including any future development, will be avoided or no more than low.

Objectives and Policies Assessment

The proposal will have few, if any relevant effects on the amenity and character of the zone, streetscape, transportation, infrastructure, nor hazards matters. Accordingly, the proposal is considered to be consistent with the above relevant provisions.

Regarding the Rural Residential Zone provisions, these are only relevant to assessing the proposal due to a small part of the site remaining within the Rural Residential Zone as a result of a plan mapping error. The areas of the site that are Rural Residential Zone, and now rezoned to General Residential 1 also remain under a high class soil mapped area. Notwithstanding this, the proposal is considered to be consistent with the above relevant provisions of the Rural Residential Zones as the very small areas remaining in this zone are too small, and of an odd shape currently for lifestyle blocks or hobby farms. The subdivision purpose only relates to a change in ownership of part of the site. It does not include any earthworks so it will not remove soil from the site, or affect any high class soil mapped areas within the site. The proposed subdivision will not result in any increase in residential development potential in the areas of the site that are within the Rural Residential Zone as these areas are too small and oddly shaped to allow residential development without requiring a resource consent under density, and setback rules.

The relevant provisions of both plans support the granting of this proposal and therefore no weighting exercise between these plans is necessary.

Other Matters

Section 104(1)(c) of the Resource Management Act 1991 requires the Council to have regard to any other matters considered relevant and reasonably necessary to determine the application. The matters of precedent and Plan integrity are considered relevant here. These issues have been addressed by the Environment Court (starting with *Russell v Dunedin City Council* C092/03) and case law now directs the Council to consider whether approval of a non-complying activity will create an undesirable precedent. Where a plan's integrity is at risk by virtue of such a precedent, the Council is required to apply the 'true exception test'. This is particularly relevant where the proposed activity is contrary to the objectives and policies of the proposed district plan. The proposal is not contrary to the relevant objectives and policies of the proposed district plan so the 'true exception test' is not considered particularly relevant.

In this case, the proposal is non-complying because the proposal includes subdivision of land within the Rural Residential 2 Zone. This situation relates to small areas of land within the north-western site boundary that are in that zone due to a mapping error, and this report understands that these areas will be rezoned to be a residential zone at the time of Variation 3 of the Proposed 2GP.

The non-complying activity status is therefore considered to be technical rather than substantive in nature, and any precedent set could not be considered undesirable, and approval of the application will not undermine the integrity of either the Operative District Plan or the Proposed 2GP.

It is considered that approval of the proposal will not undermine the integrity of either the Operative District Plan or the Proposed 2GP as the activity will produce only localised and minor effects, if any, and will not set an undesirable precedent.

Section 104D

Section 104D of the Resource Management Act 1991 specifies that resource consent for a non-complying activity must not be granted unless the proposal can meet at least one of two limbs. The limbs of section 104D require that the adverse effects on the environment will be no more than minor, or that the proposal will not be contrary to the objectives and policies of both the district plan and the proposed district plan. It is considered that the proposal meets both limbs as any adverse effects arising from this proposed activity will be no more than minor, and the activity will not be contrary to the objectives and policies of both the Operative District Plan and the Proposed 2GP. Under section 104D the Council is not prevented from granting consent, and can therefore exercise its discretion to grant consent under the broader assessments within section 104.

Part 2

Based on the findings above, it is evident that the proposal would satisfy Part 2 of the Resource Management Act 1991. Granting of consent would promote the sustainable management of Dunedin's natural and physical resources.

RECOMMENDATION

After having regard to the above planning assessment, I recommend that:

1. This application be processed on a non-notified basis, pursuant to sections 95A and 95B of the Resource Management Act 1991.
2. The Council grant consent to the proposed activity under delegated authority, in accordance with sections 104, 104B, and 104D of the Resource Management Act 1991.



Phil Petersen
Planner

Date: 16 August 2023

DECISION

I have read both the notification assessment and substantive decision assessment in this report. I agree with both recommendations above.

Under delegated authority on behalf of the Dunedin City Council, I accordingly approve the granting of resource consent to the proposal:

*Pursuant to Part 2 and sections 34A(1), 104, 104B, and 104D of the Resource Management Act 1991, and the Proposed Second Generation Dunedin City District Plan, the Dunedin City Council **grants** consent to a **non-complying activity** being a 2-Lot subdivision, creating one additional lot on the site at 245 Wakari Road, Dunedin, legally described as Lot 1 Deposited Plan 513716 (Record of Title 795015), subject to the conditions imposed under sections 108 and 220 of the Act, as shown on the attached certificate.*



John Sule
Senior Planner

Date: 16 August 2023

Consent Type: Subdivision Consent

Consent Number: SUB-2023-73

Purpose: A 2-Lot subdivision, creating one additional lot .

Location of Activity: 245 Wakari Road, Dunedin.

Legal Description: Lot 1 Deposited Plan 513716 (Record of Title 795015).

Lapse Date: 16 August 2028, unless the consent has been given effect to before this date.

Conditions:

1. *The proposed activity must be undertaken in general accordance with the approved plans attached to this certificate as Appendix One, and the information provided with the resource consent application received by the Council on 26 June 2023, except where modified by the following conditions.*
2. *Prior to certification of the survey plan, pursuant to section 223 of the Resource Management Act 1991, the subdivider must ensure the following:*
 - a) *Right of Way A must be duly granted or reserved and shown in a Memorandum of Easements on the cadastral dataset.*
 - b) *If a requirement for any easements for services, including private drainage, is incurred during the survey then those easements must be granted or reserved and included in a Memorandum of Easements on the cadastral dataset.*
3. *Prior to certification pursuant to section 224(c) of the Resource Management Act 1991, the subdivider must complete the following:*
 - a) *There are no specific section 224(c) requirements.*

Advice Notes:

Transportation

1. Transport reserves the right to require this access to be hard surfaced or relocated upon future development, regardless of the fact it is an on-going situation if the future application proposes for increases in vehicle movements.
2. It is advised that in the event of any future development on the site, Transport would assess provisions for access, parking and manoeuvring at the time of resource consent/building consent application.

Heritage

3. The site contains examples of dry-stone walls. The consent holder should consult with Heritage New Zealand Pouhere Toanga prior to any future developments on site to determine whether destruction or disturbance of these walls requires an archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014.

General

4. In addition to the conditions of a resource consent, the Resource Management Act 1991 establishes through sections 16 and 17 a duty for all persons to avoid unreasonable noise, and to avoid, remedy or mitigate any adverse effect created from an activity they undertake.
5. Resource consents are not personal property. The ability to exercise this consent is not restricted to the party who applied and/or paid for the consent application.
6. It is the responsibility of any party exercising this consent to comply with any conditions imposed on the resource consent prior to and during (as applicable) exercising the resource consent. Failure to comply with the conditions may result in prosecution, the penalties for which are outlined in section 339 of the Resource Management Act 1991.
7. The lapse period specified above may be extended on application to the Council pursuant to section 125 of the Resource Management Act 1991.
8. This is a resource consent. Please contact the Council's Building Services Department, about the building consent requirements for the work.

Issued at Dunedin on 16 August 2023



Phil Petersen
Planner

[illegible]

CCL Ref: 15021-030424-bretherton

3 April 2024

Marc Bretherton
JKS Paddock Limited



A. PO Box 29623, Christchurch, 8540
P. 03 377 7010
E. office@carriageway.co.nz

By e-mail only: marc.bretherton@gmail.com

Dear Marc

195 Wakari Road, Dunedin: Proximity of Access to Intersection

Further to our emails, we understand that JKS Paddock Limited has applied for resource consent for a 36-lot residential subdivision at Wakari Road, Dunedin. Comments received from Dunedin City Council have identified a concern relating to the proximity of the roadway serving the proposed subdivision and an existing accessway/right-of-way. In summary the Council notes that:

- District Plan (2GP) Rule 6.6.3.4 requires that the minimum distance of vehicle crossings from intersections with Local Roads is 10.0m with the measurement taken from the tangent point of the kerb return.
- Only 5.0m can realistically be achieved to a shared right-of-way at 175 Wakari Road due to the existing boundary position, although in practice no separation will be provided between the new road and the right-of-way.
- The existing right-of-way serves 14 residences.
- This limited separation distance will increase the potential and frequency for confusion, conflict, and unsafe vehicle movements and therefore increases the potential for near misses and crash incidents.
- In addition, the assessment does not consider the potential for confusion for pedestrians waiting to cross either Wakari Road, the new intersection, or the right-of-way, and the difficulties in correctly anticipating whether vehicles are entering the right-of-way or the new road.

On the basis of the information presented, the Council considered that the proposed intersection design could not be supported.

Since that time, we understand that further information and analysis has been provided. This letter reviews the most recent information and comments on whether, in our opinion, the arrangement can be supported. We have also carried out additional analyses where needed. Please note that our review is limited to this single issue and we have not carried out a more wide-ranging assessment.

Background

We have reviewed the initial Transportation Assessment produced by Modal Consulting Limited and dated October 2023. The location and design of the access road is shown below.

We have also reviewed the supplementary memorandum produced by Modal Consulting dated 27 November 2023, responding to a Request for Further Information from the Council.

Finally, we have been provided with, and have reviewed, an updated Transportation Assessment dated March 2024.

The proposed access arrangements in the initial and revised Transportation Assessments are set out below.



Figure 1: Initially Proposed Access Arrangement (Left) and Current Proposal (Right)

It can be seen that there a number of differences. In particular:

- Two footpaths are now proposed on the new access road;
- The radii of the kerbs where the new road meets Wakari Road have been reduced to 3m; and
- Provision of made for vehicle movements associated with the right-of-way to connect to the proposed new road.

We understand however that JKS Paddock Limited has no control over the right-of-way to the immediate west. Therefore solutions such as closing the right-of-way in favour of existing residential lots gaining access via the proposed new road are presently not available.

Relevant Information

On our review of the most recent Transportation Assessment, we understand that:

- Wakari Road is a Local Road carrying around 860 vehicle movements per day and subject to a posted speed limit of 50km/h;
- The proposed road will serve 36 residences, generating 32 vehicle movements (two-way) in the weekday peak hours;
- Sight distances at the proposed new road meet the requirements set out in the Austroads Guide to Road Design Part 4A;
- Although a separation of 10m is required between the new road and the adjacent access, in practice only 2.6m is available.

Taking these 'as read', we consider that they show:

- Wakari Road is lightly trafficked, carrying an expected 86 vehicle movements in the peak hours;
- Wakari Road has a low speed limit;
- Sight distances meet relevant guides, meaning that drivers can be expected to have appropriate visibility of potential conflicts ahead of them and sufficient time to decide on, and take, an appropriate action;
- There is a significant (proportional) shortfall in the expected separation distance.

Paragraphs 22 to 44 of the Transportation Assessment set out an assessment of the expected effects arising from the shortfall, and we comment on each, below.

Paragraphs 22 to 28: Safe Systems Assessment

The Transportation Assessment makes a number of statements with regard to the potential for collisions to arise. We agree that the Austroads Guide focusses on roads with typically higher volumes and speeds, and thus it has little to say in this case. However we concur that turning movements between the right-of-way and new road will be carried out at slow speeds, and that drivers will have a high degree of familiarity with the arrangement (as they are most likely to be residents), which will reduce the potential for a crash.

No assessment has been carried out of the expected traffic speeds, but based on the turning radii, we expect that speeds of at most 20km/h will arise, which we agree indicates that the potential for a fatal injury in a crash is very low (noting that the 'y' axis of the graph is not a probability of a crash occurring but a probability of a fatal outcome in the event of a crash).

Comment is made that there is sufficient width on the footpath for pedestrians to wait in between the right-of-way and the new road. The drawings show an area of 2.6m in length, which is sufficient for a pedestrian with stroller/buggy, and we therefore agree with this comment. It is also noted that in practice, any vehicle turning onto the right-of-way would be legally required to give-way to a pedestrian already present, but that pedestrian behaviour is such that in the event that they saw a vehicle indicating to turn, they would wait for the vehicle movement to be carried out before crossing either the new road or the right-of-way. While this may be how the bulk of pedestrians behave in practice, it is not the case that this behaviour can be relied upon for pedestrian movements crossing the right-of-way, where more confident pedestrians will seek to retain the right-of-way. In any event, we consider that relying on pedestrian behaviour as a means of mitigating an effect is problematic, and so we have given this comment limited weight.

In paragraphs 26 onwards, there is reference to the directions of travel, noting that in the morning peak hour "most" traffic will turn right out of both the right-of-way and the new road, and in the evening, this pattern will be reversed. We agree that this similarity in travel direction will reduce the potential for a conflict between vehicles turning in different directions.

It would be helpful for the Transportation Assessment to have set out the prevailing traffic volumes at this time, so that the reader can quantify the volumes involved. However to assist, we have set these out below, based upon applying a standard direction of 80% of all generated traffic exiting residential development in the morning peak hour, and 65% of all generated traffic entering residential development in the evening peak hour. We have allowed for 95% of traffic to be travelling to and from the west.

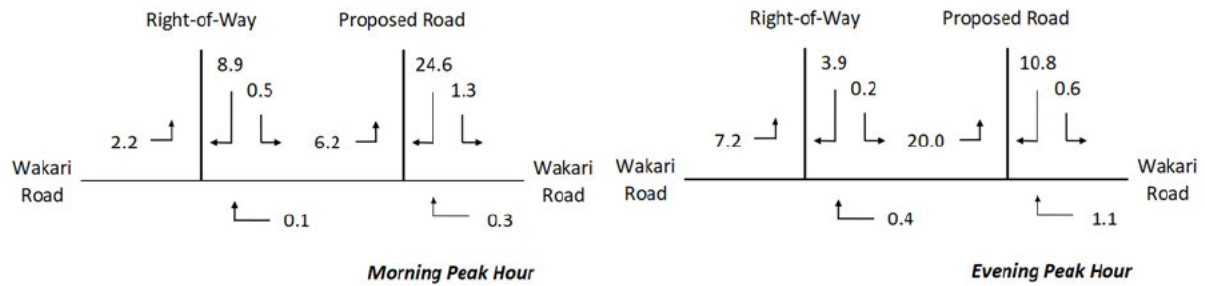


Figure 2: Estimated Traffic Flows at the Right-of-Way and the Proposed Road

By way of example, it can be seen that in the morning peak hour, there would be only 0.5 vehicles turning left out of the right-of-way which could potentially conflict with 24.6 vehicles turning right out of the proposed road. 24.6 vehicle movements equates to an average of one vehicle movement every 2.4 minutes, meaning that intuitively there is only a low likelihood that those vehicles would be present at the same time as the 0.5 vehicles turning right out of the right-of-way (this is discussed in more detail below).

In our view, paragraph 28 is important, where it is noted that the proposed separation distance “is not considered to significantly increase the likelihood of conflict and severity of crashes that may occur at the intersection, when compared with a configuration that complies with District Plan performance standards”. Taking into account that passing traffic would be travelling at 50km/h, the difference between the proposed separation of 2.6m and permitted separation of 10m equates to around half a second of travel time. By way of context, the Austroads Guide to Road Design Part 4A sets out that an absolute minimum of 1.5 seconds is required for a driver to be able to see and react to a conflict situation arising, and to commence their chosen action. In this context, we agree that the difference between the proposed and permitted separation distances appears very small. We return to this matter subsequently.

Paragraphs 29 to 41: Intersection-Driveway Crash Study

In this part of the Transportation Assessment, Modal Consulting has sought to identify comparable locations within the district and to evaluate the crash records at these locations. We note the comments of the Council that crash data “is unlikely to provide any meaningful trends” but equally we do not consider that good engineering practice would disregard any sources of data what may be of relevance.

To undertake the assessment, Modal Consulting has identified comparable locations through a methodical manner, and evaluated reported crashes in those locations for the past 40+ years.

We consider that this comparative analysis is extremely helpful, in that it shows firstly that there are other locations in the city where vehicle crossings and intersections are in close proximity (albeit that it is not a common situation), that in those locations traffic flows are greater, and this does not appear to present a systematic road safety concern through a higher crash rate or crashes reported with the proximity of the vehicle crossing and intersection being references as a continuing factor.

One further factor of relevance is that the nature of the activities served by the vehicle crossings and of the frontage roads identified by Modal means that there will be lower levels of driver familiarity of the arrangement. That is, in our view, the level of risk associated with the comparison sites will be greater than at the proposed site (where the vast majority of road users will be residents).

Modal has also considered private driveways within their evaluation, with the separation of these driveways being 0m to 9m (but with a mean separation of 2.9m, very similar to what is proposed). We note their comment that these will have low levels of traffic generation but we agree that to some extent this is offset through having more than 40 years of observations and having 57 locations (broadly, this equates to a cumulative total of more than 7 million potential opportunities for conflict). We also note that in many cases, vehicles will be reversing from those driveways onto the frontage road rather than only driving in a forwards direction as would be the case under the proposed development. Again, Modal reports that there were no reported crashes at these locations.

Modal concludes that if there is any additional confusion that arises from the proximity of vehicle crossings and intersections, the extent of this is not sufficient to result in increased crash numbers/rates. Based on the information presented, we agree.

We note the Council's previous comments that the nature of crashes in such locations means that they are more likely to be non-injury or have only minor damage to a vehicle and therefore are likely to be under-reported. While we agree that these types of crashes are under-reported, we note that in addition to the more than 7 million potential conflicts at private driveways, the higher usage driveways set out in the Modal report would account for a further approximately 12 million potential conflicts. With more than 19 million potential opportunities for conflict over more than 40 years in multiple locations, we would expect that at least one crash was reported which could be attributable to the limited separation, but this does not appear to be the case.

Paragraphs 42 to 44: Access Conflict Probability Assessment

In this part of the report, Modal notes that a probability assessment has been carried out to determine the potential for vehicles to meet and be in conflict at the right-of-way and proposed road. Although the results of this were provided, no detail of the analysis undertaken was set out. We therefore requested this, and were provided with a spreadsheet.

The approach taken in the spreadsheet is to assess the potential for a vehicle to be present on each of the two accesses, and then to evaluate the probability that there is a car on one access when there is a car on the other.

The calculation carried out, and reported in the Transportation Assessment is based upon the number of cars that are present, with an example given of 180 cars in the peak hour equating to 1 car every 20 seconds. However this assessment appears to be based on the probability of a vehicle being on the right-of-way at the same time as a vehicle passing on Wakari Road. We also note that the calculation does not appear to take into account that while a vehicle might be present immediately at the access (or intersection), there is an area of influence created by the movement of that vehicle. In other words, it is not just the specific point that a vehicle passes through a location that is relevant, but road user behaviour will be affected as the vehicle approaches that location too. The vehicle therefore has an effect for a longer period of time.

Having checked the assessment, we confirm that we are comfortable with the outcome shown, but we note that this appears to have been carried out for the total development of the site (86 vehicles per hour on Wakari Road plus 90 vehicles turning to/from the fully-developed site). We understand that the application is presently only for 36 lots, and that a second point of access will be provided for any further development. As such, the assessment of a probability of 0.6% of vehicles meeting is an over-estimate.

Additional Comments

Using the spreadsheet supplied, we have tested additional scenarios, as summarised below:

- Probability of a vehicle being present on the right-of-way with another vehicle present on Wakari Road (no development) in the peak hour: 0.30% (1 in 331)
- Probability of a vehicle being present on the right-of-way with another vehicle present on Wakari Road (with Stage 1 development) in the peak hour: 0.42% (1 in 239)
- Probability of a vehicle being present on the right-of-way with another vehicle present on the proposed road (with Stage 1 development) in the peak hour: 0.12% (1 in 825)

On this basis, the potential for two vehicles to be present at the same time (and thus for there to be the possibility of a conflict) is extremely low, even at the peak hours.

The area of influence of an intersection is, in effect, the area where a driver might need to see a conflict and stop in order to prevent a collision. This is the Stopping Sight Distance (SSD) and is determined by the vehicle speeds. On Wakari Road, the 50km/h speeds result in an SSD of 55m. On the right-of-way, we expect that speeds will be lower, at 25km/h where an SSD of 21m is required. We have then allowed for a speed of 40km/h on the proposed new road, meaning 40m SSD is required. Travelling at these speeds, those distances would be travelled in 4.0 seconds, 3.0 seconds and 3.6 seconds respectively. In other words, a vehicle would be within the area of influence for longer than assumed above. Allowing for this, but also allowing for the direction of vehicles:

- Probability of a vehicle being present in the area of influence on the right-of-way with another vehicle present in the area of influence on Wakari Road (no development) in the peak hour: 2.69% (1 in 37.2)
- Probability of a vehicle being present in the area of influence on the right-of-way with another vehicle present in the area of influence on Wakari Road (with Stage 1 development) in the peak hour: 3.36% (1 in 29.8)
- Probability of a vehicle being present in the area of influence on the right-of-way with another vehicle present in the area of influence on the proposed road (with Stage 1 development) in the peak hour: 0.82% (1 in 122)

It can be seen that although the probabilities increase, they remain extremely low. On our assessment, the probability of one vehicle arriving at the right-of-way when another arrives at the proposed new road, is less than 1%. We also highlight that the probability of vehicles meeting do not differ materially with or without the Stage 1 development traffic (broadly, 1 in 37 changing to 1 in 30).

The probability reduces further when a scenario is considered of one vehicle arriving at the right-of-way when another arrives at the proposed new road, and also a pedestrian is present, or a vehicle is passing on Wakari Road, because for this to arise, three events must occur at the same time rather than just two.

We note that a concern raised by the Council is that if there was to be a pedestrian present when a vehicle is approaching the right-of-way and be unsure about where the vehicle will turn. Applying the spreadsheet to this scenario, and allowing for a total of 31 vehicles to turn into the two roadways in the peak times¹, then the potential for a turning vehicle to be present when a pedestrian is present

¹ 13 vehicles using the right-of-way and 34 vehicles using the proposed road at peak times, allowing for 65% of vehicles to be entering



is very low. Allowing for an average of 1 pedestrian (or pedestrian group) every minute, the probability in the peak hours is only 0.5% (1 in 200).

Conclusions and Summary

It is common ground that the separation distance between the right-of-way and the proposed new road falls below the expected 10m. However we have been unable to identify any technical assessment as to why this 10m separation distance is required (rather than any other distance) and the difference between the separation proposed and required would be travelled in just half a second by a passing vehicle. This travel time is not material in our view, and is less than the absolute minimum of 1.5 seconds needed for a driver to see and assimilate a potential conflict. In other words, in terms of driver reaction time, there is little practical difference between the permitted minimum 10m separation and the proposed 2.6m separation.

The speeds of turning vehicles will be low, and the direction of travel does not suggest any large degree of conflicting traffic streams. Rather, there is a strong left-turn movement out of the two roadways in the morning peak hour and a strong left-turn movement into them both in the evening peak hour. Turning traffic volumes on each will be low, which in turn means that the probability of vehicles meeting is also very low. Even when the area of influence is taken into account, there is a less than 1% chance that two vehicles will be present on the right-of-way and the proposed road at the same time in the peak hours. This probability reduces even further when a scenario of two vehicles being present when third vehicle or a pedestrian is present on Wakari Road.

Wakari Road is a Local Road and given its position, we do not consider it will carry a large proportion of through traffic. Further, the majority of pedestrians and other road users will be those that are regular users. On that basis, the bulk of road users will be familiar with the arrangement. Sightlines of the road ahead are excellent and so drivers are able to see other vehicles turning in good time.

We acknowledge that crashes involving damage only or only slight injury are under-reported in the CAS database, but the assessment of other locations where there is a limited separation distance is of assistance in showing that there is no evidence of a systematic road safety effect arising from existing scenarios with accesses located close to roads. We calculate that the locations assessed equate to more than 19 million opportunities for conflict, but no adverse effects are evident.

We also note that the proposed road layout now makes provision for direct connections towards the west, such that it would be possible (subject to relevant consents) to close the southernmost part of the right-of-way and focus all traffic movements onto the proposed road. We consider that this 'future-proofs' the arrangement through allowing for rationalising access, in a manner that the previous layout did not.

Finally, we have considered whether this scenario is unique or would set a precedent for other developments. In our view the location has a number of elements that make it unique including (but not limited to) the characteristics of the frontage road, the limited amount of development proposed, road user familiarity, and the low traffic volumes resulting in low potential for vehicles (and other road users) to meet.

On balance then, we consider that the particular circumstances of this location mean that the proposed separation of 2.6m is unlikely to have materially different road safety outcomes when compared to the permitted separation of 10m. On this basis, we consider that the proposed location of the access road and the reduced proximity to the right-of-way can be supported.



Please do not hesitate to contact me if you require anything further or clarification of any issues.

Kind regards

Carriageway Consulting Limited

Andy Carr

Traffic Engineer | Director

Mobile 027 561 1967

Email andy.carr@carriageway.co.nz



Soil Contamination Summary Report 195 Wakari Road, Dunedin

1 Introduction

The property at 195 Wakari Road formerly contained a residential dwelling and various additional structures, present on the site from at least 1901 and demolished by 1963. The property is not listed on the Otago Regional Council (ORC) Hazardous Activities and Industries List (HAIL) Database¹. However, given the long residential history of the site there is potential for contamination to be released to site soils from contaminants such as building materials and flaking lead paint.

This Soil Contamination Summary Report discusses the results of sampling and analysis conducted by Environmental Consultants Otago Limited (EC Otago) on 21 March 2024. This report is intended to provide summary information regarding the contamination status of shallow soils present on the site and does not constitute a full Preliminary or a Detailed Site investigation.

1.1 Site description

The general location is shown in Figure 1, and the relevant property details are summarised in Table 1. For the purposes of this report, the site extent consists of the entire 5.9116 ha property as outlined in turquoise in Figure 2.

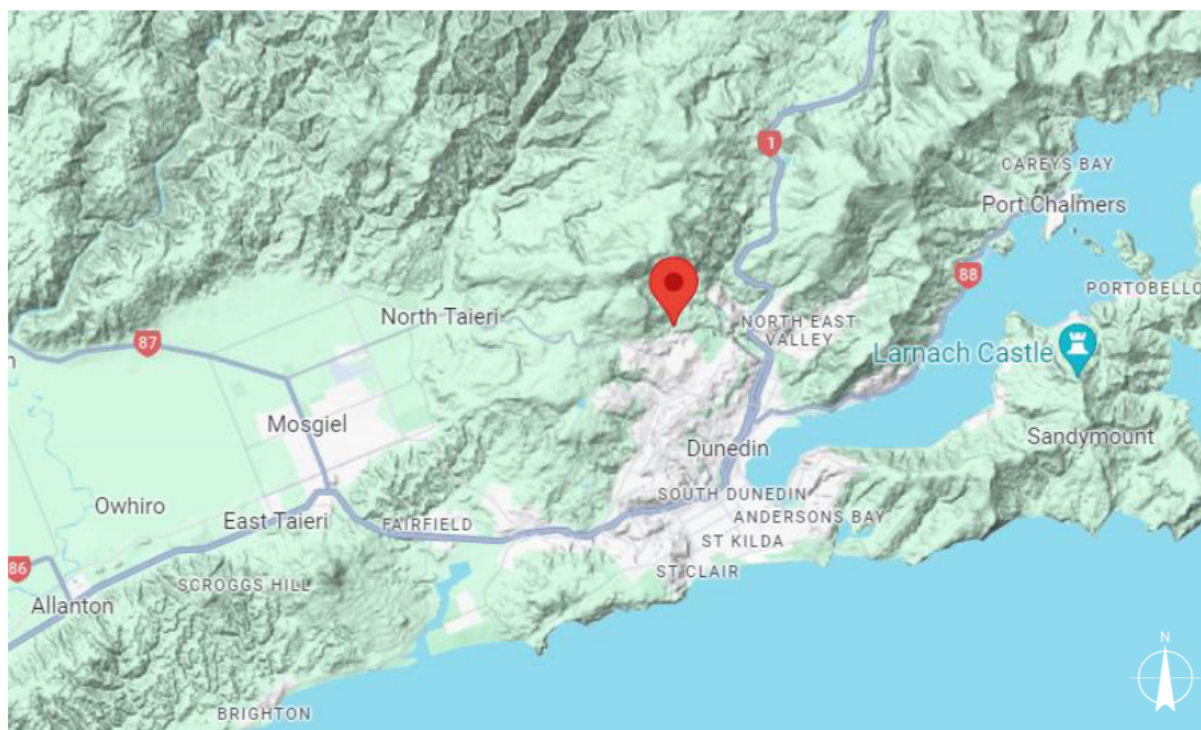


Figure 1: General location of the site, shown with a red tag (Map Data ©2023; Google Terrain).

¹ <https://maps.orc.govt.nz/portal/apps/MapSeries/index.html?appid=052ba04547d74dc4bf070e8d97fd6819>

Table 1: Summary of property details

Address	195 Wakari Road, Dunedin
Legal description	PT SEC 66 DP 6568 WAKARI SD, LOT 1 DP 10300, PT LOT 1 DP 12686, LOT 2 DP 12686
Certificate of Title	17C/596
Total Area	5.9116 ha
District Plan/Zoning	General Residential 1



Figure 2: The property at 195 Wakari Road outlined in turquoise (Dunedin City Council (DCC) GIS, 2018/2019, copyright DCC/Aerial Surveys Ltd/ORC CC BY 4.0 NZ).

1.2 Site History

A detailed description of the site history is beyond the scope of this report. However, the image in Figure 3 shows the site to have been established as “Waldie’s Farm” by at least 1901, including

several structures present on the site by that time. Subsequent aerial imagery (not shown) and consent records contained within the DCC HAIL Report for the property indicate that these structures were demolished by 1963, and two new sheds constructed in 2001 and 2002.

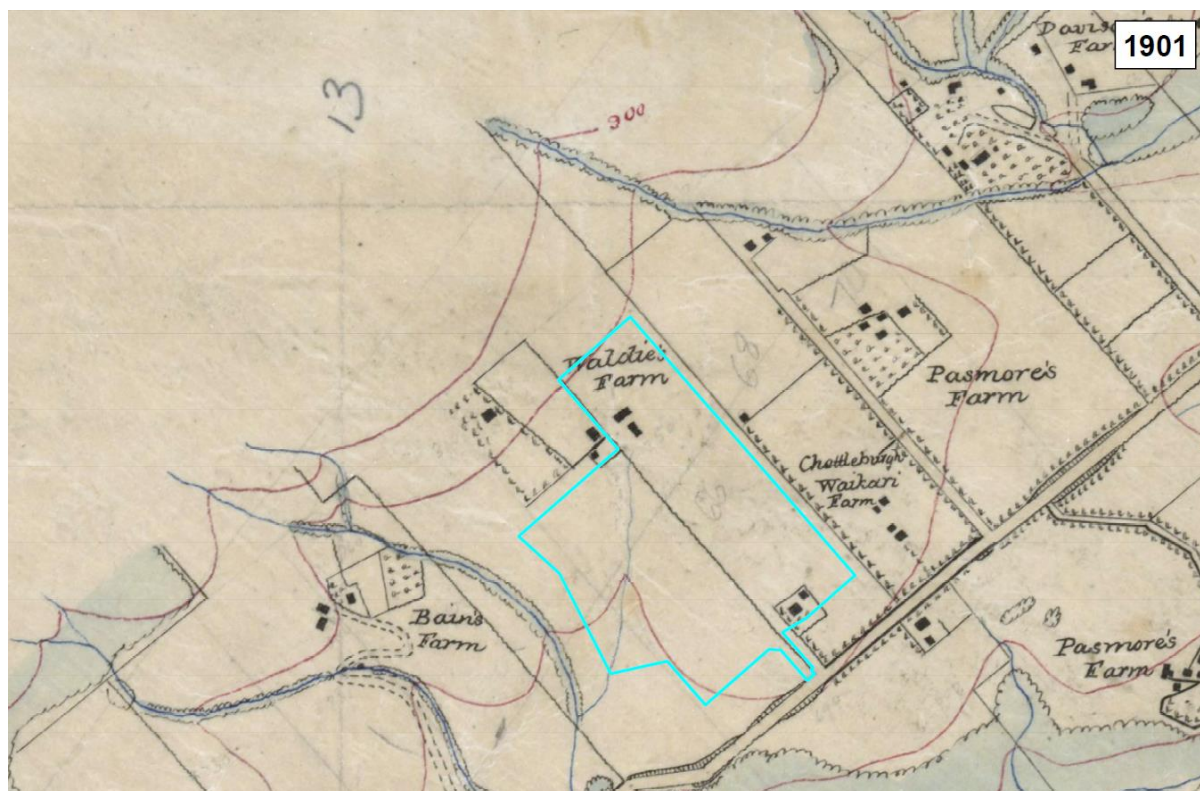


Figure 3: The site in 1901 outlined in turquoise, showing various buildings to be established on the site by this time (extract from W T Neill's Military Topographical Maps, sourced from the DCC HAIL Report).

2 Site inspection and soil sampling

A site visit with soil sampling was conducted by an EC Otago Contaminated Land Consultant on 21 March 2024. Imagery of the site is shown in Figure 4. The site currently contains two sheds. Remnants of former structures appear to be present on the site, including a large number of small boulders (possibly foundation or stone wall remnants) in the northern end of the site (Figure 5), and various stockpiles of soil and small fragments of demolitions waste, such as brick and concrete, in the southern end of the site (Figure 6).

Surface samples (0 – 0.15 m depth) were collected from 43 locations across the site, with samples collected systematically across the majority of the site along with targeted samples in the areas of former (and existing) structures, as shown in Figure 7.

The samples were initially analysed as 14 composites with three sub-samples each for heavy metals as the main contaminants of concern associated with the early residential occupation of the site. Sample 'N Stockpile', collected from a small stockpile of topsoil and demolition debris, was analysed individually for heavy metals. Seven of the composite sets (samples A1-A3, B1-B3, C1-C3, D1-D3, H1-H3, I1-I3, K1-K3) collected from across the fields were also analysed for organochlorine pesticides (OCP) due to the historical farming use of the site.

Due to high lead results reported in some of the composite samples, samples E1-E3 were reanalysed individually for lead and zinc, and samples F1-F3, M1-M3 and N1-N3 were reanalysed individually for heavy metals. Samples M1-M3 and N1-N3 were also analysed individually for polycyclic aromatic hydrocarbons (PAH).

An additional four samples were collected from across the southern end of the site in the area of the demolition debris and analysed individually via the New Zealand Guidelines for Semi-Quantitative Asbestos in Soil.



Figure 4: Imagery of the site looking northwest from the southern end (21 March 2024).



Figure 5: Possible stone remnants of the 1901 structures in the northern end of the site (21 March 2024).



Figure 6: Small stockpiles of soil and demolition waste present at the southern end of the site (21 March 2024).



Figure 7: Sampling locations across the site at 195 Taieri Road (aerial imagery sourced from Google Earth).

2.1 Sampling Methods

Samples were collected using freshly gloved hands from hand auger cores collected with an Edelman geologists hand auger which was cleaned between locations with a paper towel and/or Decon90

diluted with water. Samples were transferred into clean, contaminant-free containers provided by the testing laboratory and placed into a chilly bin cooled with icepacks.

Containers were labelled with sample name, date and time on both label and lid as the samples were taken, and the location was recorded with a handheld Garmin InReach GPS unit with a locational accuracy of ± 5 m. The chain of custody form was completed during field operations and the samples were dispatched to the analytical laboratory by courier that day. The samples were received and analysed by RJ Hill Laboratories Limited, an International Accreditation New Zealand (IANZ) accredited laboratory.

2.2 Soil Acceptance Criteria

As part of the process of determining the risk to human health from potential contaminants, results from analysis must be compared to Soil Contaminant Standards (SCS) which reflect acceptable risk levels of contamination in soil for the appropriate use scenarios². For some analytes, the Ministry for the Environment has not established SCS, in this case, Soil Guideline Values (SGV) from other sources may be used according to an established hierarchy³. For contaminants without an SCS in the *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* (NES), the Australian National Environment Protection (Assessment of Site Contamination) Measure (NEPM)⁴ were applied.

The soils are also compared to the Canadian Council of Ministers of the Environment (CCME) Soil Guidelines for the Protection of Environmental and Human Health⁵ as an indication of the environmental risk from potential contaminants.

The land where the site is located is zoned 'General Residential 1' in the DCC Second Generation District Plan and for assessment purposes, the *Residential SCS/SGV* have been applied.

2.3 Results

The laboratory results are summarised in Table 2 and the full laboratory analysis reports are attached. Results for OCP are not shown in the table as no OCP results were reported above the limits of laboratory detection. Asbestos results are also not shown as no asbestos was detected in any of the four samples analysed.

The results indicate that heavy metal concentrations in samples collected from the area of the former and existing buildings (E1 – G3, L1 – N3, and N stockpile) are elevated above predicted background levels based on the underlying geology. Concentrations of lead were reported to exceed the *Residential SCS* protective of human health in two locations (M2 and M3).

The PAH results are summarised in Table 2 as the Benzo[a]pyrene equivalent (BAP_{eq}) which represents the carcinogenic components. Concentrations of BAP_{eq} were found to be elevated above levels typically detected in provincial soils⁶ at three locations in the area of the former buildings (M1 – M3). However, no PAH concentrations reported any exceedances of the *Residential SCS*.

² Ministry for the Environment, 2011. *Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health*.

³ Ministry for the Environment, 2011. *Contaminated Land Management Guidelines No. 2: Hierarchy and application in New Zealand of environmental guideline values (revised 2011)*.

⁴ National Environment Protection Council (Australia), 2013. *National Environment Protection (Assessment of Site Contamination) Measure 1999*.

⁵ Canadian Council of Ministers of the Environment, 2021. *Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health*.

⁶ Landcare Research, 2015. *Background soil concentrations of selected trace elements and organic contaminants in New Zealand*.

Contaminant concentrations reported in samples collected from across the fields (A1 – D3, H1 – I3, K1 – K3) were generally found to be consistent with predicted background concentrations, except for composite set J1 – J3 which reported a minor elevation of zinc. Whilst concentrations of chromium were also reported to be elevated at some of these locations, the relative standard deviation (RSD) for chromium is relatively low (19% across the field samples), indicating low variability in the chromium results, and these elevated chromium concentrations may be a result of naturally elevated chromium within the volcanic soils.

The results are highlighted in Figure 8, where locations reporting exceedances of the *Residential SCS* are shown in red and locations reporting elevations above the predicted background level are shown in orange. Locations where contaminant concentrations were found to be consistent with predicted background levels are denoted in green. Note that the samples collected across the field which reported a minor elevation of chromium are not shown in orange, as the elevated chromium concentration may be naturally occurring.

Average concentrations of chromium across the site and average concentrations of zinc within the areas of the former/existing buildings were found to be elevated above the CCME guidelines protective of environmental health under a residential/parkland scenario. Individual concentrations of lead at locations M2 and N3, copper at locations F2, F3, and M2, and nickel at location N2 also exceed the CCME guidelines.

2.4 Disposal

The results indicate that due to widespread heavy metal contamination, site soils surrounding the former and existing buildings (locations E1 – G3, L1 – N3, and N stockpile) cannot be considered ‘clean fill’ and, if removed from site, must be disposed to an appropriately consented location. The results of sampling and analysis indicate that average concentrations of lead and zinc in these soils exceed the Green Island Landfill acceptance criteria, but average concentrations meet the acceptance criteria of the Burnside Landfill for all contaminants analysed. However, note that the individual concentration of lead reported at location M2 exceeds the acceptance criteria for the Burnside Landfill and additional analysis, such as toxicity characteristic leaching procedure (TCLP) may be required to confirm the suitability of the material for disposal.

As concentrations of lead in site soils at two locations (M2 and N3) were found to exceed the applicable human health guidelines, these soils should not be kept for reuse within parts of the site intended for residential use, if excavated.

Soils across the remainder of the site (locations A1 – D3, H1 – K3) were found to be generally consistent with predicted background concentrations, and these soils may be treated as ‘clean fill’.

Table 2: Summary results of laboratory analysis for 195 Wakari Road

Sample ^A	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	BAP _{eq} ^B
Fields (composite samples):								
A1, A2 & A3 (0.15 m)	4	0.34	91	17	17	24	67	-
B1, B2 & B3 (0.15 m)	3	0.34	78	16	15.5	23	75	-
C1, C2 & C3 (0.15 m)	3	0.38	104	21	18.6	25	92	-
D1, D2 & D3 (0.15 m)	4	0.31	62	16	17.5	27	86	-
H1, H2 & H3 (0.15 m)	4	0.23	59	15	23	19	70	-
I1, I2 & I3 (0.15 m)	3	0.36	75	16	21	22	79	-
J1, J2 & J3 (0.15 m)	4	0.3	93	20	35	23	128	-
K1, K2 & K3 (0.15 m)	3	0.32	81	21	33	23	92	-
Average	4	0.32	80	18	23	23	86	-
RSD	15%	14%	19%	14%	33%	10%	22%	-
Adjacent to existing and former buildings (composite samples):								
E1, E2 & E3 (0.15 m)	4	0.35	57	20	97	23	193	-
F1, F2 & F3 (0.15 m)	5	0.62	85	64	119	36	420	-
G1, G2 & G3 (0.15 m)	6	0.28	86	25	26	28	118	-
L1, L2 & L3 (0.15 m)	4	0.27	113	26	46	28	154	-
M1, M2 & M3 (0.15 m)	4	0.62	82	90	320	25	390	-
N1, N2 & N3 (0.15 m)	4	0.37	124	45	69	45	350	-
Average	5	0.42	91	45	113	31	271	-
RSD	19%	38%	26%	61%	95%	27%	48%	-
Adjacent to former buildings (individual samples):								
N Stockpile	5	0.2	31	20	79	15	113	-
E1 (0-0.15 m)	-	-	-	-	18.2	-	74	-
E2 (0-0.15 m)	-	-	-	-	23	-	108	-
E3 (0-0.15 m)	-	-	-	-	172	-	310	-
F1 (0-0.15 m)	10	0.96	93	36	129	37	610	-
F2 (0-0.15 m)	4	0.6	71	74	109	33	430	-
F3 (0-0.15 m)	5	0.42	97	110	103	39	340	-
M1 (0-0.15 m)	5	0.67	101	52	133	28	270	1.18
M2 (0-0.15 m)	5	1.33	111	107	1,020	36	1,010	3.4
M3 (0-0.15 m)	8	0.3	70	24	175	24	240	2.1
N1 (0-0.15 m)	3	0.28	101	29	67	27	177	0.4
N2 (0-0.15 m)	2	0.28	168	52	10.3	62	290	<0.033
N3 (0-0.15 m)	9	0.68	94	63	340	32	650	0.54
Average	6	0.57	94	57	183	33	356	1.28
RSD	46%	63%	37%	57%	145%	37%	75%	100%
Soil Acceptance Criteria (Human Health - Residential)								
NES ^C SCS	20	3	460	>10,000	210	-	-	10
NEPM ^D SGV	-	-	-	-	-	400	7,400	-
Soil Quality Guidelines (Environmental Health)								
CCME ^E	17	10	64	63	300	45	250	20
Predicted Background ^F								
Median	3.05	0.17	16	10.26	17.76	8.42	26.74	0.052
95 th Quantile	12.75	0.84	77.4	43.98	64.56	47.45	110.9	0.64
Landfill Screening Acceptance Criteria ^G								
Green Island (Dunedin)	100	20	100	100	100	200	200	30
Burnside (Dunedin)	100	20	400	400	400	200	800	300

^A Results for total concentration analysis, average, and SCSs/SGVs in mg/kg dry weight; relative standard deviation (RSD) in %. Sample numbers are as marked in Figure 7. Cells highlighted yellow indicate results elevated above predicted background levels and cells highlighted red indicate results exceeding the applicable human health guidelines.

- ^B The benzo(a)pyrene equivalent (BAP_{eq}) is calculated as the sum of each of the detected concentrations of nine carcinogenic PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(j)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluoranthene and indeno(1,2,3-cd)pyrene), multiplied by their respective potency equivalency factors from Table 40 in the *Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health* (Ministry for the Environment, 2011. Wellington).
- ^C Ministry for the Environment, 2012. *Users' Guide, National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*. Wellington. Cr SCS is reported as Cr(VI). Residential scenario applied.
- ^D National Environment Protection Council (Australia), 2013. *National Environment Protection (Assessment of Site Contamination) Measure 1999*. The values applied represent a Health Investigation Level (HIL) for Low Density Residential land use (HIL A).
- ^E Canadian Council of Ministers of the Environment, 2021. *Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health*. Soil quality guideline for environmental health for residential/parkland land use quoted. Cells highlighted orange indicate guideline values that are exceeded by an average.
- ^F Landcare Research, 2015. *Background soil concentrations of selected trace elements and organic contaminants in New Zealand*. Predicted median and 95th Quantile reported for the site (Chemical4 Factor: volcanics). Also refer: <https://lris.scinfo.org.nz/layer/48470-pbc-predicted-background-soil-concentrations-new-zealand/>. **Note:** The predictions for Chemical4 subgroups with few underlying samples (N<10) are considered unreliable. All heavy metal background concentrations reported for volcanics are N<10. BAP_{eq} for provincial land applied.
- ^G Ministry for the Environment, 2004. *Module 2: Hazardous Waste Guidelines - Landfill Waste Acceptance Criteria and Landfill Classification*. And Burnside Landfill in Dunedin (RM17.198.01.V3). Cells highlighted blue indicate landfill acceptance criteria that are exceeded by an average.

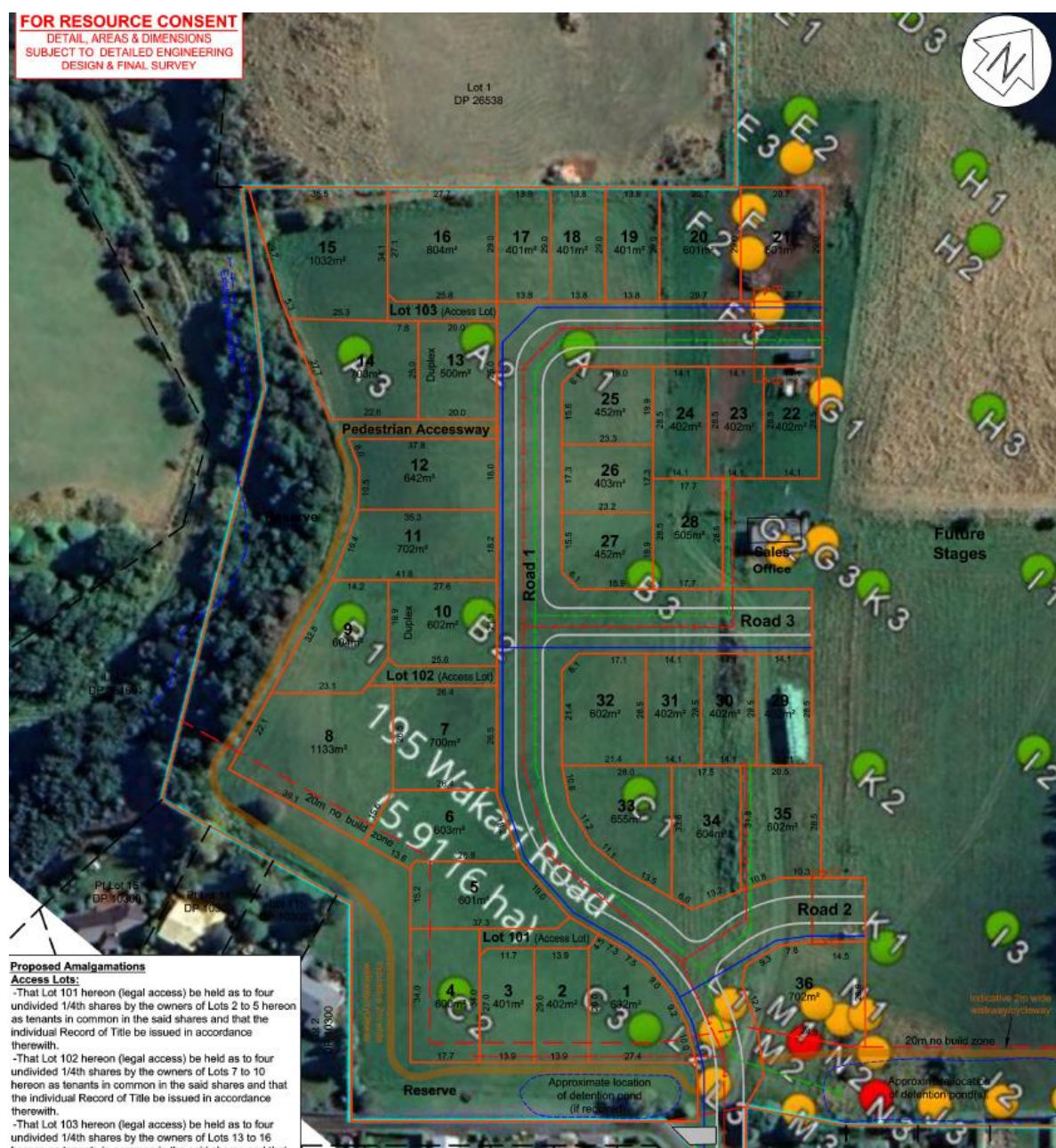


Figure 8: An excerpt of the proposed subdivision plan overlain on the sampling locations. Sample locations are colour coded green to denote samples with contaminant concentrations consistent with predicted background levels, orange for locations reporting elevations above the predicted background and red for locations reporting exceedances of the Residential SCS (Paterson Pitts Group Stage 1 Subdivision Plan version B, dated 23/11/2023).

3 Conclusion

The sampling and analysis conducted indicate that localised heavy metal contamination is present across parts of the site in the location of former and existing buildings. Two locations reported concentrations of lead exceeding the *Residential SCS* (M2 and N3), and soils in these locations present a risk to human health under a residential land use. The part of the property where these exceedances have been reported should be considered a HAIL site under HAIL Category I (*Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment*). Due to shallow fill materials and stockpiled soils present in the southern end of the site, HAIL Category G3 (*Landfill sites*) may also apply in this area.

Where exceedances of the *Residential SCS* have been reported (M2 and N3), remediation is advised prior to residential land use. Additional sampling and analysis, including deeper analysis, may be required in these areas to more accurately define the extent of the contamination and to produce a Remedial Action Plan (RAP). However, it is noted that some parts of the proposed subdivision, including location N3, and possibly M2, are intended to be kept as a reserve for a cycleway and stormwater detention pond. The concentration of lead reported at location N3 does not exceed the *Recreational SCS* (880 mg/kg) and is considered unlikely to present a risk to human health under a recreational land use scenario. Therefore, this location may not require remediation if forming part of the reserve area. However, the concentration of lead reported at location M2 does exceed the *Recreational SCS*, indicating that this location may present risk to human health under both recreation and residential land use scenarios and requires remediation.

No samples reported exceedances of the *Commercial/Industrial SCS/SGV*, and the site is unlikely to present a risk during development works.

Note that no samples have been collected from depths greater than 0.15 m. If deeper fill material is encountered during development works, additional sampling and analysis is advised. Additional sampling and analysis, including deeper samples, is also recommended in the area E1 – F3, due to the elevated heavy metals reported and former buildings present in this location.

The average concentrations of zinc reported within the areas of the former/existing buildings were found to be elevated above the guidelines protective of environmental health. Individual concentrations of copper, lead or nickel at locations F2, F3, M2, N2 and N3 also exceed the CCME guidelines. Appropriate precautions should be put into place, including the implementation of a Contaminated Soils Management Plan, prior to disturbance of these soils.

Prepared by:



Aleasha King, MSc

Reviewed by:



Ciaran Keogh, MBA, MRRP

Reference: 524-24 195 Wakari

Date: 1 May 2024

Certificate of Analysis

Page 1 of 6

Client:	Environmental Consultants Otago Limited	Lab No:	3510121	SPV2
Contact:	Ciaran Keogh	Date Received:	22-Mar-2024	
	C/- Environmental Consultants Otago Limited	Date Reported:	10-Apr-2024	(Amended)
	PO Box 5522	Quote No:	86979	
	Dunedin 9058	Order No:		
		Client Reference:	195 Wakari	
		Submitted By:	Bernice Chapman	

Sample Type: Soil

Sample Name:	E1 0-0.15m 21-Mar-2024 10:00 am	E2 0-0.15m 21-Mar-2024 10:05 am	E3 0-0.15m 21-Mar-2024 10:10 am	F1 0-0.15m 21-Mar-2024 10:15 am	F2 0-0.15m 21-Mar-2024 10:20 am
Lab Number:	3510121.13	3510121.14	3510121.15	3510121.16	3510121.17

Individual Tests

Total Recoverable Lead	mg/kg dry wt	18.2	23	172	-	-
Total Recoverable Zinc	mg/kg dry wt	74	108	310	-	-

Heavy Metals, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	-	-	-	10	4
Total Recoverable Cadmium	mg/kg dry wt	-	-	-	0.96	0.60
Total Recoverable Chromium	mg/kg dry wt	-	-	-	93	71
Total Recoverable Copper	mg/kg dry wt	-	-	-	36	74
Total Recoverable Lead	mg/kg dry wt	-	-	-	129	109
Total Recoverable Nickel	mg/kg dry wt	-	-	-	37	33
Total Recoverable Zinc	mg/kg dry wt	-	-	-	610	430

Sample Name:	F3 0-0.15m 21-Mar-2024 10:25 am	M1 0-0.15m 21-Mar-2024 12:00 pm	M2 0-0.15m 21-Mar-2024 12:05 pm	M3 0-0.15m 21-Mar-2024 12:10 pm	N1 0-0.15m 21-Mar-2024 12:15 pm
Lab Number:	3510121.18	3510121.37	3510121.38	3510121.39	3510121.40

Individual Tests

Dry Matter	g/100g as rcvd	-	70	68	69	63
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Heavy Metals, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	5	5	5	8	3
Total Recoverable Cadmium	mg/kg dry wt	0.42	0.67	1.33	0.30	0.28
Total Recoverable Chromium	mg/kg dry wt	97	101	111	70	101
Total Recoverable Copper	mg/kg dry wt	110	52	107	24	29
Total Recoverable Lead	mg/kg dry wt	103	133	1,020	175	67
Total Recoverable Nickel	mg/kg dry wt	39	28	36	24	27
Total Recoverable Zinc	mg/kg dry wt	340	270	1,010	240	177

Polycyclic Aromatic Hydrocarbons Screening in Soil*

Total of Reported PAHs in Soil	mg/kg dry wt	-	7.6	21	12.7	2.5
1-Methylnaphthalene	mg/kg dry wt	-	< 0.014	< 0.015	< 0.014	< 0.016
2-Methylnaphthalene	mg/kg dry wt	-	< 0.014	0.017	0.014	< 0.016
Acenaphthylene	mg/kg dry wt	-	0.063	0.25	0.110	0.037
Acenaphthene	mg/kg dry wt	-	< 0.014	< 0.015	< 0.014	< 0.016
Anthracene	mg/kg dry wt	-	0.081	0.22	0.27	0.023
Benzo[a]anthracene	mg/kg dry wt	-	0.63	1.78	1.12	0.20
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	0.81	2.3	1.41	0.27
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	1.18	3.4	2.1	0.40
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	1.18	3.4	2.0	0.40



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Sample Type: Soil						
Sample Name:		F3 0-0.15m 21-Mar-2024 10:25 am	M1 0-0.15m 21-Mar-2024 12:00 pm	M2 0-0.15m 21-Mar-2024 12:05 pm	M3 0-0.15m 21-Mar-2024 12:10 pm	N1 0-0.15m 21-Mar-2024 12:15 pm
Lab Number:		3510121.18	3510121.37	3510121.38	3510121.39	3510121.40
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	0.90	2.7	1.50	0.32
Benzo[e]pyrene	mg/kg dry wt	-	0.49	1.36	0.83	0.164
Benzo[g,h,i]perylene	mg/kg dry wt	-	0.54	1.42	0.83	0.178
Benzo[k]fluoranthene	mg/kg dry wt	-	0.33	1.03	0.61	0.121
Chrysene	mg/kg dry wt	-	0.58	1.60	1.07	0.196
Dibenzo[a,h]anthracene	mg/kg dry wt	-	0.114	0.37	0.21	0.039
Fluoranthene	mg/kg dry wt	-	0.93	2.5	1.43	0.28
Fluorene	mg/kg dry wt	-	< 0.014	0.028	0.018	< 0.016
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	0.55	1.56	0.89	0.186
Naphthalene	mg/kg dry wt	-	< 0.07	< 0.08	< 0.07	< 0.08
Perylene	mg/kg dry wt	-	0.185	0.55	0.31	0.070
Phenanthrene	mg/kg dry wt	-	0.188	0.41	0.27	0.078
Pyrene	mg/kg dry wt	-	1.10	2.8	1.75	0.33
Sample Name:		N2 0-0.15m 21-Mar-2024 12:20 pm	N3 0-0.15m 21-Mar-2024 12:25 pm	N Stockpile 21-Mar-2024 1:15 pm	Composite of A1 0.15m, A2 0.15m & A3 0.15m	Composite of B1 0.15m, B2 0.15m & B3 0.15m
Lab Number:		3510121.41	3510121.42	3510121.43	3510121.69	3510121.70
Individual Tests						
Dry Matter	g/100g as rcvd	73	64	-	69	70
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	2	9	5	4	3
Total Recoverable Cadmium	mg/kg dry wt	0.28	0.68	0.20	0.34	0.34
Total Recoverable Chromium	mg/kg dry wt	168	94	31	91	78
Total Recoverable Copper	mg/kg dry wt	52	63	20	17	16
Total Recoverable Lead	mg/kg dry wt	10.3	340	79	17.0	15.5
Total Recoverable Nickel	mg/kg dry wt	62	32	15	24	23
Total Recoverable Zinc	mg/kg dry wt	290	650	113	67	75
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	-	-	< 0.015	< 0.014
alpha-BHC	mg/kg dry wt	-	-	-	< 0.015	< 0.014
beta-BHC	mg/kg dry wt	-	-	-	< 0.015	< 0.014
delta-BHC	mg/kg dry wt	-	-	-	< 0.015	< 0.014
gamma-BHC (Lindane)	mg/kg dry wt	-	-	-	< 0.015	< 0.014
cis-Chlordane	mg/kg dry wt	-	-	-	< 0.015	< 0.014
trans-Chlordane	mg/kg dry wt	-	-	-	< 0.015	< 0.014
2,4'-DDD	mg/kg dry wt	-	-	-	< 0.015	< 0.014
4,4'-DDD	mg/kg dry wt	-	-	-	< 0.015	< 0.014
2,4'-DDE	mg/kg dry wt	-	-	-	< 0.015	< 0.014
4,4'-DDE	mg/kg dry wt	-	-	-	< 0.015	< 0.014
2,4'-DDT	mg/kg dry wt	-	-	-	< 0.015	< 0.014
4,4'-DDT	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Total DDT Isomers	mg/kg dry wt	-	-	-	< 0.09	< 0.09
Dieldrin	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Endosulfan I	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Endosulfan II	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Endosulfan sulphate	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Endrin	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Endrin aldehyde	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Endrin ketone	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Heptachlor	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Heptachlor epoxide	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Hexachlorobenzene	mg/kg dry wt	-	-	-	< 0.015	< 0.014
Methoxychlor	mg/kg dry wt	-	-	-	< 0.015	< 0.014

Sample Type: Soil						
Sample Name:		N2 0-0.15m 21-Mar-2024 12:20 pm	N3 0-0.15m 21-Mar-2024 12:25 pm	N Stockpile 21-Mar-2024 1:15 pm	Composite of A1 0.15m, A2 0.15m & A3 0.15m	Composite of B1 0.15m, B2 0.15m & B3 0.15m
Lab Number:		3510121.41	3510121.42	3510121.43	3510121.69	3510121.70
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	3.4	-	-	-
1-Methylnaphthalene	mg/kg dry wt	< 0.014	< 0.015	-	-	-
2-Methylnaphthalene	mg/kg dry wt	< 0.014	< 0.015	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.014	0.024	-	-	-
Acenaphthene	mg/kg dry wt	< 0.014	< 0.015	-	-	-
Anthracene	mg/kg dry wt	< 0.014	0.040	-	-	-
Benzo[a]anthracene	mg/kg dry wt	< 0.014	0.29	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.014	0.38	-	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.033	0.54	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.033	0.54	-	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.014	0.40	-	-	-
Benzo[e]pyrene	mg/kg dry wt	< 0.014	0.22	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.014	0.22	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.014	0.155	-	-	-
Chrysene	mg/kg dry wt	< 0.014	0.27	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.014	0.049	-	-	-
Fluoranthene	mg/kg dry wt	< 0.014	0.42	-	-	-
Fluorene	mg/kg dry wt	< 0.014	< 0.015	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.014	0.23	-	-	-
Naphthalene	mg/kg dry wt	< 0.07	< 0.08	-	-	-
Perylene	mg/kg dry wt	< 0.014	0.082	-	-	-
Phenanthrene	mg/kg dry wt	< 0.014	0.082	-	-	-
Pyrene	mg/kg dry wt	< 0.014	0.49	-	-	-
Sample Name:		Composite of C1 0.15m, C2 0.15m & C3 0.15m	Composite of D1 0.15m, D2 0.15m & D3 0.15m	Composite of E1 0.15m, E2 0.15m & E3 0.15m	Composite of F1 0.15m, F2 0.15m & F3 0.15m	Composite of G1 0.15m, G2 0.15m & G3 0.15m
Lab Number:		3510121.71	3510121.72	3510121.73	3510121.74	3510121.75
Individual Tests						
Dry Matter	g/100g as rcvd	68	66	-	-	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	4	4	5	6
Total Recoverable Cadmium	mg/kg dry wt	0.38	0.31	0.35	0.62	0.28
Total Recoverable Chromium	mg/kg dry wt	104	62	57	85	86
Total Recoverable Copper	mg/kg dry wt	21	16	20	64	25
Total Recoverable Lead	mg/kg dry wt	18.6	17.5	97	119	26
Total Recoverable Nickel	mg/kg dry wt	25	27	23	36	28
Total Recoverable Zinc	mg/kg dry wt	92	86	193	420	118
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.015	< 0.015	-	-	-
alpha-BHC	mg/kg dry wt	< 0.015	< 0.015	-	-	-
beta-BHC	mg/kg dry wt	< 0.015	< 0.015	-	-	-
delta-BHC	mg/kg dry wt	< 0.015	< 0.015	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.015	< 0.015	-	-	-
cis-Chlordane	mg/kg dry wt	< 0.015	< 0.015	-	-	-
trans-Chlordane	mg/kg dry wt	< 0.015	< 0.015	-	-	-
2,4'-DDD	mg/kg dry wt	< 0.015	< 0.015	-	-	-
4,4'-DDD	mg/kg dry wt	< 0.015	< 0.015	-	-	-
2,4'-DDE	mg/kg dry wt	< 0.015	< 0.015	-	-	-
4,4'-DDE	mg/kg dry wt	< 0.015	< 0.015	-	-	-
2,4'-DDT	mg/kg dry wt	< 0.015	< 0.015	-	-	-
4,4'-DDT	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Total DDT Isomers	mg/kg dry wt	< 0.09	< 0.09	-	-	-

Sample Type: Soil						
Sample Name:		Composite of C1 0.15m, C2 0.15m & C3 0.15m	Composite of D1 0.15m, D2 0.15m & D3 0.15m	Composite of E1 0.15m, E2 0.15m & E3 0.15m	Composite of F1 0.15m, F2 0.15m & F3 0.15m	Composite of G1 0.15m, G2 0.15m & G3 0.15m
Lab Number:		3510121.71	3510121.72	3510121.73	3510121.74	3510121.75
Organochlorine Pesticides Screening in Soil						
Dieldrin	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Endosulfan I	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Endosulfan II	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Endrin	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Endrin aldehyde	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Endrin ketone	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Heptachlor	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Methoxychlor	mg/kg dry wt	< 0.015	< 0.015	-	-	-
Sample Name:		Composite of H1 0.15m, H2 0.15m & H3 0.15m	Composite of I1 0.15m, I2 0.15m & I3 0.15m	Composite of J1 0.15m, J2 0.15m & J3 0.15m	Composite of K1 0.15m, K2 0.15m & K3 0.15m	Composite of L1 0.15m, L2 0.15m & L3 0.15m
Lab Number:		3510121.76	3510121.77	3510121.78	3510121.79	3510121.80
Individual Tests						
Dry Matter	g/100g as rcvd	68	67	-	69	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	3	4	3	4
Total Recoverable Cadmium	mg/kg dry wt	0.23	0.36	0.30	0.32	0.27
Total Recoverable Chromium	mg/kg dry wt	59	75	93	81	113
Total Recoverable Copper	mg/kg dry wt	15	16	20	21	26
Total Recoverable Lead	mg/kg dry wt	23	21	35	33	46
Total Recoverable Nickel	mg/kg dry wt	19	22	23	23	28
Total Recoverable Zinc	mg/kg dry wt	70	79	128	92	154
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
alpha-BHC	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
beta-BHC	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
delta-BHC	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
cis-Chlordane	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
trans-Chlordane	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
2,4'-DDD	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
4,4'-DDD	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
2,4'-DDE	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
4,4'-DDE	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
2,4'-DDT	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
4,4'-DDT	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Total DDT Isomers	mg/kg dry wt	< 0.09	< 0.09	-	< 0.09	-
Dieldrin	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Endosulfan I	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Endosulfan II	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Endosulfan sulphate	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Endrin	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Endrin aldehyde	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Endrin ketone	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Heptachlor	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Heptachlor epoxide	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Hexachlorobenzene	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-
Methoxychlor	mg/kg dry wt	< 0.015	< 0.015	-	< 0.015	-

Sample Type: Soil			
Sample Name:		Composite of M1 0.15m, M2 0.15m & M3 0.15m	Composite of N1 0.15m, N2 0.15m & N3 0.15m
Lab Number:		3510121.81	3510121.82
Heavy Metals, Screen Level			
Total Recoverable Arsenic	mg/kg dry wt	4	4
Total Recoverable Cadmium	mg/kg dry wt	0.62	0.37
Total Recoverable Chromium	mg/kg dry wt	82	124
Total Recoverable Copper	mg/kg dry wt	90	45
Total Recoverable Lead	mg/kg dry wt	320	69
Total Recoverable Nickel	mg/kg dry wt	25	45
Total Recoverable Zinc	mg/kg dry wt	390	350
Analyst's Comments			
Amended Report: This certificate of analysis replaces report '3510121-SPv1' issued on 28-Mar-2024 at 2:05 pm. Reason for amendment: Further testing added as per clients request.			

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	13-18, 37-43, 69-82
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%.	-	13-15
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	37-42
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	16-18, 37-43, 69-82
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	69-72, 76-77, 79
Polycyclic Aromatic Hydrocarbons Screening in Soil*	Sonication extraction, GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.010 - 0.05 mg/kg dry wt	37-42
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	37-42, 69-72, 76-77, 79
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	13-15
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-42
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.4 mg/kg dry wt	13-15
Total Recoverable Zinc	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	4 mg/kg dry wt	13-15
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	37-42
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	37-42

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 22-Mar-2024 and 10-Apr-2024. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Ara Heron BSc (Tech)
Client Services Manager - Environmental

Certificate of Analysis

Page 1 of 2

Client:	Environmental Consultants Otago Limited	Lab No:	3510305	A2Pv1
Contact:	Ciaran Keogh	Date Received:	22-Mar-2024	
	C/- Environmental Consultants Otago Limited	Date Reported:	26-Mar-2024	
	PO Box 5522	Quote No:	86979	
	Dunedin 9058	Order No:		
		Client Reference:	195 Wakari	
		Submitted By:	Bernice Chapman	

Sample Type: Soil				
Sample Name:	L2 0-0.15m 21-Mar-2024 11:51 am	M2 0-0.15m 21-Mar-2024 12:06 pm	N2 0-0.15m 21-Mar-2024 12:21 pm	N Stockpile 21-Mar-2024 1:20 pm
Lab Number:	3510305.1	3510305.2	3510305.3	3510305.4
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001	% w/w < 0.001
As Received Weight	g 527.1	g 585.8	g 744.3	g 688.9
Dry Weight	g 368.0	g 401.4	g 549.1	g 532.8
Moisture*	% 30	% 31	% 26	% 23
Sample Fraction >10mm	g dry wt 5.4	g dry wt 2.8	g dry wt 34.2	g dry wt 9.1
Sample Fraction <10mm to >2mm	g dry wt 58.8	g dry wt 110.7	g dry wt 63.5	g dry wt 99.5
Sample Fraction <2mm	g dry wt 302.9	g dry wt 286.9	g dry wt 450.3	g dry wt 423.6
<2mm Subsample Weight	g dry wt 50.3	g dry wt 57.9	g dry wt 50.7	g dry wt 50.6
Weight of Asbestos in ACM (Non-Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001	g dry wt < 0.00001

Glossary of Terms

- Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
 - Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
 - ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
 - ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
 - Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
 - Trace - Trace levels of asbestos, as defined by AS4964-2004.
- For further details, please contact the Asbestos Team.

Please refer to the **BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil**.
<https://www.branz.co.nz/asbestos>

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-4
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1-4
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-4
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-4
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-4
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1-4
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-4
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-4
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-4
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-4
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-4
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-4
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-4
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-4
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-4

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 26-Mar-2024. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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Rhodri Williams BSc (Hons)
Technical Manager - Asbestos



APPLICATION REQUEST HAIL/SOIL CONTAMINATION SEARCH

Only information held on Council files will be supplied. This is not a comprehensive history of the site as Council files may not be complete. Interpretation of the information is the responsibility of the applicant.

Please provide a marked up aerial photo with your request.

☒ I can confirm an aerial photo has been attached.

Applicant details

Full Name: JKS Paddock Limited

Mailing Address: C/- 140 Lynn Street, Dunedin

Postcode: 9010

Telephone (Day): 027 696 9550

Mobile:

Email: marc.bretherton@gmail.com

Property details

Address: 195 Wakari Road

Legal Description: Part Deposited Plan 6568, Lot 1 Deposited Plan 10300 and Part Lots 1 & 2 Deposited Plan 12686

Method of delivery

☐ Mail out ☐ Pick up ☒ Email

Fee

☐ Industrial/Commercial ☒ Rural/Residential

Are there any applications associated with this search?

☒ Yes, Number: Not yet allocated

☐ No

Applicant Signature and Date

Signature (Fill & Sign):

Date:

02/11/23

City Planning Staff can be contacted as follows:

In Writing: Dunedin City Council, PO Box 5045, Dunedin 9054

In Person: Customer Service Centre, Ground Floor, Civic Centre, 50 The Octagon, Dunedin

By Phone: (03) 477 4000

By Email: planning@dcc.govt.nz

There is also information on our website at www.dunedin.govt.nz.

OFFICE USE ONLY

Application Number:

Planner:

Due Date:

Completed Date:

Information scanned into Pātaka? ☐ Yes ☐ No

Once search is completed, give this completed form and Pathway coversheet to a planning administrator for auditing.



FOR RESOURCE CONSENT
DETAIL, AREAS & DIMENSIONS
SUBJECT TO DETAILED ENGINEERING
DESIGN & FINAL SURVEY



Lot 1
DP 26538



Future Stages

Proposed Amalgamations

Access Lots:

-That Lot 101 hereon (legal access) be held as to four undivided 1/4th shares by the owners of Lots 2 to 5 hereon as tenants in common in the said shares and that the individual Record of Title be issued in accordance therewith.
-That Lot 102 hereon (legal access) be held as to four undivided 1/4th shares by the owners of Lots 7 to 10 hereon as tenants in common in the said shares and that the individual Record of Title be issued in accordance therewith.
-That Lot 103 hereon (legal access) be held as to four undivided 1/4th shares by the owners of Lots 13 to 16 hereon as tenants in common in the said shares and that the individual Record of Title be issued in accordance therewith.

Title Information:

RT Reference: OT17C/596
Legal Description: Part DP 6568, Part Lot 1 DP 12686, Lot 2 DP 12686 & Lot 1 DP 10300
Area: 5.9116ha
Registered Owners: JKS Paddock Limited
Property Address: 195 Wakari Road, Dunedin

Legal Description: Lot 2 SUB-2023-73
Area: 3.71ha (subject to final survey)
Property Address: 245 Wakari Road, Dunedin

Datum Information:

Coordinate System: North Taieri 2000
Height Datum: NZVD2016
Origin of levels: SM 5 SO 22910 (A0UR)
RL 199.62m

Legend:

- Single level
- Two level capable
- Duplex capable (one or two level)
- Indicative Foul Sewer Mains
- Indicative Stormwater Mains
- Indicative Watermain

195 Wakari Road, Dunedin
Stage 1 - Indicative Services Plan

Scale:
1:1000 @ A3

Date:
23/11/2023

Job No:
230195

Plan No:
230195/16

Date Plotted: 23 November 2023 1:58 pm

FOR RESOURCE CONSENT
DETAIL, AREAS & DIMENSIONS
SUBJECT TO DETAILED ENGINEERING
DESIGN & FINAL SURVEY



Lot 1
DP 26538

Lot 1
DP 361691

Pt Lot 15
DP 10300

Pt Lot 14
DP 10300

Lot 11
DP 10300

Proposed Amalgamations

Access Lots:

- That Lot 101 hereon (legal access) be held as to four undivided 1/4th shares by the owners of Lots 2 to 5 hereon as tenants in common in the said shares and that the individual Record of Title be issued in accordance therewith.
- That Lot 102 hereon (legal access) be held as to four undivided 1/4th shares by the owners of Lots 7 to 10 hereon as tenants in common in the said shares and that the individual Record of Title be issued in accordance therewith.
- That Lot 103 hereon (legal access) be held as to four undivided 1/4th shares by the owners of Lots 13 to 16 hereon as tenants in common in the said shares and that the individual Record of Title be issued in accordance therewith.

Title Information:

RT Reference: OT17C/596
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Property Address: 195 Wakari Road, Dunedin

Legal Description: Lot 2 SUB-2023-73
Area: 3.71ha (subject to final survey)
Property Address: 245 Wakari Road, Dunedin

Datum Information:

Coordinate System: North Taieri 2000
Height Datum: NZVD2016
Origin of levels: SM 5 SO 22910 (AOUR)
RL 199.62m

Contour Interval: 5.0m

Reserve

Approximate location
of detention pond.

Approximate location
of detention pond(s).

20m no build zone

Wakari Road

Legend:

- Single level
- Two level capable
- Duplex capable
(one or two level)



Terramark
Setting New Boundaries

195 Wakari Road, Dunedin
Stage 1 Plan
With 5m Contours

Scale:
1:1000 @ A3

Date:
30/10/2023

Job No:
230195

Plan No:
230195/12

Date Plotted: 30 October 2023 12:30 pm

FOR RESOURCE CONSENT
DETAIL, AREAS & DIMENSIONS
SUBJECT TO DETAILED ENGINEERING
DESIGN & FINAL SURVEY



Terramark
Setting New Boundaries

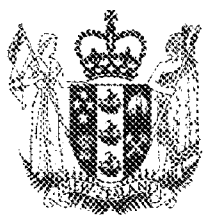
195 Wakari Road, Dunedin
Stage 1 Earthworks Depth Polygons

Scale:
1:1000 @ A3

Job No:
230195

Date:
30/10/2023

Plan No:
230195/14



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy**




R. W. Muir
Registrar-General
of Land

Identifier 795015
Land Registration District Otago
Date Issued 27 October 2017

Prior References

OT19A/478

Estate	Fee Simple
Area	9.6451 hectares more or less
Legal Description	Lot 1 Deposited Plan 513716

Registered Owners

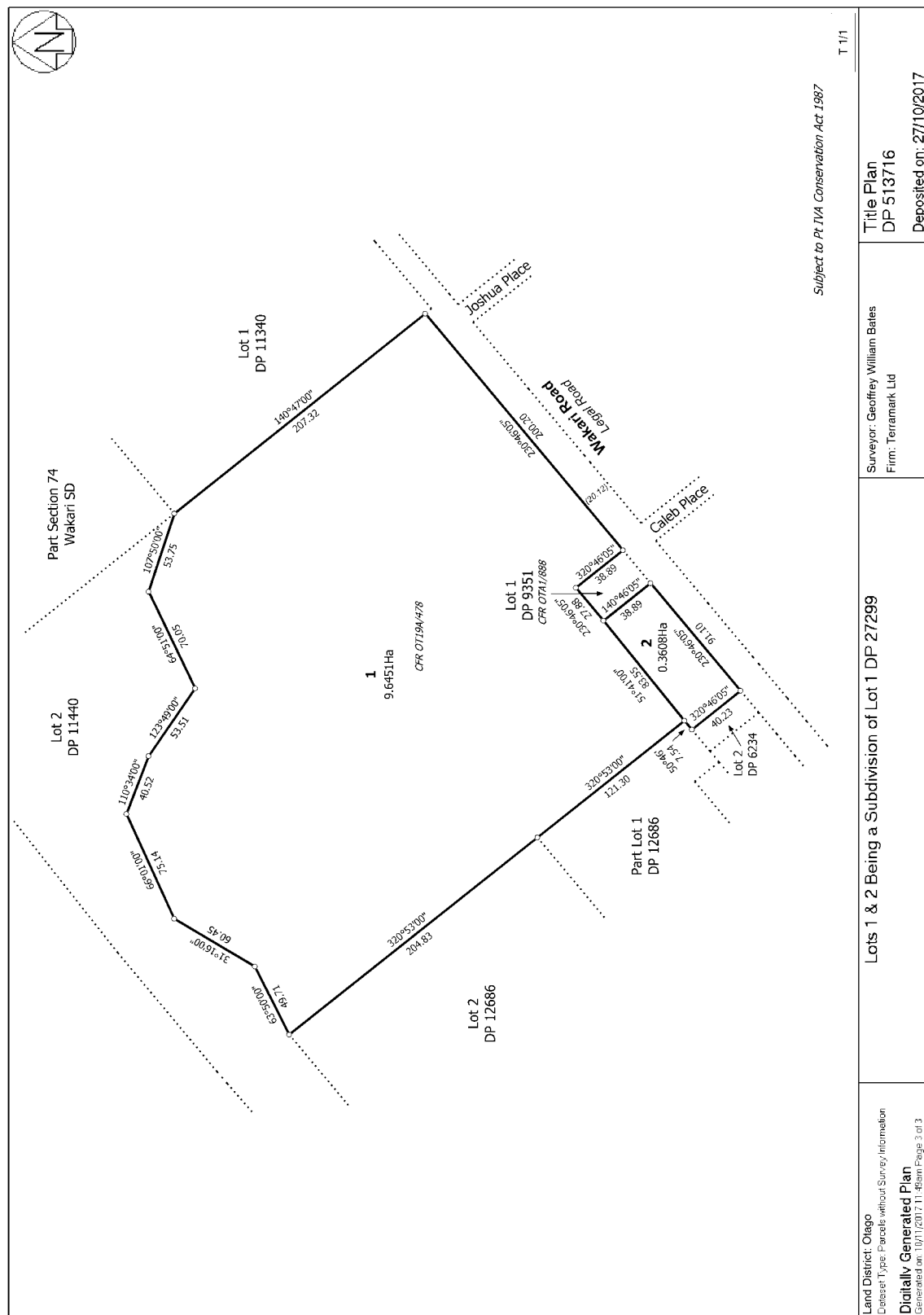
Gregory John Scott as to a 1/2 share

Jeffrey Irvin Holloway as to a 1/2 share as Executor

Interests

Subject to Part IV A Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991





RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy




R.W. Muir
Registrar-General
of Land

Identifier **OT17C/596**
Land Registration District **Otago**
Date Issued 11 November 1996

Prior References

GN 394446 GN 660410 OT331/8
OT5A/1439

Estate Fee Simple
Area 5.9116 hectares more or less
Legal Description Part Deposited Plan 6568, Lot 1 Deposited
Plan 10300 and Part Lot 1-2 Deposited
Plan 12686

Registered Owners

JKS Paddock Limited

Interests

241814 Order in Council imposing Building Line conditon (affects Lot 1 DP 10300) - 20.12.1961 at 11.23 am
Subject to Batter rights over part Lot 1 DP 10300 created by Transfer 242163 - 19.1.1961 at 12.00 pm
Fencing Covenant in Transfer 5114600.1 - 26.11.2001 at 2:08 pm
5114600.2 Encumbrance to Dunedin City Council - 26.11.2001 at 2:08 pm

