

PATERSONPITTSGROUP

Surveying • Planning • Engineering

Your Land Professionals

www.ppgroup.co.nz

0800 PPGROUP



For RESOURCE CONSENT APPLICATION

1 Hansen Road, Frankton

JUNCTION VILLAGE

SUBDIVISION - INFRASTRUCTURE REPORT

Our Ref: Q6270

August 2021

DUNEDIN:

P.O. Box 5933,
Dunedin 9058.

T 03 477 3245

CHRISTCHURCH:

P.O. Box 160094,
Christchurch 8441.

T 03 928 1533

ALEXANDRA:

P.O. Box 103,
Alexandra 9340.

T 03 448 8775

CROMWELL:

P.O. Box 84,
Cromwell 9342.

T 03 445 1826

QUEENSTOWN:

P.O. Box 2645,
Queenstown 9349.

T 03 441 4715

WANAKA:

P.O. Box 283,
Wanaka 9305.

T 03 443 0110

CONTENTS

ATTACHMENTS.....	3
1. INTRODUCTION.....	4
1.1. SCOPE.....	4
1.2. LOCATION AND SERVICING CONTEXT	4
1.3. ZONING	5
2. STORMWATER.....	7
2.1. Recommended Solution.....	7
2.2. Design Criteria.....	7
2.3. Primary System Design	7
2.4. Site Investigations and Permeability Testing	8
2.5. Secondary System Design (Overland Flow Paths).....	9
3. WASTEWATER	9
3.1. Recommended Solution.....	9
3.2. Wastewater Production.....	11
4. WATER.....	11
4.1. Recommended Solution.....	11
4.2. Fire Fighting.....	12
5. POWER	13
6. TELECOMMUNICATIONS.....	13

ATTACHMENTS

Attachment 1 - PPG Junction Village Subdivision Scheme Plan – 4th August 2021

Attachment 2 - PPG Subdivision Stormwater Concept – August 2021

Attachment 3 - PPG Subdivision Wastewater Concept – August 2021

Attachment 4 - PPG Subdivision Water Concept – August 2021

Contacts Details:

Paterson Pitts Group, Queenstown office

PO Box 2645, Queenstown 9349

Email: queenstown@ppgroup.co.nz

Ph: +64 3 441 4715

Document Control:

Rev	Date	Description	Prepared	Reviewed	Approved
0	04/06/2021	Draft, for client review	A. Hopkins	S. Winter	
1	11/06/2021	Landuse (Draft)	A. Hopkins	S. Winter	
2	20/08/2021	Subdivision (Draft)	A. Hopkins	S. Winter	

1. INTRODUCTION

1.1. SCOPE

This infrastructure report has been prepared to support the application for subdivision consent for 1 Hansen Road (Pt Sec 5 Blk XXI Shotover SD). The proposed subdivision will include 15 allotments ranging in size from 170m²-11,500m². The layout of the proposed subdivision is as per the Paterson Pitts Group scheme plan contained in Attachment 1.

The proposed subdivision will include two allotments (Lot 11 & 12) that are to be vested in QLDC as roads. The north-western hill slopes that contain a branch of the Arrow Irrigation race fall within the rural general zone and will be held as balance land (Lot 14) with proposed Lot 15. Lot 1 and 13 are to be amalgamated and held in the one title. Lot 16 is to be vested in Waka Kotahi (NZTA) and will form part of the SH6 reserve.

To plan the subdivision infrastructure and access roading, the future land use have been estimated based on the maximum likely development under the land's current Local Shopping Centre zoning under the proposed district plan.

This report provides an assessment of the surrounding existing infrastructure and recommendations with regards to new and upgraded infrastructure to service the proposed subdivision. This report specifically assesses the following-

- Stormwater
- Wastewater
- Water Supply
- Network Utility Services

1.2. LOCATION AND SERVICING CONTEXT

The subject site consists of approximately 3.5 ha located to the north of State Highway 6 (SH6) between Terrace Junction and Hansen Road (Figure 1). The site is neighboured by the historic Frankton cemetery to the west and City Impact Church to the east. The site is legally described as Pt Sec 5 Blk XXI Shotover SD.

The majority of the site is currently vacant, with the exception of a dwelling located at the south-east corner. The existing dwelling will be removed from site to facilitate the proposed subdivision. The site has recently been filled and levelled under consent RM181338 in preparation for future development.

1 Hansen Road – Junction Village

A branch of the Arrow Water Race crosses the site from east to west, at the base of the hill slopes and within proposed Lot 14. This is an open race and serves to act as a cut off drain to capture overland flows from the hill slopes above.

The site currently has direct access to QLDC water mains and power/telecommunication reticulation located within SH6 on its southern boundary. The site does not have direct access to QLDC stormwater or wastewater gravity reticulation.

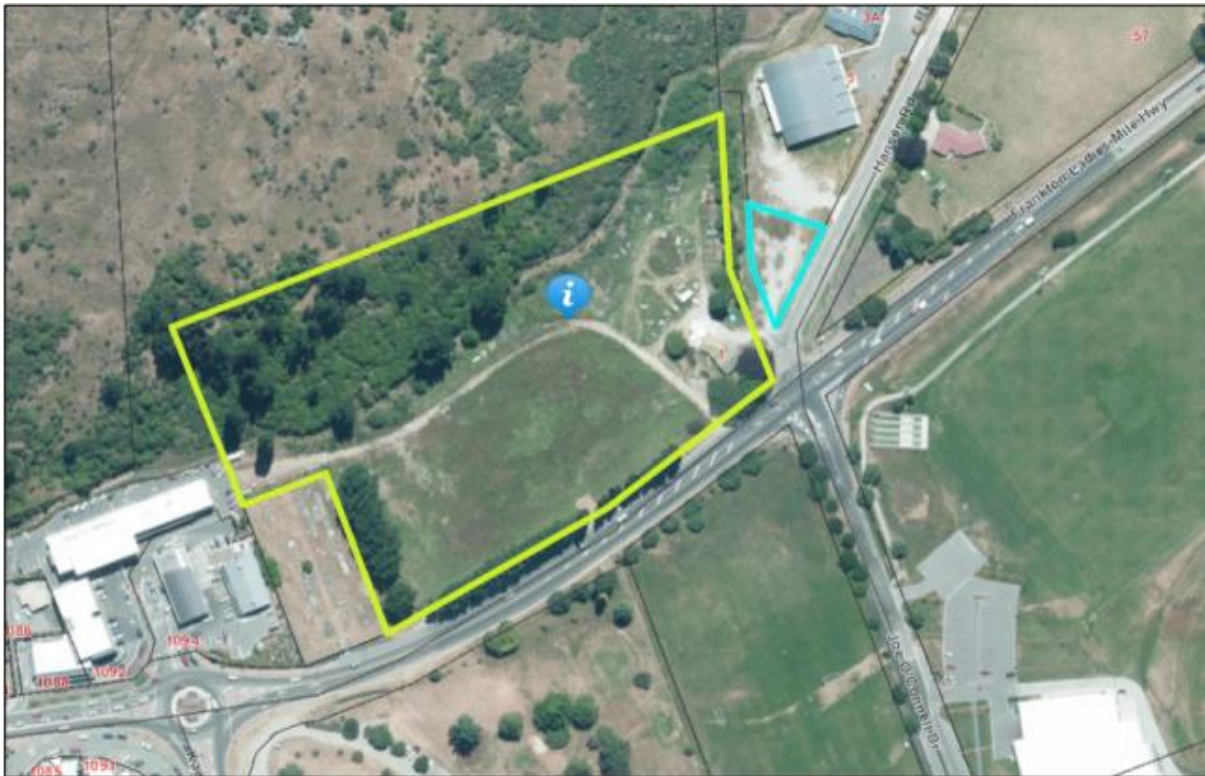


Figure 1

1.3. ZONING

The majority of 1 Hansen Road (Pt Sec 5 Blk XXI Shotover SD) is located within the Local Shopping Centre Zone under the PDP. The remainder of the site which generally includes the hill slopes to the north is located within the Rural Zone under the PDP.

Rule 15.5.5 of the PDP limits development within the 1 Hansen Road site and states-

1 Hansen Road – Junction Village

15.5.5 Development of 1 Hansen Road

The following additional standards shall apply to development in the Local Shopping Centre Zone located between Hansen Road and Frankton Cemetery (as shown on the District Plan web mapping application):

- a. the total gross floor area dedicated to retail uses shall not exceed 4000m²;*
- b. the total gross floor area dedicated to office uses shall not exceed 3000m²;*
- c. no retail or office activities (aside from those ancillary to permitted uses) shall take place until an upgrade of the intersection between Hansen Road and State Highway 6 has occurred;*
- d. the total number of residential units (for the purposes of this rule, this shall include residential flats) shall not exceed 50 units;*
- e. there shall be no vehicle access directly onto the State Highway;*
- f. buildings shall be set back a minimum distance of 6m from the boundary with the State Highway; and*
- g. buildings shall be set back a minimum distance of 4m from the boundary with Frankton Cemetery.*

Rule 15.4.3.2 of the PDP requires the provision of a supporting Spatial Layout Plan for development of 1 Hansen Road site and states-

15.4.3.2 Development of 1 Hansen Road only

The following additional requirements apply to the Local Shopping Centre Zone located between Hansen Road and Frankton Cemetery (as shown on the District Plan web mapping application):

- I. Applications for buildings shall be accompanied by a Spatial Layout Plan for the entire part of this site, which is zoned Local Shopping Centre, showing:*
- II. the location, width and design of roads, laneways, footpaths and accessways, which shall include consideration of pedestrian/cycling connectivity and safety as well as the potential for vehicular access to and from the Local Shopping Centre Zone land to the west of the Frankton Cemetery;*
- III. proposed building locations and parking areas;*
- IV. concept landscape design treatment;*
- V. detailed landscaping plan addressing the interface between development and the Frankton Cemetery for the purpose of managing effects on the amenity and historic values in and around the cemetery; and*
- VI. three waters infrastructure.*

2. STORMWATER

2.1. Recommended Solution

The closest branch of the QLDC stormwater network is located 100m to the west and has been confirmed to have insufficient capacity to drain the proposed subdivided lots. It is therefore recommended that stormwater runoff from the access road and future land development is directed to a soakage gallery, located within Lots 1-5. The soakage gallery is recommended to be in the form of dome chambers such as the Stormwater 360 Chambermaxx or an equivalent system which provides both storage and easy access for maintenance. The concept layout of the proposed system is as per Attachment 2.

Stormwater treatment will be required as the runoff areas contain large amounts of roading and potential future carparking that could result in hydrocarbons and heavy metals. Treatment is also required to ensure that the performance of the soakage system remains high, and the soakage capacity of the underlying soils are not impacted by hydrocarbons and sediment. The treatment is recommended to be provided through a proprietary device (Hynds First Defence High Capacity or equivalent). As stormwater treatment is provided, the discharge to land is likely to meet the requirement for a permitted activity under the Otago Regional Plan Water.

2.2. Design Criteria

The QLDC Land Development & Subdivision Code of Practice requires the primary flows (20 year rainfall event) to be collected and disposed of. Secondary flows over and above this volume would normally follow the natural pre-development overland flow paths or be directed to the surrounding road network and waterways beyond. However, in this case the existing overland flow paths direct flows to Hansen Road, and ultimately to low lying area within the neighbouring church carpark. It therefore is not deemed appropriate to convey secondary flows from the site as this would adversely impact the neighbouring property. As per Table 4.1 of the QLDC Land Development & Subdivision Code of Practice, it is therefore recommended that the primary disposal is increased to cater for the full 100 year (1 % AEP) flows from the development and associated catchments.

2.3. Primary System Design

The total catchment area draining to the stormwater system is 26,000m², which excludes the Arrow Irrigation Race and the portion of steep hillside above. These areas are assumed to be captured and conveyed to Lake Wakatipu via the irrigation water race.

Under the PDP the developable land is limited to a maximum building footprint of 50%. However, this does not limit the potential impervious areas associated with parking and access which could in theory

1 Hansen Road – Junction Village

be far higher. Allowing for landscaping the setback requirements, a conservative estimate of the maximum impervious area would be 90% of the drainage catchment. It has therefore been assumed that as a maximum 23,400m² of the drainage catchment area could be future impervious surfaces such as roofing, sealed access, parking, paths etc., and the remaining 2,600m² pervious surfaces such as grass or gardens.

In a 100 year storm event, the subdivision catchment areas will contribute approximately 1,515 m³ of runoff (based on a critical storm duration of 6 hours and RCP of 8.5). This volume will be directed to an underground soakage gallery via a localised piped gravity network. At this conceptual stage, it is estimated that 197 ChamberMaxx units would be required, covering a plan area of approximately 660 m² (4 runs - 6m wide x 110m long). The exact layout and number of units will be determined through detailed design, and alternative soakage gallery systems could also be considered at detailed design stage.

The Chambermaxx system sizing allows for soakage losses through the base of the soakage galleries, based on the measured site soakage rate of 280 mm/hr. Stormwater treatment will be provided for all runoff via a Hynds First Defence High Capacity (or equivalent system) located directly prior to the soakage gallery.

The proposed PPG subdivision scheme plan includes rights to drain water (easements C-H) in favour of QLDC. These easements include a specific area over Lots 1-5) that measures 170m x 6m (1,020m²) and easily provides the required land area to accommodate the proposed on-site soakage gallery and associated treatment.

2.4. Site Investigations and Permeability Testing

GeoSolve Ltd have undertaken a site investigation (Geotechnical Report for Subdivision, November 2016, GeoSolve Ref: 160488). The GeoSolve report describes the site as naturally free draining. No seepages were noted within the site boundary.

18 test pits were dug to depths of up to 3.3m, and 1 borehole to a depth of 15 m. No groundwater seepage was observed in any of the test pits or borehole. Nearby well data indicates the regional groundwater table is at depths of approximately 42 m below current ground level.

The GeoSolve report provides guidance on the depth to gravel in different parts of the site, based on site investigations. The soakage galleries have been placed where gravels naturally lie closest to the surface, to minimise earthworks required and maximise natural soakage to land.

Soil permeability investigations have been undertaken within 5 excavated pits, evenly distributed across the site (see Geotechnical Report for Subdivision, November 2016, GeoSolve Ref: 160488). It is noted that no gravels were encountered within pits (dug to 3.5m depth) in the vicinity of the Legal

1 Hansen Road – Junction Village

Road off Hansen Road and the eastern portion of the site. It is further noted that soakage rates appeared to increase slightly with distance travelled from the hill slopes. The best soakage on the site appears to be into deltaic gravels in the vicinity of proposed Lots 3 & 4. Testing has confirmed a conservative permeability rate of 280 mm/hr in the vicinity of Lots 3 & 4. This general area has therefore been chosen as the location of the proposed soakage gallery.

It is noted that the Geosolve investigations and reporting is now 5 years old and pre-dates the earthwork fill that has been placed on the site under RM181338. The depth of fill in the location of the proposed soakage chambers is approximately 0.5-1m in depth. This may therefore result in the depth to deltaic gravels being 1.5-3m and requiring some minor undercutting of silt layers and replacement with free draining material in preparation for installation of the soakage system.

2.5. Secondary System Design (Overland Flow Paths)

There is no obvious overland flow path from the site, therefore the local stormwater network and soakage gallery will be designed to cater for the full 100 year ARI event.

Super-design flows (emergency flows) will be conveyed through the site via the road and potentially future parking areas to a shallow swale within the SH6 setback. This swale will flow east and pond at the entrance to the site off Hansen Road, before overflowing north-east down Hansen Road to the neighbouring church carpark area. These flow paths follow the natural existing outlet from the site during large events and therefore will not result in additional flooding of the neighbouring property during 100-year plus super design events.

It is noted that it may be possible to convey super design events east down the SH6 swale through redesign of the Hansen Road intersection. This would convey super design event flows east to the culvert/s that flow under SH6 to the sports field detention area to the west of 5mile Development.

3. WASTEWATER

3.1. Recommended Solution

The closest branch of the QLDC wastewater network is located 100m to the west at the BP roundabout. The invert on this branch of the network is located above the intended ground level within the site and therefore cannot drain the site via gravity. It is therefore recommended that a localized gravity sewer network is installed feeding to an on-site sewer pump station. The concept layout of the proposed system is as per Attachment 3.

The pump station will discharge via a rising main to the QLDC sewer network. There are a number of potential discharge locations for the rising main, however the most practical solution will be a

1 Hansen Road – Junction Village

connection to 150mm diameter QLDC sewer at manhole ID222512 at the BP roundabout. This connection point is approximately 320m west of the proposed pump station.

The neighbouring church to the north-east has an established 50mm pressure main that connects their pump station to manhole ID222512 at the BP roundabout via the SH6 berm. Any new rising main pipe from the development would follow the alignment of the existing 50mm church pressure main and would require a licence to occupy application to be made to Waka Kotahi (NZTA), noting that the existing church pressure main is located within the road reserve, which sets a precedent for acceptance of this application.

The 150mm branch of the QLDC sewer from manhole ID222512 south-west to the 600mm Frankton trunk main currently services 180-200 du equivalents, these pipes are laid above minimum grade and therefore are likely to have capacity in excess of 250 du. Under detailed design the exact capacity of the downstream network will be confirmed with QLDC Property & Infrastructure and if required additional onsite buffering storage and a limited or off-peak pumping regime will be utilised to allow this route to be used.

If for any reason the above connection solution is determined to be problematic under detailed design, a number of possible alternate options are available to service the subdivided lots. These connection options include-

- The 675 mm diameter sewer located at the end of Joe O'Connell Drive, 465 m south of the proposed pump station. This option is likely to have capacity for the discharge. The rising main could be installed under SH6 by trenchless methods.
- The 150mm diameter sewer serving Queenstown Events Centre, located 275m south of the proposed pump station. The capacity of this sewer would need to be checked for the addition of this discharge, and consent sought to use it.

To meet QLDC standards the proposed pump station will require at least 8 hours of off-line emergency storage (estimated at 25-30 m³). As discussed above, further buffering storage may be required to limit pumped flow rates to the QLDC network. The emergency storage is proposed to be located under the carpark and access, next to the pump station. The storage could be provided in a large-diameter GRP pipe or similar underground chamber.

Due to the proposed location of the pump station, it may be necessary to install odour control (for example, a carbo bed adsorber or similar proprietary product). The type of odour scrubber installed will be determined under detailed design and specified to ensure that there is no odour nuisance to future tenants. The pump station vent will need to be located within a planted garden area or similar and outside of any future trafficable area.

1 Hansen Road – Junction Village

The proposed PPG subdivision scheme plan includes rights to drain wastewater (easements G-I) in favour of QLDC. The dimensions of these easements are suitable to contain the required pipe work and pump station assets.

3.2. Wastewater Production

The Local Shopping Centre Zoning for the future development of 1 Hansen Road limits the development of the site to the following-

- gross floor area dedicated to retail uses shall not exceed 4000m²
- gross floor area dedicated to office uses shall not exceed 3000m²
- the total number of residential units (including residential flats) shall not exceed 50 units

The majority of the wastewater produced will therefore originate from the residential dwelling units. Any future dwelling units are anticipated to range from 1-4 bedrooms, however for conservatism the average number of bedrooms per unit is anticipated to be 3. The anticipated maximum demand has therefore been based on a conservative estimate of 6 persons per dwelling unit. The per capita flows of 250 l/day and peaking factors are as per the QLDC LDCP.

Allowance has been made for wastewater from the future commercial buildings at the light demand rate stated under Table 5.1 of the QLDC LDCP. Noting that these future buildings are likely to contain retail and office space which has an inherently lower demand than heavy commercial/industrial.

Based on the above, the peak daily wastewater flows from the subdivided land have been estimated at 85 m³/day. Using the appropriate diurnal and infiltration peaking factors, the peak instantaneous flows to the sewer pump station will be 4.20 L/s.

The exact pumping rate from the pump station to the existing QLDC wastewater network will be determined under detailed design and based on further consultation with QLDC.

4. WATER

4.1. Recommended Solution

We recommend that an internal water main is created within the site. Connections will be required to the 355 mm diameter QLDC main located within the SH6 road reserve and to the QLDC main located next to Hansen Road. It may be necessary to upgrade some of the 100 and 150mm diameter main on Hansen Road to 200 mm diameter, dependent on consultation with QLDC.

1 Hansen Road – Junction Village

Based on Table 6.2 in the QLDC LDCP, the internal water main would need to be 200mm nominal diameter. The concept layout of the proposed water supply is as per Attachment 4.

The proposed PPG subdivision scheme plan includes rights to convey water (easement) in favour of QLDC. The dimensions of these easements are suitable to contains the required pipe work and pump station assets.

4.2. Fire Fighting

The fire fighting requirement of the future development within the subdivided properties is dependent on the specific future building layouts and activities. These aspects will only be fully understood under future development and associated detailed design. However, based on similar developments, and conservative estimates from PAS SNZ4509, the fire fighting demands can be roughly estimated.

The future commercial and residential buildings could potentially be serviced without a fire sprinkler system, however without a sprinkler system the distance to exits (building egress) requirements under the building code generally become overly restrictive. It is therefore highly likely that any future residential and commercial buildings will need to be sprinklered for an OH hazard at or just under 25 l/s with an additional FW2 (25 l/s) for fire appliances at the surrounding hydrants. Allowing for the additional two thirds of peak potable demand the supply requirement for these buildings will be FW4 or possible just into FW5 (around 50 l/s).

QLDC general only guarantee FW3 across commercial areas of the network. It is possible that in some specific commercial areas QLDC will guarantee FW4 plus (Queenstown Central, Remarkables Park etc). Given its diameter and key location within the network, the 355mm main fronting the site likely has FW4 plus flows. Noting that future scheduled upgrades to the QLDC Quail Rise reservoir will further increase levels of service in this location.

Given that the Council network is due to be upgraded, and the exact level of demand from future development and activities is not clearly understood without detailed design, it is recommended that a consent notice is registered on each developable lot title to ensure that under the detailed design the developer shall work with QLDC Property & Infrastructure to confirm the required guaranteed level of water supply servicing and design the buildings for the available supply accordingly. Noting that this may require the buildings to be fitted with a fire suppression sprinkler system. If a suitable water volume cannot be obtained from the QLDC water network, the building sprinkler demands will need to be serviced via dedicated onsite storage tanks, with the tanks specifically sized for the exact flows and demand duration.

1 Hansen Road – Junction Village

To comply with the requirements of FENZ (PAS SNZ4509:2008) the 200mm main through the site will require 2 equal spaced fire hydrants to ensuring that no point within any developable lot is more than 135m from a hydrant. These hydrants are approximately shown on the concept plan (attachment 4).

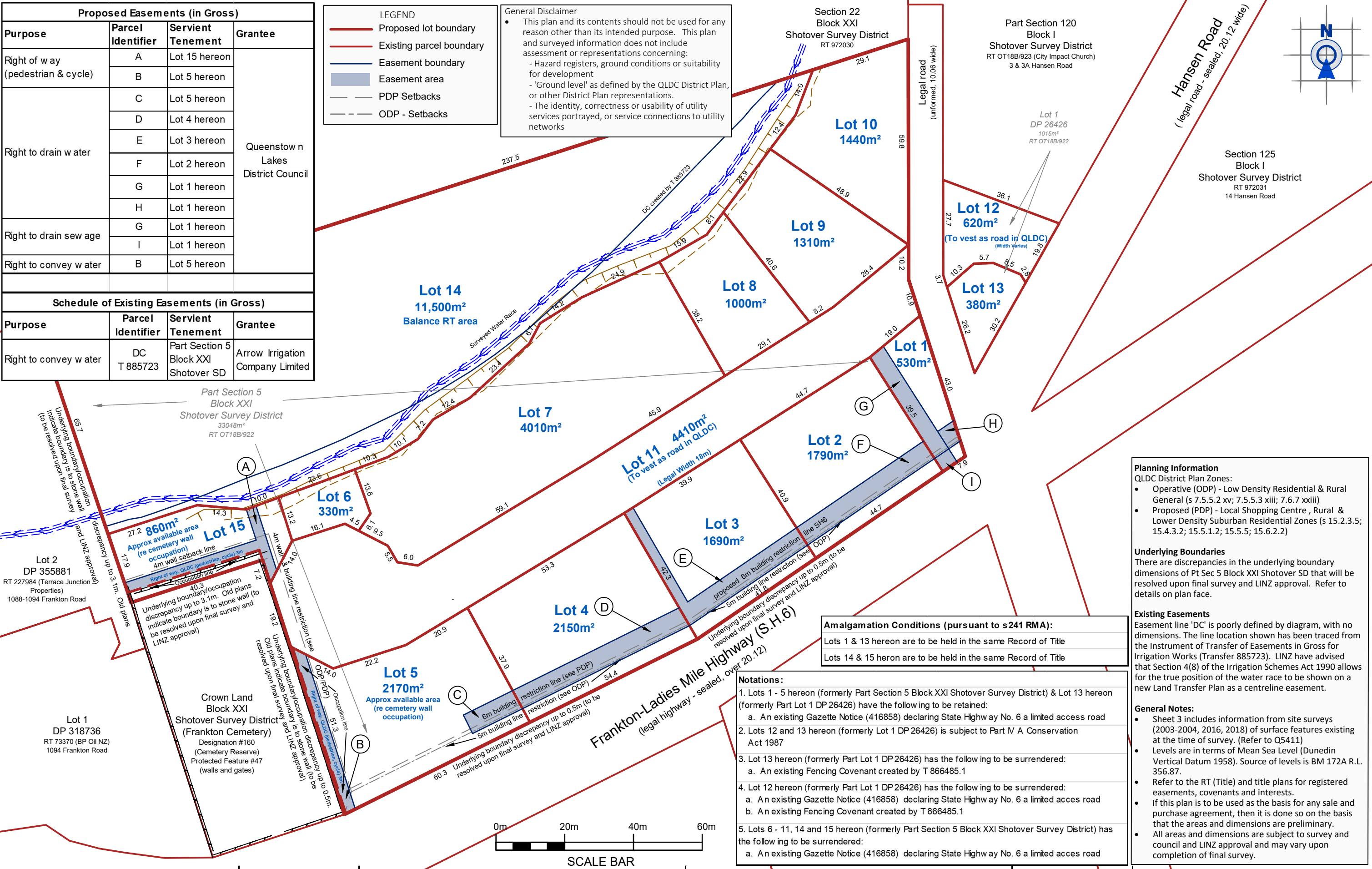
5. POWER

Following phone call discussions and emails with Peak Power Ltd (Murray Popenhagen), it has previously been confirmed that both Electricity Southland Limited (ESL) and DELTA have reticulated networks in the vicinity of the subdivision with sufficient capacity to cater for the likely future development. This reticulation will likely follow the same route as the proposed water supply and will require easements in favour of the utility service provider.

6. TELECOMMUNICATIONS

Due to the location near the intersection of SH6 and SH6a significant trunk telecommunication infrastructure is available to cater the likely future development. This reticulation will likely follow the same route as the proposed water supply and will require easements in favour of the utility service provider.

Proposed Easements (in Gross)			
Purpose	Parcel Identifier	Servient Tenement	Grantee
Right of way (pedestrian & cycle)	A	Lot 15 hereon	Queenstown Lakes District Council
	B	Lot 5 hereon	
Right to drain water	C	Lot 5 hereon	
	D	Lot 4 hereon	
	E	Lot 3 hereon	
	F	Lot 2 hereon	
	G	Lot 1 hereon	
	H	Lot 1 hereon	
Right to drain sewage	G	Lot 1 hereon	
	I	Lot 1 hereon	
Right to convey water	B	Lot 5 hereon	
Schedule of Existing Easements (in Gross)			
Purpose	Parcel Identifier	Servient Tenement	Grantee
Right to convey water	DC T 885723	Part Section 5 Block XXI Shotover SD	Arrow Irrigation Company Limited



PATERSONPITTSGROUP
Surveying • Planning • Engineering
Your Land Professionals
www.ppgroup.co.nz
0800 PPGROUP

QUEENSTOWN:
Terrace Junction,
1092 Frankton Road.
PO Box 2645,
Queenstown 9349.
T 03 441 4715
E queenstown@ppgroup.co.nz

Client/Location:
Staff Accommodation at Hansen Road Ltd
Junction Village
1 Hansen Road, Frankton, Wakatipu
(Comprised in RT OT18B/922)

Purpose/Drawing Title:
Plan of Proposed Subdivision
Lots 1 to 15 being a Proposed Subdivision of
Part Section 5 Blk XXI Shotover SD & Lot 1 DP 26426

© COPYRIGHT. This drawing, content and design remains the property of Paterson Pitts Partners Limited and may not be reproduced in part or full or altered without the written permission of Paterson Pitts Partners Limited. This drawing and its content shall only be used for the purpose for which it is intended. No liability shall be accepted by Paterson Pitts Partners Limited for its unauthorized use

Surveyed by:	LR, AH	Original Size:	Scale:
Designed by:	Mason & Wales	A3	1:1000
Drawn by:	DB/ZB/AW/JBL/HJR		
Checked by:	SW		
Approved by:			
Job Ref:	Q6270 - 52	Sheet No:	Revision No:
		1	F
			Date Created:
			04/08/2021

PLOT DATE: 04 August, 2021 - 9:29 AM

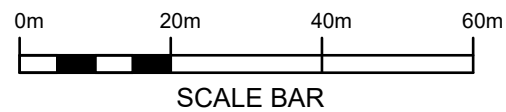
BY: Hr

C:\USERS\HRA\PPDATA\LOCAL\ITEM\BIC\SCAD\BP_13\Q6270-52 SCP JUNCTION VILLAGE.DWG

Legend -
Topographical Features

- water race / drain
- top of bank
- bottom of bank
- stone wall
- building roof line
- road painted line
- edge or concrete
- edge of seal
- edge of metal
- mudtank
- fence
- 1.0m contour
- ground spot height
- building / shed

Refer to Sheet 1 for legend, easement schedules, notations, amalgamations & disclaimers



Stormwater Concept

PPG 20/08/21

Proposed internal gravity reticulation (300mm or as required)

Treatment (Hynds First Defence High Capacity or similar)

Trafficable Chambermaxx or similar soakage gallery system

Proposed road alignment, (including parking bays, footpaths etc.) need to refer, but not exclusively limited to, the below references

- Land Development and Subdivision Code of Practice - QLDC LDSC 2020 - Standard NZS 4404:2010
- 3.3.8 No-exit roads An 8m rigid truck (10m radius)
 - 3.3.2.5 Design and check vehicle requirements Table 3.2
 - Table 3.3 with diagram E15 (Suburban)

QLDC Land Development and Subdivision Code of Practice - 2020 - Appendix B

- Parking Bays B5-3
- Kerbs and Dished Channels B5-8
- Vehicle Crossing - Commercial Industrial B5-19
- Footpath B5-23

See sheet 4 for typical Cross-Section

PATERSONPITTSGROUP
Surveying • Planning • Engineering

Your Land Professionals
www.ppgroup.co.nz
0800 PPGROUP



QUEENSTOWN:
Terrace Junction,
1092 Frankton Road.
PO Box 2645,
Queenstown 9349.
T 03 441 4715
E queenstown@ppgroup.co.nz

Client/Location:
Staff Accommodation at Hansen Road Ltd
Junction Village
1 Hansen Road, Frankton, Wakatipu
(Comprised in RT OT18B/922)

Purpose/Drawing Title:
Plan of Proposed Subdivision
Lots 1 to 15 being a Proposed Subdivision of
Part Section 5 Blk XXI Shotover SD & Lot 1 DP 26426
- Topographical Overlay - Pre Earthworks -

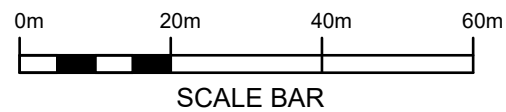
© COPYRIGHT. This drawing, content and design remains the property of Paterson Pitts Partners Limited and may not be reproduced in part or full or altered without the written permission of Paterson Pitts Partners Limited. This drawing and its content shall only be used for the purpose for which it is intended. No liability shall be accepted by Paterson Pitts Partners Limited for its unauthorized use

Surveyed by:	LR, AH	Original Size:	Scale:
Designed by:	Mason & Wales	A3	1:1000
Drawn by:	DB/ZB/AW/JBL/HR		
Checked by:	SW		
Approved by:			
Job Ref:	Q6270 - 52	Sheet No:	3
		Revision No:	F
		Date Created:	04/08/2021

Legend - Topographical Features

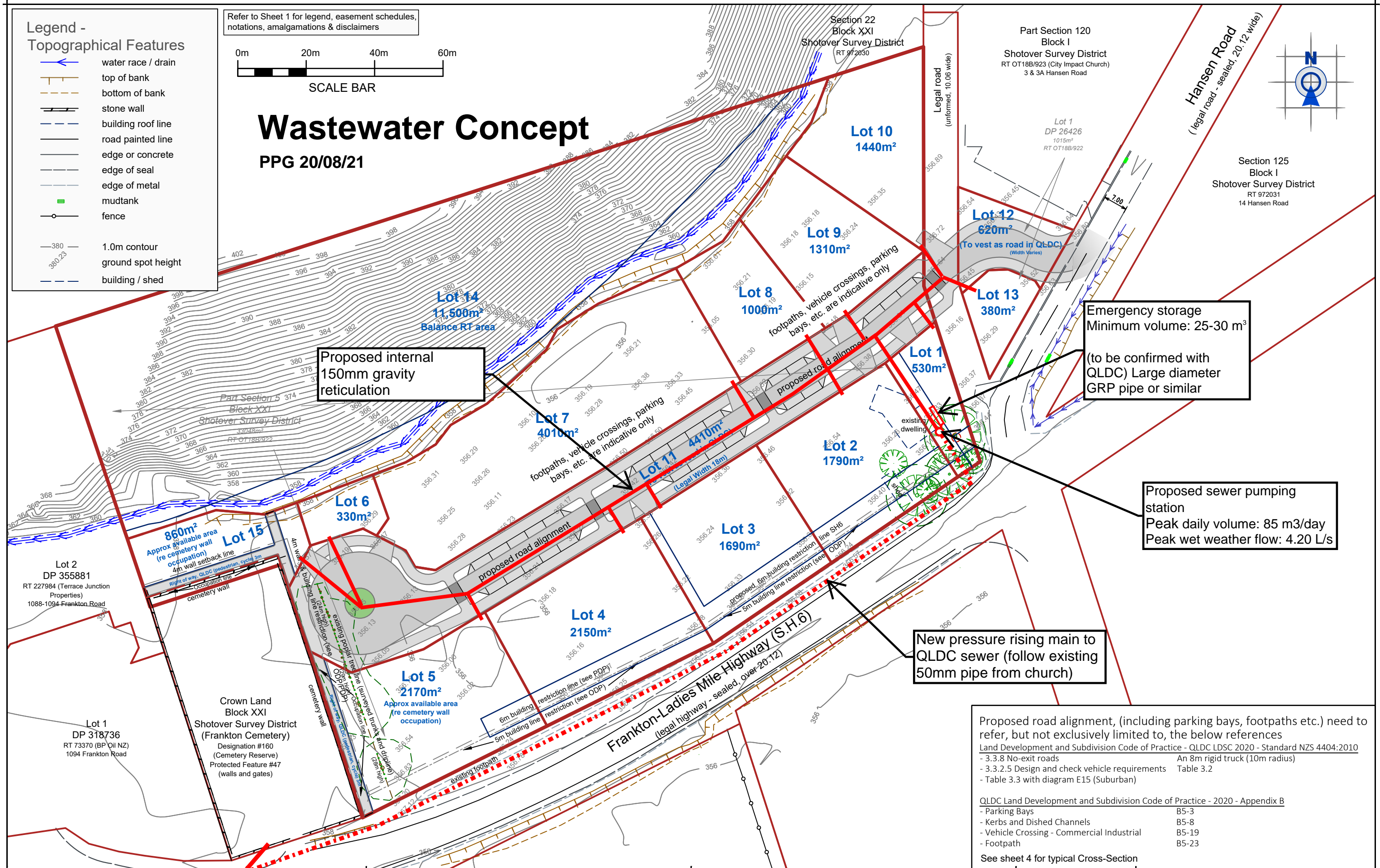
- water race / drain
- top of bank
- bottom of bank
- stone wall
- building roof line
- road painted line
- edge or concrete
- edge of seal
- edge of metal
- mudtank
- fence
- 1.0m contour
- ground spot height
- building / shed

Refer to Sheet 1 for legend, easement schedules, notations, amalgamations & disclaimers



Wastewater Concept

PPG 20/08/21



Proposed road alignment, (including parking bays, footpaths etc.) need to refer, but not exclusively limited to, the below references

- Land Development and Subdivision Code of Practice - QLDC LDSC 2020 - Standard NZS 4404:2010
- 3.3.8 No-exit roads
- 3.3.2.5 Design and check vehicle requirements
- Table 3.3 with diagram E15 (Suburban)

QLDC Land Development and Subdivision Code of Practice - 2020 - Appendix B

- Parking Bays
- Kerbs and Dished Channels
- Vehicle Crossing - Commercial Industrial
- Footpath

See sheet 4 for typical Cross-Section

PATERSONPITTSGROUP
Surveying • Planning • Engineering

Your Land Professionals
www.ppgroup.co.nz
0800 PPGROUP



QUEENSTOWN:
Terrace Junction,
1092 Frankton Road.
PO Box 2645,
Queenstown 9349.
T 03 441 4715
E queenstown@ppgroup.co.nz

Client/Location:
Staff Accommodation at Hansen Road Ltd
Junction Village
1 Hansen Road, Frankton, Wakatipu
(Comprised in RT OT18B/922)

Purpose/Drawing Title:
Plan of Proposed Subdivision
Lots 1 to 15 being a Proposed Subdivision of
Part Section 5 Blk XXI Shotover SD & Lot 1 DP 26426
- Topographical Overlay - Pre Earthworks -

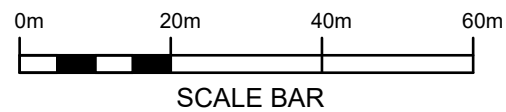
© COPYRIGHT. This drawing, content and design remains the property of Paterson Pitts Partners Limited and may not be reproduced in part or full or altered without the written permission of Paterson Pitts Partners Limited. This drawing and its content shall only be used for the purpose for which it is intended. No liability shall be accepted by Paterson Pitts Partners Limited for its unauthorized use

Surveyed by:	LR, AH	Original Size:	Scale:
Designed by:	Mason & Wales	A3	1:1000
Drawn by:	DB/ZB/AWJ/BLHR		
Checked by:	SW		
Approved by:			
Job Ref:	Q6270 - 52	Sheet No:	3
		Revision No:	F
		Date Created:	04/08/2021

Legend - Topographical Features

- water race / drain
- top of bank
- bottom of bank
- stone wall
- building roof line
- road painted line
- edge or concrete
- edge of seal
- edge of metal
- mudtank
- fence
- 1.0m contour
- ground spot height
- building / shed

Refer to Sheet 1 for legend, easement schedules, notations, amalgamations & disclaimers



Water Supply Concept

PPG 20/08/21

Fire hydrants (spaced as per NZS 4509)

Proposed internal water supply DN 200 mm

Section of existing 100mm & 150mm QLDC main to be potentially upgraded to 200mm

New connection to QLDC main

Proposed road alignment, (including parking bays, footpaths etc.) need to refer, but not exclusively limited to, the below references

- Land Development and Subdivision Code of Practice - QLDC LDSC 2020 - Standard NZS 4404:2010
- 3.3.8 No-exit roads An 8m rigid truck (10m radius)
- 3.3.2.5 Design and check vehicle requirements Table 3.2
- Table 3.3 with diagram E15 (Suburban)

QLDC Land Development and Subdivision Code of Practice - 2020 - Appendix B

- Parking Bays B5-3
- Kerbs and Dished Channels B5-8
- Vehicle Crossing - Commercial Industrial B5-19
- Footpath B5-23

See sheet 4 for typical Cross-Section

PATERSONPITTSGROUP
Surveying • Planning • Engineering

Your Land Professionals
www.ppgroup.co.nz
0800 PPGROUP



QUEENSTOWN:
Terrace Junction,
1092 Frankton Road.
PO Box 2645,
Queenstown 9349.
T 03 441 4715
E queenstown@ppgroup.co.nz

Client/Location:

Staff Accommodation at Hansen Road Ltd
Junction Village
1 Hansen Road, Frankton, Wakatipu
(Comprised in RT OT18B/922)

Purpose/Drawing Title:

Plan of Proposed Subdivision
Lots 1 to 15 being a Proposed Subdivision of
Part Section 5 Blk XXI Shotover SD & Lot 1 DP 26426
- Topographical Overlay - Pre Earthworks -

© COPYRIGHT. This drawing, content and design remains the property of Paterson Pitts Partners Limited and may not be reproduced in part or full or altered without the written permission of Paterson Pitts Partners Limited. This drawing and its content shall only be used for the purpose for which it is intended. No liability shall be accepted by Paterson Pitts Partners Limited for its unauthorized use

Surveyed by:	LR, AH	Original Size:	Scale:
Designed by:	Mason & Wales	A3	1:1000
Drawn by:	DB/ZB/AWJ/BLHR		
Checked by:	SW		
Approved by:			
Job Ref:	Q6270 - 52	Sheet No:	3
		Revision No:	F
		Date Created:	04/08/2021