

**BEFORE THE HEARINGS PANEL FOR THE PROPOSED QUEENSTOWN
LAKES DISTRICT PLAN**

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the Hearing Stream 14
– Wakatipu Basin

**STATEMENT OF EVIDENCE OF MR JOHN FRANCIS McCARTNEY ON BEHALF
OF SPRUCE GROVE TRUST #2513**

INTRODUCTION

1. My name is John McCartney. I am a consulting civil engineer and I am the owner and director of the consulting engineering company Civilised Limited, based in Queenstown.
2. I hold the qualifications of Bachelor of Engineering (Civil) from the University of Canterbury. I have 26 years of experience in the design and construction of civil infrastructure with particular expertise in site investigation and assessment along with the design and construction of development infrastructure including roading, water supply, wastewater and stormwater disposal systems. I have experience in the design and implementation of infrastructure works for both private companies and for Local Authorities throughout New Zealand.
3. Although this is a Council hearing, I confirm that I have read and agree to comply with the Code of Conduct for Expert Witness. This evidence is within my area of expertise except where I state that I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

SCOPE OF EVIDENCE

4. Civilised Limited (CL) has been engaged by the Spruce Grove Trust (SGT) to assess and report on engineering related matters involving potential rezoning of land.
5. The rezoning request has been made as part of the review of the Queenstown Lakes District Council (QLDC) District Plan. The request is part of Stream 14 of the review process and the submission is numbered 2513. The rezoning requests are to amend the zoning of the site to Millbrook Resort Zoning with two different activity areas across the site. My evidence covers the area encompassed by the rezoning request in its entirety.
6. The land is contained in certificate of title 608126 and is legally described as Section 11 SO 447314. The site is located at 1124 Malaghans Road near Arrowtown and the rezone request covers around 9.17 hectares in total.
7. Civilised Ltd has been engaged to assess and detail appropriate servicing responses to the general development of the site.
8. I note that neither QLDC staff nor their appointed consultants have assessed this rezoning request and prepared evidence in relation to Infrastructure. Ms Andrea Jarvis has prepared Infrastructure evidence in relation to submitters 2512 and 2444 which also propose a similar relief and is also bounded on three sides by Millbrook. Given the similarities, I anticipate that Council would reach a similar conclusion for this submission in terms of providing the necessary development infrastructure. In relation to submissions 2512 and 2444, Ms Jarvis does not oppose the rezoning due to the anticipated upgrades that Council already has planned for the Arrowtown Water Supply and the broader Wakatipu Wastewater scheme so long as the developer contributes to the cost via development contributions or similar¹.
9. My evidence is limited to infrastructure issues and in particular the feasibility of servicing the site with road access, stormwater, wastewater and water supply services.

¹ “Statement of Evidence of Andrea Therese Jarvis On Behalf of Queenstown Lakes District Council Infrastructure - 28 May 2018” - paragraphs 78.7 and 78.8.

10. From information supplied to me on behalf of SGT, the likely lot yield from the development will be of the order of 88 additional residential units.

BACKGROUND

11. The site has been subject to previous consent applications and approvals. Under RM080176 the site was approved for a subdivision that would have created four additional residential dwellings on the site. This consent was not enacted and has expired.
12. Recently, a new resource consent application has been made (RM180571) to re-establish consent to develop the four additional dwellings approved under consent RM080176. This new consent was approved on 6 June 2018.
13. As part of the resource consent application for RM080176, at the meeting on 7th October 2008 of the Utilities Committee of the Queenstown Lakes District Council, approval was granted for the subject land to connect to the Arrowtown Water and Wastewater Schemes. This was on the basis of servicing the then proposed seven allotments. A copy of this approval is included with my evidence as Attachment A.

ROAD ACCESS

14. The subject site has road frontage with Malaghans Road. It is anticipated that access to the site will be from Malaghans Road. This could be constructed in a number of locations along the road frontage. One particular location has been assessed in order to prove feasibility and explore the issues associated with providing access to the subject site. This is discussed below.
15. Subject to detailed design, access to the future subdivision of the site may be gained by constructing a new road from an existing access point on Malaghans Road onto the site. This new road would provide access to all proposed lots. The access location and possible Malaghans Road improvements are shown on the drawing included with this evidence brief as Attachment B.
16. Traffic generation projections will depend upon the total number of allotments developed. It is anticipated that the access road intersection

with Malaghans Road would be constructed in accordance with the requirements of the Austroads Guide to Road Design. The geometry shown in Diagram 3 contained in Appendix 7 of the QLDC District Plan can be considered a minimum layout for the intersection.

17. In accordance with the Diagram 3 layout, manoeuvrability will be increased for right hand turning traffic entering the access heading east towards Arrowtown, by way of a pull over area on the north side of the road.
18. Sight distance from the proposed new access to Malaghans Road has been assessed in accordance with Table 3, Section 14 of the QLDC District Plan for a speed environment of 100km/hr. The required sight distance for Residential Activity in a 100km/hr speed environment is 170m and for Other Activities in a 100 km/hr speed environment is 250m. The drawing included with this evidence brief as Attachment B illustrates the sight distances surveyed on site and confirms that sight distances are in excess of 300m in both directions and will therefore comply with the design standard.
19. Whilst the sight distances have been assessed for the particular intersection location under consideration and shown on the attached drawing, there remains a reasonable portion of the road frontage for the site which will have complying sight distances and as such the final intersection location could be in a different location to that envisaged and comply with the relevant traffic design standards.
20. Internal access would be constructed in accordance with the Queenstown Lakes District Council Land Development and Subdivision Code of Practice and the specific requirements for road widths for Rural Live and Play areas given in Table 3.2.

WATER SUPPLY

21. Two options have been identified for the water supply to service the property. The first of these is to connect to the nearby Arrowtown water supply network. As noted in paragraph 13 above, the property has already been approved to join the QLDC scheme on the basis of a previous proposal for seven new lots and building platforms (of which only four were approved by RM080176 and RM180571). The second

option to provide water to the site is to construct a new bore on site. These two options are discussed further below.

Connect to the Arrowtown Water Supply

22. The Arrowtown water supply services land nearby to the site. This includes the Remarkables Vets and Butel Park properties on the opposite side of Malaghans Road to the subject site. The Arrowtown water supply also provides a bulk water supply to the adjacent Millbrook Country Club.
23. The intake for the water supply is a series of bores near Bush Creek. The water is pumped to the treatment plant and reservoirs on Manse Road near the Arrowtown Cemetery before being distributed by the piped reticulation throughout Arrowtown.
24. I have reviewed the proposed QLDC 10 Year Plan 2018-2028 and note that there is an amount of capital expenditure proposed for the Arrowtown Water Supply. This includes \$3,802,000 for a new reservoir currently programmed to be spent in the years 2019 – 2021, \$1,544,000 for a water pump station and new bore currently programmed to be spent in the years 2018 – 2019, and \$564,000 for a water pump station and upgrade to existing bore currently programmed to be spent in the years 2025 – 2026. My understanding is that this expenditure is in order to provide further capacity in the water supply system. This additional capacity will enable the existing water supply reticulation to provide water to enable growth in the areas in and around Arrowtown including the proposed rezoned area.
25. The point of connection to the development could be at either the end of the existing 125mm diameter main in Manse Road near the Essex Avenue intersection or at the existing 200mm diameter main at the corner of Bush Creek Road and Manse Road. These two options are shown on the drawing included with my evidence as Attachment C.
26. The existing water pipe in Malaghans Road adjacent to the site would not be considered large enough to allow connection for the development for all but a minimal number of new dwellings.
27. Due to Millbrook Country Club being serviced by a bulk services agreement, connection to Millbrook services has not been considered.

28. The developer will be responsible for the provision of all infrastructure necessary to service the development and furthermore will be required to pay developer contributions to cover their share of any upgrades to the system as a result of the growth in the area serviced by the Arrowtown water supply scheme.
29. It is noted that the Arrow Irrigation Company confirmed under RM080176 that the subject site is able to be serviced by their irrigation water supply. The provision of this supply to the site would reduce the demand upon the Arrowtown water supply scheme as only the potable water demand will be required from the Council reticulation.

Construct an On Site Water Supply

30. The site is underlain by the Upper Mill Creek Aquifer as identified by Otago Regional Council (ORC). An ORC map showing the location of the subject site and the location of the Upper Mill Creek Aquifer is included with my evidence as Attachment D.
31. The location of the subject site above the groundwater aquifer indicates that there is a substantial ground water resource underlying the site that could be utilised to provide potable water to the future development.
32. The expected potable water demand for the development is calculated as approximately 185 m³/day or 0.067 Mm³/year. This is based on 88 lots requiring 2,100 litres per day (the QLDC required amount per allotment).
33. ORC reporting indicates that the Upper Mill Creek Aquifer has a mean annual recharge rate of 1.57 Mm³/year and of this, under current rules, 50% or approximately 0.785 Mm³/year is able to be allocated for extraction. Current consented takes from the aquifer total 0.022 Mm³/year.² This confirms that there should be a sufficient quantity of water for the proposed development.
34. The use of groundwater for a potable water supply is relatively common in the Wakatipu Basin. The Upper Mill Creek Aquifer is utilised as a water source for various properties in the Wakatipu Basin and as such the water

² “Arrow catchment and Wakatipu Basin Aquifers Background Report for Options Consultation” – Otago Regional Council – December 2017 – Table 1.

is expected to be wholesome and of suitable quality to enable usage as a potable water supply.

35. As noted above, the provision of a separate irrigation supply from the Arrow Irrigation Company is expected to reduce the demand on the potable water supply.

WASTEWATER

36. Two options have been identified for draining and disposing of the wastewater flows from the property. The first of these is to connect to the nearby Arrowtown wastewater network. As noted in paragraph 13 above the property has already been approved to join the QLDC scheme on the basis of a previous proposal for seven new residential lots and building platforms (of which four were approved by RM080176 and RM180571). The second option is to provide on site wastewater treatment and disposal system. These two options are discussed further below.

Connect to the Arrowtown Wastewater Network

37. The site encompasses a hill, ridge and flatter land. The site generally slopes to the south with the lowest point being towards the southeast corner.
38. Due to this topography, a wastewater pump station would be required in order to discharge wastewater from the site. Wastewater pump stations are frequently a component of residential subdivisions.
39. Subject to detailed design, available pipe routes and Council preference, the wastewater flows would drain to the existing manhole near the Bush Creek Road intersection with Manse Road or to the pump station on Essex Avenue. These possible connection points are shown on the drawing included with my evidence as Attachment E.
40. Due to the distance to the connection point and the topography, I expect that the entire site would drain to a pump station and this would connect via a rising main to the existing Council infrastructure. No extension of existing Council gravity drainage infrastructure is anticipated.
41. The construction of a modern reliable wastewater pump station to the standards required by Council will minimise maintenance requirements.

Furthermore, the establishment of a further 88 dwellings will generate more rates for Council and enable a more efficient overall network due to the economies of scale. The amount of additional wastewater rates generated by the additional 88 residential units would be at least \$59,000 per annum. As the new network will be modern and relatively low maintenance, this amount is more than adequate to maintain the additional pump station along with making a considerable contribution to the wastewater maintenance of the overall Arrowtown scheme.

42. If the option of a larger communal pump station is not acceptable to QLDC, it will be possible to implement a wastewater drainage option that involves the installation of individual pump stations on each allotment. This would consist of a grinder pump inside a relatively small pump chamber and a small bore rising main that connected to through a non-return valve to a rising main in the street. These small pump stations could also be controlled in such a way that the flows to the existing Council reticulation was minimised during peak flows. A similar small pump station arrangement is currently being implemented in Arthurs Point.
43. The communal pump station or individual allotment pump stations could be configured such that they will not pump into the reticulation at peak times. This would require some buffering storage at the communal pump station and large enough pump chambers for the individual allotment pump stations to ensure that the pump station did not operate during the busy morning period or during the peak evening period. Thus, the increase in flows through the existing network will be able to be managed in such a way that any negative impacts on the network are minimised and would not significantly contribute to the existing pipe capacity reaching capacity restraints.
44. Development contributions would be paid when allotments are created. These development contributions will allow QLDC to recover the cost of any future upgrades that are required to enable growth in Arrowtown. Should the continued growth of Arrowtown trigger an upgrade requirement for the elements of the existing wastewater reticulation network then this will be able to be added to the list of future works in subsequent LTP or Annual Plan processes and appropriate Development Contributions levied against the future allotments.

Construct an On Site Wastewater Treatment and Disposal System

45. This option involves constructing a new communal wastewater treatment and disposal system at a suitable location on site and treating all wastewater flows from the proposed development prior to discharge to land.
46. It is envisaged that a package plant system similar to that used at Jacks Point could be accommodated to service the subject site. The system would involve the primary treatment of wastewater at each individual dwelling or block of dwellings by way of a septic tank to remove solids. Primary treated effluent from each septic tank is then pumped or drained to the communal package treatment facility where it undergoes secondary and possibly tertiary treatment prior to disposal to land.
47. This type of system has a number of positive attributes including:
- The ability to stage expansion of the treatment plant to cater for staged development of the zone.
 - No pond based treatment.
 - Possible reuse of water for irrigation purposes.
48. The system would be made up of the following components:
- i. Each dwelling would drain wastewater flows to a septic tank located close by. This septic tank would be installed at the time the dwelling was constructed. Depending on the location and topography, the tank would be fitted with a pump and rising main to reticulate flows to gravity reticulation or would simply connect via gravity to nearby reticulation. The septic tanks will require routine inspections and maintenance. This will mostly involve pumping out the solid wastes from time to time. The inspections and maintenance would be managed by a lot owners association or similar. If dwellings were to consist of units or terraced residences, a communal septic tank would be used for that group of dwellings. This would require specific design at the time, but the tank's function would be similar to that for a single dwelling.
 - ii. As noted above, due to topography, it is likely that a mix of gravity and pumped mains will reticulate flows to a suitably located treatment facility. In the case of pumped mains, individual tanks would connect to this via a non-return valve kit.

- iii. A package treatment plant would be located at a suitable location on site. This will receive all wastewater flows into a buffer tank and then treat it using a proprietary treatment system. This system would be a package treatment plant from a proprietary manufacturer/supplier. The actual process adopted will be the subject of detailed design and procurement evaluation. For some guidance, the system used at Jacks Point involves the use of textile packed bed reactors. If deemed necessary at the time of detailed design, tertiary treatment such as UV disinfection could be included to further treat the effluent.
 - iv. The final treated effluent would be reticulated to a suitable disposal location. If suitable tertiary treatment is included, it is likely that this treated effluent could be used for shallow subsurface irrigation around the site. This would need to be carefully considered at the time of detailed design to ensure freezing pipes and public access were appropriately managed.
49. One of the main issues to be considered with regards to this option would be the on-going maintenance and management of the wastewater treatment and disposal system. One option would see the system vested with Council. Alternatively, the wastewater drainage and treatment system could be owned by a lot owners association (or similar) responsible for the on-going management and maintenance of the infrastructure. A similar approach to this has been adopted at Jacks Point near Queenstown and accepted by QLDC.

STORMWATER

50. As previously outlined, the site varies from hill slopes to flat land.
51. In order to prevent the concentration of runoff onto neighbouring land, and in the absence of any significant reticulation nearby the site, it is expected that the provision of stormwater drainage for the site will necessarily involve usage of Low Impact Design principles.
52. Low-impact development (LID) is a term used to describe a land planning and engineering design approach to manage stormwater runoff. LID emphasizes conservation and use of on-site natural features to protect water quality. This approach implements engineered small-scale hydrologic controls to replicate the pre-development hydrologic regime of

watersheds through infiltrating, filtering, storing, attenuating and detaining runoff close to its source.

53. This approach has been used to some extent on recent subdivisions in Arrowtown. I am aware that it is being implemented and used elsewhere in Arrowtown and the District.
54. I would expect that this approach could be successfully implemented on the subject land following detailed investigations, analysis and design. The approach to stormwater runoff would be a key driver in developing an overall development plan for the site as runoff interception prior to flows departing site would be required. I note that there at least two points around the perimeter of the site where small ephemeral water courses are expected to form during a prolonged and heavy rainfall event. These will need to be managed to ensure that there is no concentration of flows onto neighbouring land following development. I do not envisage any difficulties achieving that.

CONCLUSIONS

55. I confirm that it is feasible to implement the necessary access, water supply, wastewater disposal, and stormwater control for the proposed development and that the effects of the necessary utility services and development infrastructure on the environment are no more than minor.
56. The site can readily be accessed from Malaghans Road. Development of the site will involve the construction of a new intersection on Malaghans Road. The required works can readily be undertaken within the existing road reserves and can be done in accordance with appropriate road design standards.
57. Two options for a suitable water supply for the site are available and feasible to undertake. The first of these is to connect to the Arrowtown water supply scheme. Upgrades already planned for the Arrowtown water supply network will ensure there is capacity in the network for the area of the zone change. The developer will be responsible for connecting the site to the Council network and the point of connection will be determined in conjunction with Council.

58. Ms Andrea Jarvis, representing council, has confirmed that similar nearby sites are able to connect to the Arrowtown water supply network on the assumption that the appropriate development contributions will be paid to enable the necessary upgrades programmed for the water supply scheme. These development contributions will be paid by the developer as new lots are created. On the basis of the similarity and proximity of the sites, I expect that the subject site can also be serviced by connecting to the Arrowtown water supply network.
59. The second option for a suitable water supply for the site is to drill a groundwater bore and extract water from the Upper Mill Creek Aquifer. The ORC has identified that the aquifer underlies the site and has sufficient capacity to provide the quantity of water required for the development of the site. The quality of the water from other bores that access the aquifer indicate that the water is of suitable quality as a domestic potable water supply.
60. It is recommended that the wastewater generated from the proposed development be disposed of by way of connection to either the QLDC reticulated scheme or a new purpose built communal treatment and disposal facility on site. The feasibility of the chosen wastewater option will need further detailed analysis, consultation and consenting prior to implementation.
61. Wastewater drainage services required for the development of the subject land could be done in such a way as to not be a burden on existing ratepayers. Any new pump station required for the site would be funded by the developer yet built to the high standards required by Council. The rates generated by the additional residential units would more than offset the cost of maintaining the wastewater pump station.
62. The inclusion of either a communal wastewater pump station or individual on-site wastewater pump stations would provide the ability to control the timing of wastewater flows into the Council network and further reduce the effect that the development of the site would have on the existing reticulation.
63. Ms Andrea Jarvis, representing council, has confirmed that similar nearby sites are able to connect to the wastewater drainage network on the assumption that the appropriate development contributions will be paid

to enable the necessary upgrades programmed for the water supply scheme. These development contributions will be paid by the developer as new lots are created. On the basis of the similarity and proximity of the sites, I expect that the subject site can also be serviced by connecting to the existing wastewater network.

64. Alternatively, a suitable on site treatment and disposal option exists and could be implemented if required.

65. Stormwater is currently being managed using Low Impact Design principles nearby to the subject land and at other developments around the District. Subject to recommendations and appropriate evolution of lot layout concepts, I expect that this approach will be able to implemented on the subject land in order to adequately manage stormwater runoff.

Attachment A QLDC Utilities Committee Minutes from 7th October 2008

Attachment B Access to the Site

Attachment C Water Supply Infrastructure

Attachment D ORC Aquifer Map

Attachment E Wastewater Drainage Infrastructure

John McCartney

13 June 2018

QUEENSTOWN LAKES DISTRICT COUNCIL**UTILITIES COMMITTEE**

Minutes of a meeting of the Utilities Committee held in the Council Chambers, Civic Centre, 10 Gorge Road, Queenstown on Tuesday 7 October 2008 commencing at 9.00 am.

PRESENT

Councillors Mann (Chairperson), Gazzard, Macleod, Perkins van Uden and J R Wilson; Wanaka Community Board Member Dick Kane.

IN ATTENDANCE

Messieurs Mark Kunath (General Manager Engineering Services), Denis Mander (Transportation Planning Manager), Garry McGraw (Water Services Manager), John Porter (Acting Water Services Manager), Stefan Borowy (Solid Waste Manager) and Jeff Cobb (Network Manager, GHD Ltd); Ms Jane Robertson (Governance Officer); two members of the media and seven members of the public.

APOLOGIES

An apology was received from Councillor Cocks.

On the motion of Councillors Perkins and J R Wilson it was resolved that the apology be received.

Councillor van Uden entered the meeting at 9.04 am.

CONFIRMATION OF MINUTES

On the motion of Member Kane and Councillor Perkins it was resolved that the minutes of the Utilities Committee meeting held on 2 September 2008 be confirmed as a true and correct record.

- Councillor J R Wilson requested an update on the Gorge Road upgrade project. The Chairperson advised that this would be covered under the Roading Manager's capital projects report.

MATTERS LYING ON THE TABLE

There were no matters lying on the table.

NOTIFICATION OF URGENT BUSINESS

No items were raised.

PUBLIC FORUM

1. Susan Stephens, Chairperson, Gibbston Community Association

Ms Stephens extended thanks to Council, the General Manager Engineering Services and his staff for undertaking the minor safety works on Coal Pit Road. She also commented positively on the Council's RFS system, noting that the Association and its members made frequent use of the service and commended the prompt responses to requests.

Ms Stephens referred to the small communities meeting, noting that it would be helpful for greater levels of interplay on matters like the road oiling schedule. She noted that she had since been provided with the schedule and expressed thanks for this, also commending Council for clearing some vegetation on Gibbston Back Road recently.

2. Susan Sawyer, Lakes Property Services

Ms Sawyer advised that Lakes Property Services was secretary to the Butel Park Homeowners Association on behalf of whom she was speaking. She wished to raise the Association's concerns about the proposal to connect seven lots within the Mill Farm Heights development to the Butel Park water and wastewater network. The Association believed that approval of this request would have an adverse effect on the water pressure received by residences in Butel Park, exacerbating the already poor pressure. The Association asked that any approvals given for the development of Mill Farm Heights be subject to alternative routes being sourced for water and wastewater connections. She also noted that the Association would continue to press for an upgrade to the existing water pressure to meet Council's recommended levels for domestic use.

3. William Oswald, Hadley Consultants Ltd

Mr Oswald noted that he was the Consultant Engineer to the Mill Park Heights development. He advised that engineering investigations into the problems with water pressure to Butel Park residences had confirmed that the issues were unrelated to Mill Park Heights. Accordingly, he submitted that approval of the additional connections would have no impact upon residences on Butel Park or other scheme users. In relation to wastewater, Mr Oswald advised that an engineering assessment had confirmed that the pump station had capacity with the addition of further connections. Further, water supply to Mill Park Heights would only occur at off peak times, as would wastewater flows. Overall, he stressed that approval of the staff recommendation with respect to Mill Park Heights would have no effect on Butel Park home owners.

On the motion of Councillors Perkins and van Uden it was resolved that item 9 ('Arrowtown Water and Wastewater Scheme – Overboundary Connections to Proposed Mill Farm Heights Subdivision' be considered first in the meeting.

Councillor Macleod withdrew from the discussion at this point as she was a member of the hearings panel for this consent application.

9. ARROWTOWN WATER AND WASTEWATER SCHEME – OVERBOUNDARY CONNECTIONS TO PROPOSED MILL FARM HEIGHTS SUBDIVISION

- A report from Garry McGraw (Water Services Manager) dated 22 September 2008 sought the Committee's approval of water supply and wastewater connections for a proposed 7-lot subdivision at 1124 Malaghans Road, Arrowtown. The connections sought were outside the Arrowtown water and wastewater scheme boundary and the report noted that Council had no formal policy regarding connection outside scheme boundaries. The normal practice was therefore to assess applications on their individual merits. The report highlighted the potential for adverse environmental impacts if Council declined the application. Accordingly, it was recommended that approval be granted subject to conditions.
- Mr McGraw and Mr Porter jointed the table. It was noted that there had been extensive investigation into the feasibility and practicality of connecting to the water and wastewater services and because the proposed subdivision was surrounded by serviced areas, it was viewed as infill development rather than extension of the network. Further, the anticipated capacity of the scheme in terms of overall servicing was approximately 1500 units, and accordingly, the addition of seven further connections was very minor in terms of the total proportion. It was therefore concluded that no adverse impacts on the remainder of the Arrowtown water supply would arise from servicing the Mill Farm Heights development.
- In relation to the pressure problems on Mace Lane and Essex Avenue described in the Public Forum, staff were already aware of the frequent pressure variations in the Arrowtown scheme. However, the water pressure was still adequate for domestic supply, acknowledging that it was below Council's ideal standards. The concerns about the wastewater system capacity raised in the public forum were also noted, but staff were unaware of any issues and considered that there was sufficient capacity in the area for the addition of seven units.

On the motion of Councillors Perkins and Gazzard it was resolved:

- 1. That approval be granted for additional water and wastewater connections to the Arrowtown Water and Wastewater Schemes for the proposed 7-lot subdivision at 1124 Malaghans Road, Arrowtown, which is outside the existing service area, subject to:**
 - a. Payment of head works fees in accordance with Council's Development and Financial Contributions Policy;**
 - b. A water meter and flow restrictor (or an equivalent actuated valve with timer designed to take water at off-peak times) being fitted at the connection to the property and a maximum of 7,000 litres per day being provided;**

- c. **Council approval of the proposed route for the private wastewater pumping line together with the connection point to the Council's sewer network; and**
 - d. **A covenant registered on the title of 1024 Malaghans Rd recording (a) and (b) above.**
- 2. That the Arrowtown Water and Wastewater Schemes Service Area Boundary be amended to include the land covered by this application.**
- It was noted that the Mill Park Heights development would use the Butel Park Pump Station. Councillors considered that it was inappropriate for the Butel Park residents to continue covering this cost in full and staff were asked to resolve the financial responsibility for this service.

On the motion of Councillors van Uden and Gazzard it was resolved that staff determine financial responsibility for the Wastewater Pump Station in Essex Avenue /Mace Road with homeowners.

Councillor Macleod returned to the table at this point.

The Committee resumed the agenda as printed with item 1.

1. 2008/09 CAPITAL PROGRAMME IMPLEMENTATION TO 31 AUGUST 2008

- A report from Mark Kunath (General Manager Engineering Services) dated 24 September 2008 detailed the performance to 31 August 2008 of the Council's 2008/09 capital programme. The report also summarised the 2007/08 capital programme, detailing the physical and non-physical works completed, those still in progress on 30 June 2008 and the total spend on each work type.
- Members noted the significant amount of forward design work undertaken within the 2007/08 programme. Mr Kunath agreed that it had formed a significant proportion of the capital expenditure in 2007/08, but stressed the necessity of having a year's design work completed to ensure full delivery of future programme targets. He expected that the levels of design work would track down in future years.
- Councillor Macleod noted that capital expenditure reports later in the agenda showed high variances on a number of projects. She expressed concern that future capital project targets would be unachievable because construction costs were proving to be much greater than the budget allowed. She therefore questioned the amount of forward planning being undertaken, if the Council would not ultimately be able to afford to complete all the projects for which designs were being prepared. Mr Kunath advised that Council had few completed designs now 'in the drawer'.
- Councillor van Uden endorsed these comments, expressing particular concern about the high proportion of expenditure in 2007/08 on consultants. She questioned whether Council had received value for money in relation to the 2007/08 programme delivery and expressed a desire for staff to prepare a report which demonstrated this.



| REV | DATE | DESCRIPTION | APPROVED |
|-----|------------|---------------|----------|
| A | 21/05/2018 | Initial Issue | JFM |

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| | |
|---------|------------|
| JFM | 21/05/2018 |
| DESIGN | DATE |
| JFM | 21/05/2018 |
| DRAWN | DATE |
| JFM | 21/05/2018 |
| CHECKED | DATE |

CLIENT

SPRUCE GROVE TRUST

PROJECT/LOCATION

**PROPOSED LAND REZONING
1124 MALAGHANS ROAD, ARROWTOWN**

TITLE

ACCESS

| | |
|-----------------|-------------|
| CONTRACT NUMBER | - |
| SCALE (AT A3) | 1:2,000 |
| DRAWING NUMBER | QS022-F-210 |
| REVISION | A |



| REV | DATE | DESCRIPTION | APPROVED |
|-----|------------|---------------|----------|
| A | 21/05/2018 | Initial Issue | JFM |

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| | |
|---------|------------|
| JFM | 21/05/2018 |
| DESIGN | DATE |
| JFM | 21/05/2018 |
| DRAWN | DATE |
| JFM | 21/05/2018 |
| CHECKED | DATE |

CLIENT

SPRUCE GROVE TRUST

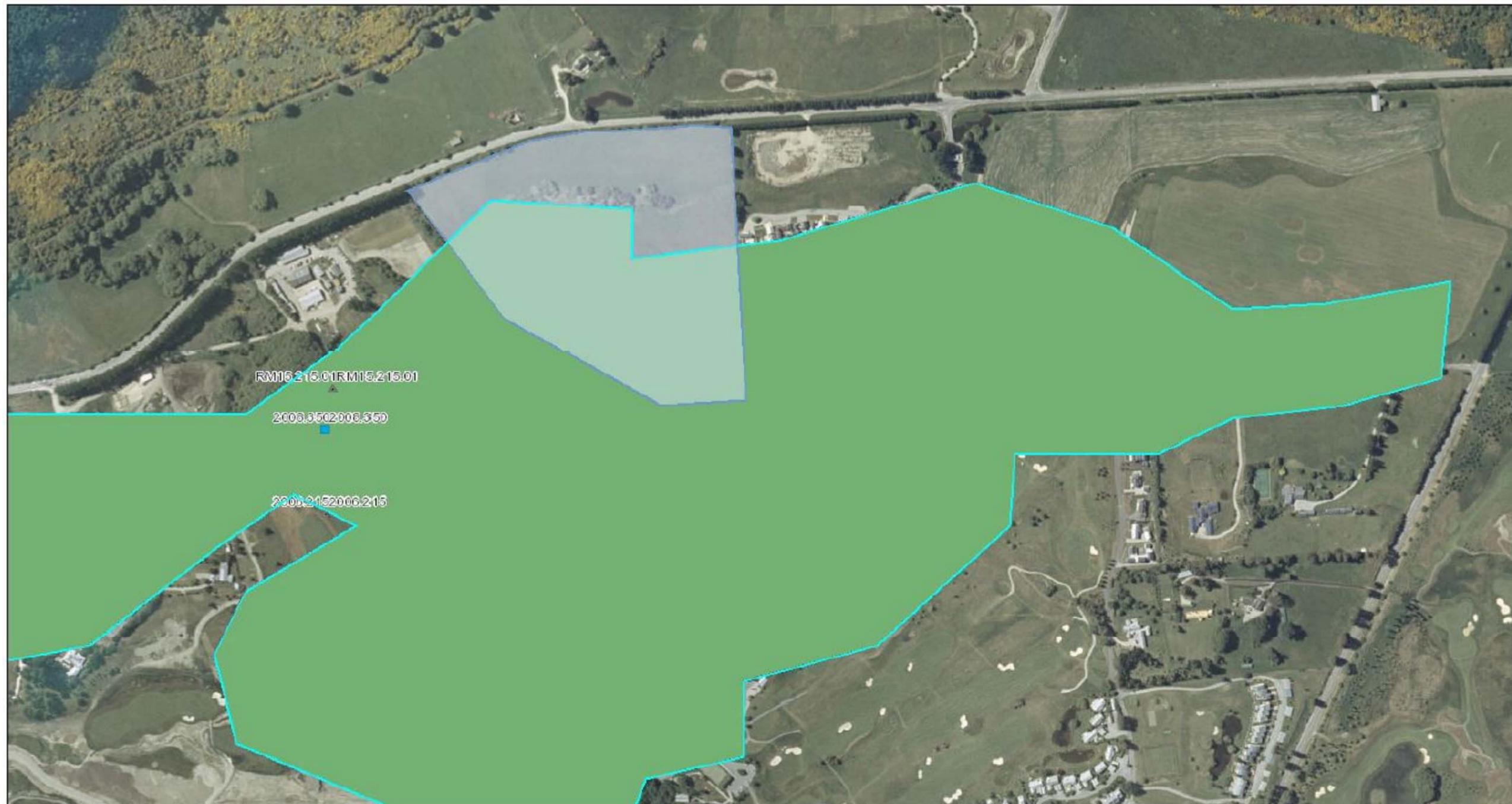
PROJECT/LOCATION

**PROPOSED LAND REZONING
1124 MALAGHANS ROAD, ARROWTOWN**

TITLE

WATER SUPPLY INFRASTRUCTURE

| | |
|-----------------|--------------------|
| CONTRACT NUMBER | - |
| SCALE (AT A3) | 1:4,000 |
| DRAWING NUMBER | QS022-F-410 |
| REVISION | A |

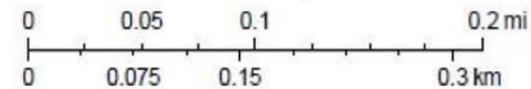


May 22, 2018

Current Consents

- | | | |
|-----------------------------|--------------------------------------|-----------------------------|
| ■ Bore Construction Consent | ■ Discharge to Land Permit | ▼ Surface Water Take Permit |
| † CMA Use Permit | ■ Discharge to Water Permit | |
| ■ Coastal Discharge Permit | ▲ Divert Water Permit | |
| ● Dam Water Permit | ▲ General/Structure Land Use Consent | |
| — Discharge to Air Permit | ▲ Gravel Extraction Consent | |
| | ▼ Groundwater Take Permit | |

1:4,514



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 Otago Regional Council



POSSIBLE WASTEWATER DRAINAGE CONNECTION POINT TO GRAVITY MANHOLE

POSSIBLE WASTEWATER DRAINAGE CONNECTION POINT - CONNECT TO EXISTING WASTEWATER PUMP STATION

DEVELOPMENT SITE
Section 11 SO 447314

| REV | DATE | DESCRIPTION | APPROVED |
|-----|------------|---------------|----------|
| A | 21/05/2018 | Initial Issue | JFM |

CONSULTANT



CIVILISED LTD
PO BOX 1461
QUEENSTOWN 9348
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| | |
|---------|------------|
| JFM | 21/05/2018 |
| DESIGN | DATE |
| JFM | 21/05/2018 |
| DRAWN | DATE |
| JFM | 21/05/2018 |
| CHECKED | DATE |

CLIENT

SPRUCE GROVE TRUST

PROJECT/LOCATION

**PROPOSED LAND REZONING
1124 MALAGHANS ROAD, ARROWTOWN**

TITLE

WASTEWATER DRAINAGE INFRASTRUCTURE

| | |
|-----------------|--------------------|
| CONTRACT NUMBER | - |
| SCALE (AT A3) | 1:4,000 |
| DRAWING NUMBER | QS022-F-510 |
| REVISION | A |