BEFORE THE CENTRAL OTAGO DISTRICT COUNCIL

IN THE MATTER Plan Change 19 to the Operative Central Otago District Plan

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STATEMENT OF EVIDENCE OF CAMPBELL RONALD HILLS ON BEHALF OF PISA VILLAGE DEVELOPMENT LIMITED & PISA MOORINGS VINEYARD LIMITED (#146)

SUBDIVISION AND INFRASTRUCTURE

16 May 2023

CONTENTS:

ATTACHMENTS:

1. EXECUTIVE SUMMARY[1]

1.1 With reference to the rationale provided in my evidence, it is my opinion that the proposed re-zoning of **the site** (being Lot 2 DP 397990, Lot 2 DP 405431, Lot 19 DP 520912 & Lot 112 DP 546309) requested by **the submitter** (Pisa Village Development Ltd & Pisa Moorings Vineyard Ltd) is appropriate from a subdivision and infrastructure perspective.

1.2 The proposed re-zoning is expected to facilitate in the vicinity of 292 residential allotments and approximately 1.2 hectares[2] of local convenience commercial activity, and it is considered extremely unlikely that even half of the potential allotments on the site could be titled and require servicing before 2030.

1.3 Titles for any first stage of development would not be expected until at least early 2026, with subsequent stages expected to take two to four years each, subject to market demand. On the basis of the existing zoning, additional development (over and above what Council should have already made some allowance for) is not expected to require servicing until at least 2028. Demand triggered by the proposed re-zoning is therefore very close to Council's indicated timeframe for serviceability.

1.4 The site is situated in a unique infrastructure environment, with three currently established domestic water networks immediately on (or directly adjoining) the site, along with additional established bore water options on the site. I do consider the site to be well positioned for connectivity to, and extension of, existing water networks.

1.5 Whilst the existing wastewater network is consolidated with a single treatment plant for the Cromwell Basin, there are methods available for mitigating the impacts associated with additional development. These include variable control of pump station start and stop levels and, where there is available land area, for retention systems to be installed, such that flows can be controlled and sometimes delayed to avoid peak flow times.

[1] My executive summary can be also taken as the optional summary statement which may accompany briefs of evidence as directed in Minutes 1 and 3 by the Hearings Panel.

[2] 1.2ha is the likely developable yield excluding road area

1.6 I consider that the site has very few constraints from a wastewater servicing perspective for the following reasons:

(a) The site is elevated above the existing wastewater network

(b) There are multiple adjacent gravity connection options

(c) The site area is large enough that there is scope for significant retention and potentially even on-site discharge to be considered at resource consent stage (even if the measures are only temporary).

1.7 I consider that it is important to recognise that the water and wastewater servicing constraints identified in the Section 42A reports are derived from existing (and generally wider) network issues, particularly as PC19 as notified does not consider any infill development for Pisa Moorings.

1.8 I do not consider that a lack of complete water and wastewater serviceability for the fully developed site precludes the site from being re-zoned at the present time, due to:

(a) the scale of subdivision that is actually considered achievable within the timeframe that Ms Julie Muir has noted (prior to 2030);

(b) the relatively minor increase in demand/flow (prior to the site being considered fully serviceable) which may be able to be absorbed within the existing infrastructure, subject to modelling confirmation and any necessary site controls to reduce impacts at peak times;

(c) previous discussions with the Council Environmental Engineering department, which identified some remaining capacity in the water and wastewater networks at Pisa Moorings, subject to confirmation through modelling that is currently underway;

(d) Plan Change 19, as notified, not identifying any increase in demand through infill development at Pisa Moorings;

(e) re-zoning providing a level of certainty for Council in terms of infrastructure planning and funding;

(f) Council having ability to control the nature and scale of subdivision, and associated servicing requirements, at resource consent stage, including the opportunity to establish developer agreements to assist with provision of infrastructure and development contribution credits, and to levy development contributions generally.

1.9 From an infrastructure perspective I consider the proposed Future Growth Overlay (FGO) is an ineffective method for controlling development as it provides no certainty for the landowners with respect to their ability to

develop the property; particularly in terms of timeframes or suitable level of investment in either horticulture/viticulture or subdivision development.

2. INTRODUCTION

2.1 My name is Campbell Ronald Hills. I am a Licensed Cadastral Surveyor and Director of C Hughes & Associates Limited, and I specialise in the design, consenting, construction administration/supervision, surveying, and general project management associated with residential and rural subdivision development.

2.2 I have been engaged by Pisa Village Development Limited and Pisa Moorings Vineyard Limited (**Submitter** 146) to provide subdivision and infrastructure evidence in relation to the re-zoning submission for their land at Pisa Moorings, under Plan Change 19 (**PC19**) to the operative Central Otago District Plan (**District Plan**).

2.3 I hold a Bachelor of Surveying (Hons) degree from the University of Otago. I am a Voting Member of Survey and Spatial New Zealand (S+SNZ) and a member of the Consulting Surveyors division of S+SNZ.

2.1 I have been practising as a land surveyor and subdivision development consultant since I began working for C Hughes and Associates in 2014. Prior to this I worked in a similar role for a large multi-disciplinary land development and management company in Australia, following my graduation from the University of Otago in 2012.

2.2 During the course of my career at C Hughes in Associates (based in Cromwell), I have been heavily involved in various aspects of residential and rural subdivision in the Central Otago and Queenstown Lakes districts, including:

(a) initial subdivision potential investigations and feasibility assessments;
(b) conceptual and detailed designs of subdivision layouts;
(c) preparation of resource consents for subdivision and associated land use;
(d) detailed designs of subdivision infrastructure, including three waters and roading/access;
(e) administration and supervision of subdivision construction projects;

(f) surveys for set-out and as-built of subdivision infrastructure and title boundaries;

(g) project management throughout full subdivision processes, from initial investigations through to issue of new titles and defects liability, including regular collaboration with other consultants.

Code of conduct for expert witnesses

2.1 While this is not an Environment Court hearing, I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023, and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise.

Summary of relief sought relevant to this evidence

2.2 The overarching relief sought (**the proposal**) is the full re-zoning of four sites (collectively, **the site**[3]) with a combined area of 24.3ha, located adjacent to the existing Pisa Moorings residential suburban township, to 16.8ha Low Density Residential zone (**LRZ**), 7.6ha Medium Density Residential zone (**MRZ**) and, within this 7.6ha area, a 1.7ha local retail/convenience commercial zone, referred to as Commercial Precinct.

2.3 The proposal is depicted on the attached "Pisa West – Structure Plan" and "Pisa West – Zoning Plan", and it is requested that these plans (or any agreed modified versions) are captured into the Proposed District Plan.

3. SCOPE OF EVIDENCE

3.1 My evidence addresses the following matters:

(a) Consideration of achievable subdivision development and timeframes.

(b) Consideration of potential water demand and wastewater flows associated with the proposed re-zoning.

[3] The site is described and depicted in the documents that were lodged as part of the original submission.

(c) A description of the existing water and wastewater services in the vicinity of the site.

(d) Discussion of the relevant key matters raised in the Council Section 42A Reports, being:

(i) Water and wastewater servicing/capacity

(ii) Future Growth Overlay

(iii) Structure Plan

3.2 I attach the following appendices to my evidence:

(a) **Appendix A**: Pisa West – Structure Plan

(b) **Appendix B**: Pisa West – Zoning Plan

3.3 In preparing this evidence, I have read and considered the following documents:

(a) The Plan Change 19 documentation including the notified text and zone maps;

(b) The Cromwell Spatial Plan;

(c) The Council Stage 1 Section 42A report on the Plan Change 19 text, prepared by Ms Liz White;

(d) The Council Stage 2 Section 42A report on the Plan Change 19 zoning, prepared by Ms Liz White;

(e) The Council Stage 2 Section 42A report on water and wastewater servicing matters, prepared by Ms Julie Muir

(f) The submission documents lodged on behalf of the Submitter

(g) The draft evidence prepared by other expert witnesses for the Stage 2 hearing of Submission #146

4. ACHIEVABLE SUBDIVISION DEVELOPMENT AND TIMEFRAMES

4.1 Based on initial concept designs, the proposed re-zoning is expected to facilitate somewhere in the vicinity of 292 residential allotments and approximately 1.2 hectares of local convenience commercial activity.[4]

4.2 The achievable timeframes for subdivision development are governed initially by the remainder of the Plan Change 19 process (notification of

[4] 1.2ha is the likely developable yield excluding road area

decisions and appeals processes), but also then by market demand, the disestablishment of the existing vineyard, orchard, packhouse and workers accommodation activities, and the typical subdivision process. On the basis of these factors, it is considered extremely unlikely that even half of the potential allotments on the site could be titled and require servicing before 2030.

4.3 Pisa Village Development Ltd developed the adjoining Pisa Village residential area over a 17-year period due to the cyclic nature of market demand, and the associated staging and financing. Similarly, staging and financing is going to be essential for a subdivision development of this nature and scale, and staging requires clarity with respect to overall zoning.

4.4 Titles for any first stage of development (say 20-40 lots) would not be expected until at least early 2026, based on a favourable zoning decision late 2023, and subsequent stages would be expected to take two to four years each, subject to market demand.

4.5 The potential yield from the portions of the site that are currently zoned residential under the Operative District Plan is calculated at approximately 35 lots based on notified PC19 zoning. This represents a theoretical one or two stages of development that is already allowed for through existing zoning, but it is acknowledged that the two areas of residential zoning are separately owned, so timeframes/processes for development would differ.

4.6 On the basis of the existing zoning, any additional development (over and above what Council should have already made some allowance for) is not expected to require servicing until 2028 at the very earliest. This brings the estimated infrastructure demand increase caused by the proposed re-zoning very close to Council's indicated timeframe for being able to service the entire development, as considered in further detail below.

5. POTENTIAL WATER DEMAND AND WASTEWATER FLOWS

5.1 As outlined above, based on initial concept designs, the proposed re-zoning is expected to facilitate somewhere in the vicinity of 292 residential allotments and approximately 1.2 hectares of local convenience

commercial activity.[5] The water demand associated with this development has been determined based on the conceptual 292 residential lots, with a theoretical additional 28 medium density residential lots over the proposed Commercial Precinct area (for the purpose of this exercise and given the uncertainty associated with this area), and the wastewater flows have been determined on this same basis, but also with a comparison for the Commercial Precinct based on an assumed medium industrial/commercial flow of 0.7 litres per second per hectare (at peak).

5.2 The domestic water demand requirements for the full development as per the re-zoning proposal are determined as follows (in accordance with Section 6.11.5 of the Council Addendum to NZS 4404:2004):

(a) Based on a daily consumption of 500 litres per person per day;
(b) with a peak day factor of 3;
(c) a peak hour factor of 5;
(d) and an average number of people per residential unit of 3;
(e) The average daily demand calculates at 480 cubic metres, being 5.6 litres per second;
(f) The peak daily demand calculates at 1140 cubic metres;
(g) Peak instantaneous demand calculates at 83.4 litres per second.

5.3 The wastewater demand requirements for the full development as per the re-zoning proposal are determined as follows (in accordance with Section 5.3.5.1 of NZS 4404:2004):

(a) Based on an average daily dry weather flow of 250 litres per person per day;
(b) with a dry weather peak day factor of 2.5;
(c) a wet weather peak factor of 2;
(d) and an average number of people per residential unit of 3;
(e) with an assumed medium water demand for commercial activity of 0.7 litres per second per hectare (at peak);
(f) The average daily dry weather flow calculates at 240 cubic metres, being 2.8 litres per second, but is decreased to 233.5 cubic metres per day and 2.7 litres per second based on 1.2 hectares of medium commercial flow;
(g) The peak daily dry weather flow calculates at 600 cubic metres, being 6.95 litres per second, but decreased to 583.8 cubic metres

[5] 1.2ha is the likely developable yield excluding road area

per day and 6.76 litres per second based on 1.2 hectares of medium commercial flow;

(h) The peak daily wet weather flow calculates at 1200 cubic metres, being 13.89 litres per second, but decreased to 1167.6 cubic metres per day and 13.52 litres per second based on 1.2 hectares of medium commercial flow.

6. EXISTING WATER AND WASTEWATER SERVICES

Water Services

6.1 The site is situated in a unique infrastructure environment, with three currently established domestic water networks immediately on, or directly adjoining the site, along with additional bore water options. The existing networks are described in Ms Muir's Section 42A report, but some further information is noted below for completeness. Without repeating information that has already been submitted (particularly in my 'Preliminary Infrastructure and Services Report'), I do consider the site to be well positioned for connectivity to, and extension of, existing water networks.

6.2 The Council owned and operated Pisa Village network is the domestic water supply for the northern portion of the Pisa residential area. This water is pumped from two large diameter bores located on the submitter's property (within the Pisa Village Development Ltd site) into a reservoir, treatment and pump station site immediately to the east. From here the water network extends to the north along Missy Crescent and Pony Court (to the north end of the Submitter's property), and to the east, right through to Arion Court at the northeast corner of Pisa Village. In recent years, this network has also been extended approximately 500 metres south from the reservoir site to service Stratford Drive properties, and it terminates near the southern end of the Submitter's property, within a few metres of the Council owned and operated Cromwell network.

6.3 The Council owned and operated Cromwell network is the primary domestic water supply for the majority of the Cromwell basin. I understand this was extended from Lowburn to Pisa Moorings in approximately 2008 for the Perriam Cove development. It was then further extended to alongside the submitter's property approximately four years ago,

particularly so that one of the submitter parties (Pisa Moorings Vineyard Ltd) could utilise this for the most recent stage of their Pisa Vineyard subdivision off Stratford Drive, but also to enable other development and the ultimate connection of the Cromwell and Pisa Village networks (which now terminate within a few metres of each other).

6.4 The Pisa Moorings Utilities Society Inc. own and operate a water scheme that generally sits in between the two aforementioned Council networks, though there is some overlap between the three networks. This private network operates at a lower pressure than the Council networks, with gravity feed from a tank farm located on the Submitter's site (in the northeast corner of the property owned by Pisa Moorings Vineyard Ltd). This tank farm is fed from a bore located at the edge of Lake Dunstan between 6 and 8 Revival Lane.

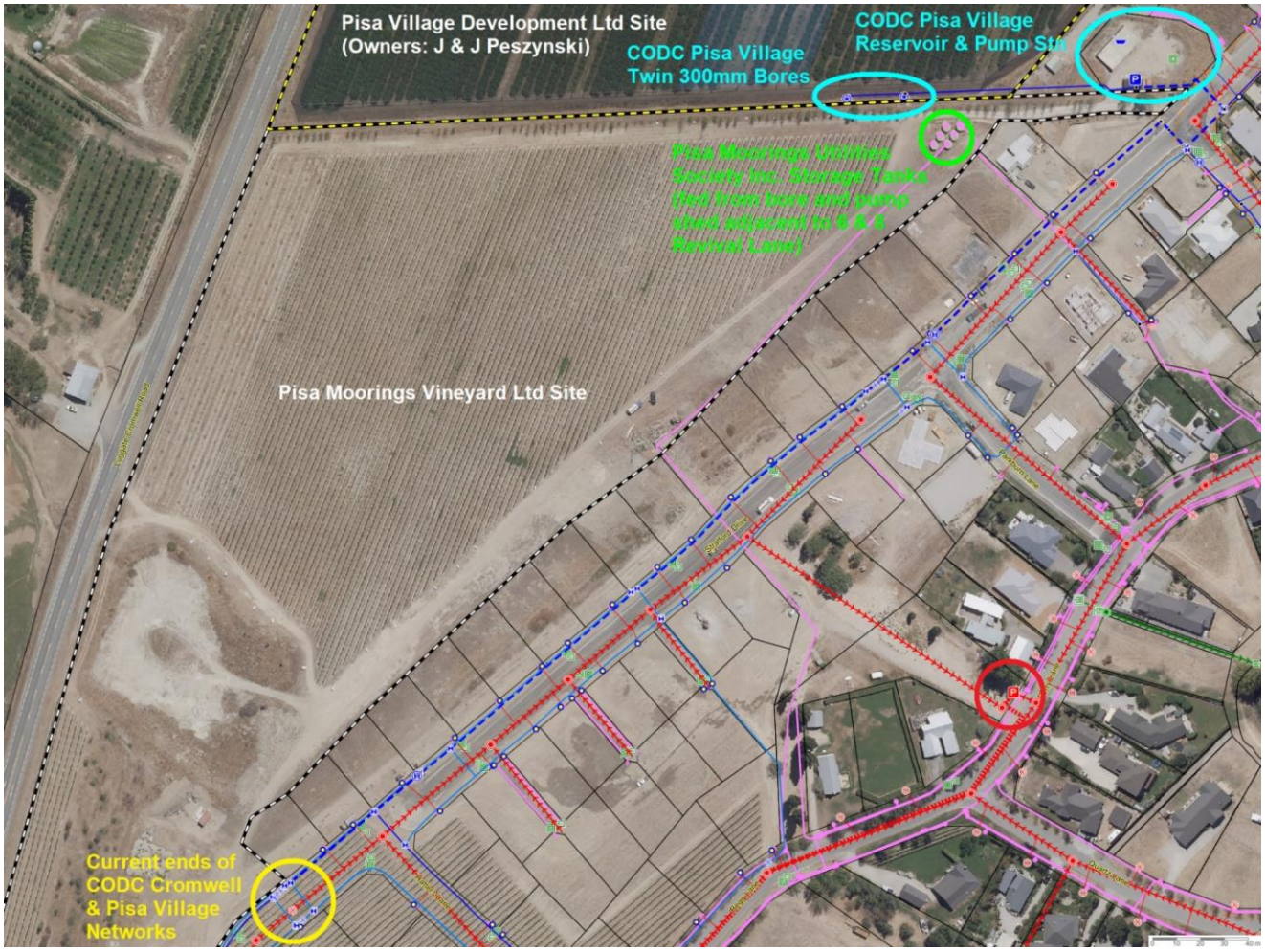


Figure 1: CODC GIS Image 1 (Showing/highlighting relevant water and wastewater services in the vicinity of the Submitter properties – adjoining Stratford Drive and Missy Crescent)

6.5 In addition to the three domestic water networks that are situated on or adjacent to the Submitter's site, there is also a large diameter private bore located near the existing packhouse at the north end of the site. This bore currently provides irrigation water for the extensive orchard on the property, but this would become redundant as portions of orchard are removed to facilitate subdivision development.

6.6 I consider that this bore could potentially be re-purposed in some way to assist with any potential domestic water network capacity shortfall, even if just as a temporary measure, and possibly even only as an irrigation water supply for new allotments. This may mitigate effects associated with peak demand during the drier summer months when Council network water may otherwise be used for extensive irrigation. It is also worth noting that, as the orchard activity is disestablished, there is also going to be a corresponding positive impact on the ground water availability from the aquifer, and the Council Pisa Village supply in particular, so I consider that this could assist with the overall management of water supply and water take consenting (through Otago Regional Council) for the area.

Figure 2: CODC GIS Image 2 (Showing existing water and wastewater services connections off the Council Pisa Village water and wastewater mains in Pony Court, for the existing packhouse and workers accommodation at the northern end of the site)

Wastewater Services

6.7 The site is well positioned to allow for gravity wastewater connections to the existing Council wastewater network. In particular, and without repeating what I have already noted in my 'Preliminary Infrastructure and Services Report', the site is elevated above the existing adjoining residential area and wastewater network, and there are multiple connection options to existing gravity mains that discharge into the Ferry Lane pump station (circled in red on Figure 1 above).

6.8 In terms of considering the wider wastewater network (and for clarification), the Ferry Lane pump station pumps wastewater into a gravity main that starts at the intersection of Pisa Moorings Road and Luggate-Cromwell Road (the State Highway intersection). This gravity main then discharges into a pump station at the southwest corner of Pisa Moorings (Perriam Cove), which pumps all Pisa Moorings wastewater to a further pump station at Lowburn. The Lowburn pump station then pumps all Pisa Moorings and Lowburn wastewater into the Cromwell gravity main network (with a manhole connection within the Council reserve/greenway adjacent to Cromwell College and the rugby/cricket grounds), and this network ultimately discharges into the Richards Beach Road treatment plant.

6.9 Whilst the existing wastewater network is consolidated with a single treatment plant for the Cromwell basin, and additional wastewater generation anywhere in the basin therefore has the potential for various downstream impacts, there are methods available for mitigating the impacts associated with additional development. These include variable control of pump station start and stop levels and, where there is available land area, for retention systems to be installed, such that flows can be controlled and sometimes delayed to avoid peak flow times.

6.10 Whilst it is important for me to note that I am not an expert in the field of wastewater network management, and I have not modelled the additional demand sought by the proposal, this would be expected as part of the subdivision process, and design and Council consultation stages of any residential subdivision of the site. However, at this rezoning stage, I

consider the site to have very few constraints from a local network wastewater servicing perspective for the reasons I explained above, summarised as follows:

(a) The site is elevated above the existing wastewater network

(b) There are multiple adjacent gravity connection options

(c) The site area is large enough that there is scope for significant retention and potentially even on-site discharge to be considered at the resource consent stage (even if these measures are only temporary, depending on timing between staging of development and the necessary Council wastewater treatment upgrades).

7. MATTERS RAISED IN THE S42A REPORT

7.1 Having reviewed the Stage 2 Section 42A Reports of Ms Liz White (planning) and Ms Muir (water and wastewater servicing), I consider the key issues raised which require further evaluation are:

(a) Water and wastewater servicing/capacity

(b) Future Growth Overlay

(c) Structure Plan

Water and wastewater Servicing/Capacity

7.2 The water and wastewater servicing/capacity matter has already been considered in this evidence, however, I will briefly address this specifically in terms of the analysis and recommendations in the Section 42A reports.

7.3 Firstly, it is evident that the Section 42A report writers support the proposed re-zoning in a general sense. They have however decided that they are unable to recommend the re-zoning at the present time due to identified water and wastewater servicing constraints. In particular, Ms Liz White noted:

"I consider that the lack of servicing available to support the zoning of this site precludes the ability to rezone it in full now, but given that these matters are expected to be resolved in time, I consider that application of a Future Growth Overlay is appropriate and would allow for infrastructure planning to be integrated with development of this site." [6]

[6] Ms Liz White, Section 42A Report [paragraph 257]

Furthermore, Ms Julie Muir noted:

"This could be serviced for water after 2029 when the Cromwell and Pisa Water schemes are combined, and a new water take consent has been approved by the Regional Council.
This could be serviced for wastewater after 2029 after nitrogen removal and increased treatment capacity has been constructed." [7]

7.4 Of particular relevance to this re-zoning proposal, it is important to recognise that, while Ms Muir's Section 42A Report identifies water and wastewater servicing constraints, these are derived from existing (and generally wider) network issues. While future development following the proposed re-zoning would increase demand on the existing networks, this increase in demand is not identified as the root cause of the identified constraints.

7.5 On the basis of the initial feedback in the Section 42A Reports, and my discussion above with respect to achievable subdivision timeframes, the determined water demand and wastewater generation, and the nature of existing water and wastewater services and site options, I do not consider that a lack of complete water and wastewater serviceability precludes the site from being re-zoned at the present time, for the following key reasons:

(a) Firstly, the achievable scale of subdivision within the timeframe that Ms Julie Muir has noted (prior to 2030) has been estimated to be no more than two full stages of development, with an approximate maximum/total number of 75 new allotments.

(b) Secondly, the average daily domestic water demand and dry weather wastewater flow from this level of development (75 allotments) has been calculated as approximately 112 cubic metres and 56 cubic metres per day respectively; based on a pro-rata adjustment of the volumes noted in paragraphs 5.2 and 5.3 above. Furthermore, it is considered that a significant portion of these volumes, based on existing residential zoning allowing approximately 35 allotments (through PC19 as notified), is reasonably expected even without the requested re-zoning. As such, it is submitted that this relatively minor increase in

[7] Ms Julie Muir, Section 42A Report [table on page 9, under paragraph 49]

demand/flow (prior to the site being considered fully serviceable) may be able to be managed within the existing infrastructure. Furthermore, the average daily demand/flow, without peaking factors, is considered most appropriate for consideration in terms of this specific assessment, particularly given that there is an opportunity for the effects of the peaking factors to be mitigated through well-considered design and consultation at the resource consent stage, and through utilising the features of the site (e.g. existing irrigation bore for peak summer irrigation use, and ample site area for wastewater retention)

(c) Thirdly, I understand, based on previous discussions with the Council Environmental Engineering department, that there is some remaining capacity in the water and wastewater networks at Pisa Moorings, however, I was also advised that this would be confirmed through modelling that was already underway. I now understand, through Ms Muir's Section 42A Report, that the base models are expected to be completed this June (2023) for water, and in 2024 for wastewater, so I do not consider it appropriate to reject the requested re-zoning on the basis of a lack of servicing whilst the results of this modelling are uncertain. This is particularly important given that Plan Change 19, as notified, does not identify any increase in demand through infill development at Pisa Moorings.

(d) Importantly, allowing the re-zoning now will provide a level of certainty for Council in terms of infrastructure planning and funding, adjustments to its Long Term Plan, including potential requests to central government or new water entities established through the currently uncertain reform.

(e) Lastly, and perhaps most importantly, Council have the ability to control the nature and scale of subdivision, and the associated servicing requirements, at the resource consent stage, particularly through the associated discretionary assessment matters, such as those referenced below, which were notified as part of the Plan Change 19 text under proposed Rule SUB-R4:

"2. The provision of adequate network utility services (given the intended use of the subdivision) including the location, design and construction of these services.

3. The ability to lawfully dispose of wastewater and stormwater."

Council also have the opportunity to establish developer agreements, and to levy development contributions, through a resource consent process, and these mechanisms can certainly be useful for establishing timeframes or temporary arrangements, as well as for securing developer funding where appropriate.

Future Growth Overlay

7.6 From a subdivision and infrastructure development perspective, my opinion is that the proposed Future Growth Overlay (FGO) is an ineffective method for controlling zoning and related development and sequencing when it comes 'on-line' for subdivision and development. The main reason for this (other than the fact that it will trigger the need for an additional and uncertain future private plan change process) is that it provides no certainty for the landowners with respect to their ability to develop the properties; particularly in terms of timeframes or suitable levels of investment. This applies equally to horticultural and viticultural development and associated activity (i.e. packhouse and/or seasonal workers accommodation expansion) as it does to potential for residential or commercial subdivision development.

7.7 On the basis of the above, with the clear intent signalled by the Council Section 42A report writers that the site is appropriate for residential development, and the above assessment related to achievable residential development timeframes and water and wastewater servicing matters, I submit that it is most appropriate to apply the requested zoning to the site as part of this Plan Change 19 process. This will allow the submitter parties and Council to work together through resource consent processes to plan the development of the site, to manage servicing and funding efficiently (through developer investment, development contributions, and potentially through developer agreements), and to allow for staging in manner that Council can manage and be comfortable with.

Structure Plan

7.8 The Section 42A report prepared by Ms Liz White recommends that the Structure Plan be accepted and inserted into the District Plan, subject to a number of updates.

7.9 With the exception of the recommended removal of the "Convenience Retail and Mixed Use (CRMU)" area, all other recommended updates have been made to the Structure Plan. At the request of the submitter, and on the advice of Mr Barr, the "Convenience Retail and Mixed Use (CRMU)" area has been retained on the plan, but this has been renamed to "Commercial Precinct" to better align with National Planning Standards.

7.10 In addition to the recommended Structure Plan updates, a few additional updates have also been made, as noted below:

(a) The Structure Plan has been given a title ("Pisa West – Structure Plan) and an approximate scale has been added to the plan face given that the title block (with title and scale) has been removed.

(b) The existing Operative District Plan Scheduled Activity (127) at the southern end of the site has been shown.

(c) Upon further recommendation by Ms Bridget Gilbert (landscape expert witness), a note has been added to the face of the Structure Plan, such that "Designers of dwellings within this Structure Plan area are encouraged to specify roofs to have a light reflectance value not greater than 30% to ensure buildings are not prominent in views from the wider rural area."

7.11 For completeness, similar updates have also been made to the zoning plan, and these plans are attached as:

Appendix A: Pisa West – Structure Plan

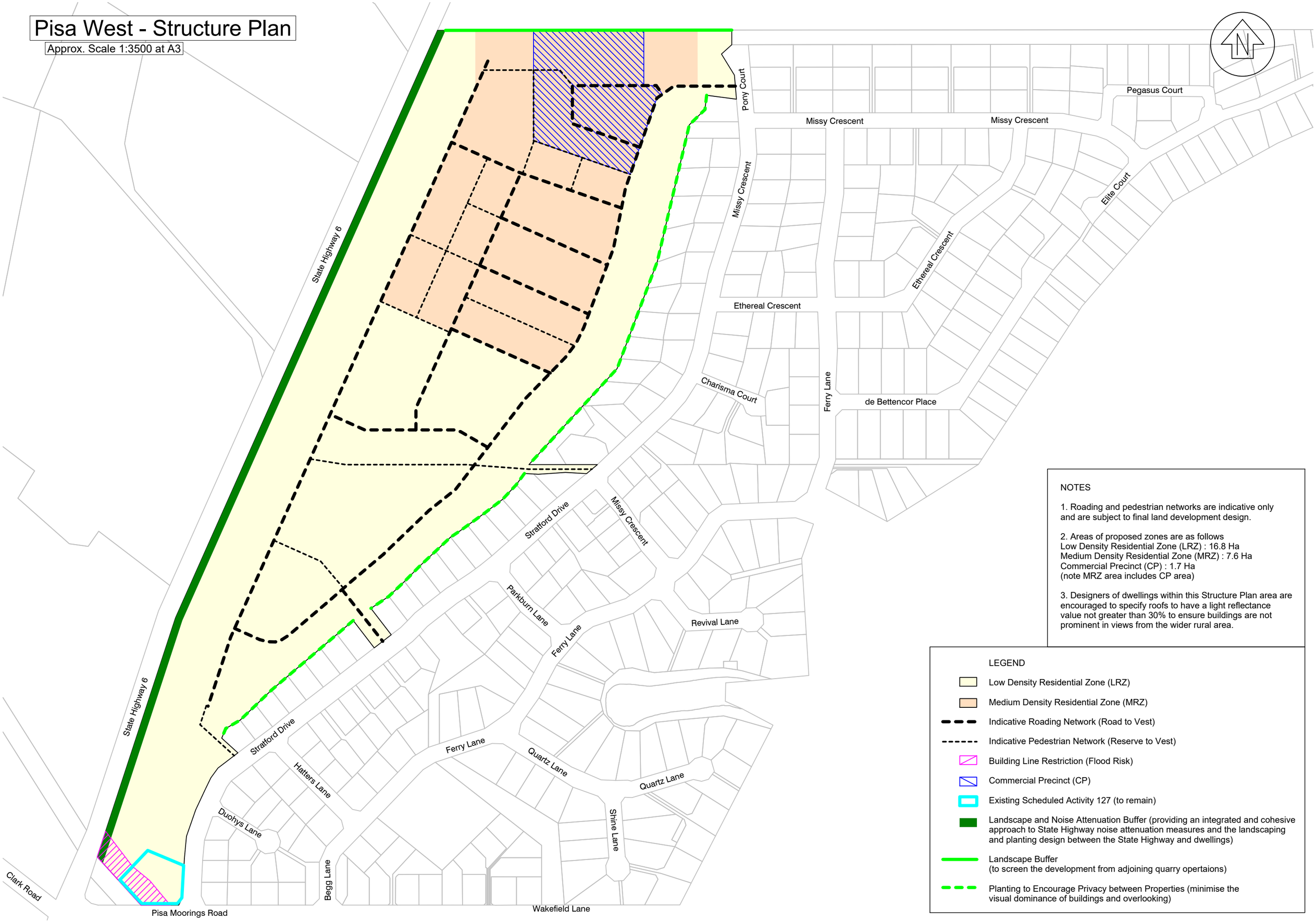
Appendix B: Pisa West – Zoning Plan

Campbell Hills

16 May 2023

Pisa West - Structure Plan

Approx. Scale 1:3500 at A3



NOTES

1. Roading and pedestrian networks are indicative only and are subject to final land development design.

2. Areas of proposed zones are as follows
Low Density Residential Zone (LRZ) : 16.8 Ha
Medium Density Residential Zone (MRZ) : 7.6 Ha
Commercial Precinct (CP) : 1.7 Ha
(note MRZ area includes CP area)

3. Designers of dwellings within this Structure Plan area are encouraged to specify roofs to have a light reflectance value not greater than 30% to ensure buildings are not prominent in views from the wider rural area.

LEGEND

- Low Density Residential Zone (LRZ)
- Medium Density Residential Zone (MRZ)
- Indicative Roading Network (Road to Vest)
- Indicative Pedestrian Network (Reserve to Vest)
- Building Line Restriction (Flood Risk)
- Commercial Precinct (CP)
- Existing Scheduled Activity 127 (to remain)
- Landscape and Noise Attenuation Buffer (providing an integrated and cohesive approach to State Highway noise attenuation measures and the landscaping and planting design between the State Highway and dwellings)
- Landscape Buffer (to screen the development from adjoining quarry opertaions)
- Planting to Encourage Privacy between Properties (minimise the visual dominance of buildings and overlooking)

Pisa West - Zoning Plan

Approx. Scale 1:3500 at A3

Extent of existing RRA(3) zone within the site

Commercial Precinct (CP)

Medium Density Residential Zone (MRZ)

Low Density Residential Zone (LRZ)

Extent of existing RRA(13) zone within the site

Existing Scheduled Activity 127 (to remain)

State Highway 6

Pony Court

Missy Crescent

Missy Crescent

Missy Crescent

Pegasus Court

Elite Court

Ethereal Crescent

Ethereal Crescent

Charisma Court

Ferry Lane

de Bettencor Place

Stratford Drive

Missy Crescent

Parkburn Lane

Ferry Lane

Revival Lane

Stratford Drive

Ferry Lane

Quartz Lane

Quartz Lane

Hatters Lane

Duohys Lane

Shine Lane

Begg Lane

Clark Road

Pisa Moorings Road

Wakefield Lane