

TO: Variation 3 Team, City Development

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DATE: 4th August 2023

SUBJECT: **3 WATERS COMMENTS ON 2GP VARIATION 3 – MINOR IMPROVEMENTS
CHANGE PROPOSALS**

Introduction

1. This memorandum contains 3 Waters comments on change proposals included in Variation 3 – Minor Improvements which have potential 3 Waters implications. The comments provided respond to the various requests sent to us by staff working on the Variation 3 project and are given under headings for each change proposal in alphanumeric order.

Change CP8 – Shape performance standards for subdivision

2. Part of the purpose of Change CP8 is to clarify whether the shape performance standards across the Plan should be amended to apply to resultant sites that contain existing development (not just to sites that are “intended to be developed”).
3. At the time of subdivision, the shape performance standards (e.g. Rule 15.7.6) are intended to ensure that resultant sites are of a size and shape that ensure the Plan’s performance standards can be met. This includes development performance standards such as maximum impermeable surfaces.
4. The issue of concern is that the shape performance standards only apply to resultant sites that are “intended to be developed”. However, some resultant sites can contain existing development that would not comply with the development performance standards if it was built after the subdivision, because of the size of the resultant site and/or the location of the new boundaries. Without the shape performance standard, the development performance standards only apply where new development activity is occurring, not where just subdivision is occurring.
5. 3 Waters have been asked to comment on whether it is appropriate to apply the development performance standard for maximum impermeable surfaces to existing development at the time of subdivision to ensure that effects on the efficiency and affordability of 3 Waters infrastructure are appropriately managed and to outline what issues arise under the status quo.
6. It is understood the intent here is to change the performance standard so it applies to the existing development (on the resultant site) at the time of subdivision, and to explicitly list that compliance with the impermeable surfaces limit is required.

7. 3 Waters agrees where subdivision occurs that creates a resultant site with existing development, that site should meet the development performance standard for maximum impermeable surface limits. By doing so, this will help mitigate the following - flood risk, the effects of stormwater, and effects on the efficiency and affordability of infrastructure.
8. 3 Waters supports this change.

Change NU2 – Earthworks setbacks from network utilities

9. The purpose of Change NU2 is to review the appropriateness of the 2GP setback rule for earthworks near network utilities (Rule 5.6.2) in relation to the minimum distance required between earthworks and underground network utility structures.
10. The key issue is that resource consents are now often required for new or upgraded vehicle crossings, which often cross network utilities buried below. Other situations may also occur given the broad definition of earthworks in the 2GP and the depths at which network utilities occur compared to the setbacks required.
11. There is an opportunity to consider better targeting the rule so that consents are only required in cases where effects on network utilities may be unacceptable and require assessment.
12. We have been asked to comment on what type of exception would be acceptable to 3 Waters to ensure that resource consents are not unnecessarily required for smaller scale earthworks.
13. Rule 5.6.2 is concerned with setback distances from network utilities and specifically for 3 Waters the rule states earthworks must be set back at least 2.5 meters from any water mains. It should be noted in relation to vehicle crossings, 3 Waters interests are concerned with depth rather than setbacks.
14. Overall, 3 Waters is comfortable if Rule 5.6.2.1 changes and the current setbacks are modified so that vehicle crossings have an exception, however, given our concern regarding earthworks' depth, we would prefer the inclusion of a set minimum depth of cover of no less than 750mm at the end of all works (which is the substrate above the pipe) or equal to the existing depth of the network utility structures, if they are located less than 750mm in depth prior to the commencement of earthworks in relation to 3 Waters infrastructure.
15. Moreover, Rule 5.6.2 refers to earthworks that must be set back at least 2.5m from any water mains and 1.5m from other network utilities. Given it is not the type of 3 Waters infrastructure that requires different setback distances, rather it is the depth and size of any 3 Waters pipe, we recommend the following criteria that would allow earthworks near 3 Waters infrastructure:
 - Minimum 1.5m setback from all 3 Waters' networks, and
 - At completion of the earthworks, the minimum depth below finished ground level will be the lesser of:
 - a. 750mm; or
 - b. equal to the existing depth of the network utility structures prior to the commencement of earthworks.
16. 3 Waters envisages that in situations where the above criteria are not met the activity would become restricted discretionary to enable a consenting process to decide what would be appropriate.

Change PHS1 – Amend Rule 9.3.3 Firefighting

17. The purpose of Change PHS1 is to review the appropriateness of Rule 9.3.3, which relates to water supplies and fire engine access for firefighting, and associated provisions, in terms of achieving Objective 9.2.2 on maintaining or enhancing people's health and safety.
18. Several key issues have been identified with the current rule including:
 - a. The acceptable solution outlined in Rule 9.3.3.2 does not include all important design requirements from SNZ/PAS 4509:2008 (e.g., water flow, connections, hardstand areas and the need for firefighting water supply to be additional to potable water);
 - b. Alternative acceptable solutions such as sprinklered systems are not detailed in the rule;
 - c. The rule is not sufficiently certain for a permitted activity standard because it relies on the discretion and verification of a third party to confirm compliance with SNZ/PAS 4509:2008 where alternative solutions are proposed; and
 - d. The rule applies to subdivision even though development may not occur at the time of subdivision.
19. 3 Waters has been asked to comment on the following matters:
 - a. Whether it is acceptable to remove application of Rule 9.3.3 to subdivision;
 - b. Whether any requirements to install water supplies and fire hydrants at the time of subdivision can already be imposed under Council's discretion to consider 'effects on the efficiency and affordability of infrastructure' which applies to all subdivision or a new matter of discretion for 'effects on public health and safety'; and
 - c. Any other comments about the appropriateness of Rule 9.3.3 with respect to any involvement that DCC 3 Waters might usually have in providing comment on relevant resource consent applications.
20. 3 Waters understands the issues that Rule 9.3.3.1 currently creates for subdivision, namely asking applicants to provide firefighting infrastructure on an un-serviced lot when there is no development to protect at that time. 3 Waters agrees it is acceptable to remove this rule to alleviate this issue.
21. Currently the matters of discretion (9.6.2.Z) that are available to 3 Water to assess a subdivision consent where 'effects on the efficiency and affordability of infrastructure' are to be considered, do not provide the opportunity for comments on firefighting requirements.
22. If, however, Rule 9.6.2 (Assessment of restricted discretionary activities) is amended to add "Effects on health and safety" as per City Development's draft proposal, then 3 Waters believe the General assessment guidance will provide reasonable opportunity for 3 Waters to consider whether new fire hydrants need to be provided at the time of subdivision in areas where DCC provides access, or intends to provide access, to the public water supply network (new clause iii.). For areas where DCC does not provide access to the public water supply network, 3 Waters will not comment in this situation as the proposed subdivision is not connected to the 3 Waters network (new clause iv.).
23. Given the above, 3 Waters supports the deletion of 9.3.3.1 if the addition of 9.6.2.X Subdivision activities that may result in new residential buildings - Matters of Discretion –a. Effects of Health and Safety and its associated General Assessment Guidance are provided.

24. With regard to the proposed amendment to Rule 9.3.3.2 it is 3 Waters understanding that this amended rule will provide a more thorough reference to the requirements of SNZ/PAS 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice (the Code) which is welcomed. Further, it is our understanding that it will be the applicant, the consent planners and FENZ who will determine whether the rule will be complied with rather than 3 Waters.

Change Rec1 – Managing 3 Waters effects of campgrounds and visitor accommodation

25. The purpose of Change Rec1 is to review:

- a. whether effects on the efficiency and affordability of infrastructure should be managed for restricted discretionary campgrounds in the Recreation Zone; and
- b. whether there is adequate assessment guidance for considering the stormwater effects of restricted discretionary visitor accommodation in residential zones.

26. 3 Waters has been asked to provide comments on the following matters:

- a. The extent to which Recreation zoned land is within areas serviced with 3 Waters infrastructure;
- b. Whether campgrounds in the Recreation Zone have the potential to have adverse effects on the efficiency and affordability of 3 Waters infrastructure, including any potential effects in unserved areas;
- c. Whether it is appropriate to enable effects on 3 Waters infrastructure to be managed for campgrounds in the Recreation Zone.

27. Campgrounds (which are a subcategory of Visitor Accommodation) are a Restricted Discretionary (RD) activity in the 2GP in the Recreation Zone. It is 3 Waters understanding that the only “gap” that exists when considering effects of 3 Waters infrastructure is in the Matters of Discretion assessment for campgrounds in the Recreation Zone.

28. There is currently a mixture of Recreation zoned land that is both inside and outside the 3 Waters water supply boundary. Given campgrounds are non-domestic in purpose, according to the DCC Water Bylaw they would require water for an extraordinary supply. This means that Recreation zoned land either inside or outside of the water supply boundary would not, as of right, be able to connect to 3 Waters services. Any application for services to a campground would be an ‘extraordinary connection’ and would be considered on a case-by-case basis. Approval by Council is required for extraordinary connections.

29. With regard to wastewater and stormwater, campgrounds in the recreation zone would have an impact on 3 Waters wastewater and stormwater infrastructure. The effects of this activity, especially with regard to the capacity of both the wastewater and stormwater networks and any associated plants, would need to be considered for all applications.

30. 3 Waters supports the inclusion of managing the effects on 3 Waters infrastructure in the Matters of Discretion for campgrounds in the Recreation zone. It is our view that this approach is appropriate to enable potential adverse effects to be managed.

Change Res13 – Stormwater open watercourse setbacks

31. The purpose of Change Res13 is to review:

- a. whether the provisions for the management of stormwater open watercourses, which currently apply only in the new areas of the General Residential 2 (GR2) Zone that

were added by Variation 2 to the 2GP, should be extended to other areas that contain these watercourses;

- b. whether any modifications to the stormwater open watercourse setback requirements are needed;
- c. the matters of discretion that apply to contraventions of Rule 10.3.3.X, which requires a minimum setback from stormwater open watercourse mapped areas; and
- d. whether the provisions for Rule 10.3.3 Setback from Coast and Water Bodies should apply to the Mercy Hospital Zone.

32. For context, the relevant changes made by the first decision on Variation 2 were:

- a. Addition of a definition of stormwater open watercourse;
- b. Addition of new Policy 9.2.1.4B, which reads:
Only allow development activities adjacent to stormwater open watercourses where it will not compromise the current or planned capacity of the stormwater infrastructure.
- c. Addition of a 5m setback requirement from the stormwater open watercourse mapped area to Rule 10.3.3;
- d. Addition of an assessment rule at Rule 9.5.3.AB with a link from assessment Rule 15.10.6.AA; and
- e. Addition of a new stormwater open watercourse mapped area to the planning maps in new areas of General Residential 2 Zone added by Variation 2.

33. 3 Waters has been asked to comment on the following matters for consideration as part of Variation 3:

- a. Whether it is appropriate to extend the stormwater open watercourse mapped area method as part of Variation 3 and, if so, to which zones or parts of the city;
- b. To confirm whether the mapping of watercourses in the DCC Water Services Map is appropriate to use in the 2GP planning maps for the purposes of this method.

34. 3 Waters supports extension of the stormwater open watercourse mapped area method as part of Variation 3.

35. This should be extended to all zones and parts of the city where mapping is available. Setback is required to provide space for watercourses to maintain flow in a range of rainfall conditions. Setbacks help to ensure that watercourses have sufficient capacity, risks of unintended restrictions to flow are minimised and valuable infrastructure, dwellings, businesses etc. are not located in close proximity to watercourses, where they may have increased risk of damage or failure. These are important factors in all zones and parts of the city.

36. 3 Waters recommends that setback requirements differ between rural and urban areas. It is suggested that in rural areas setback is 20m with 5m setback in all other areas. A 20m setback in rural areas provides ample setback for the watercourse under a variety of flow conditions without significant disruption to existing development activities in the rural zone. Where a 20m setback can be achieved, specific infrastructure is then not required, making a 20m setback very efficient and affordable in relation to infrastructure. A 20m setback is considered to be too restrictive to development in urban areas, which tend to have more developed infrastructure, including buildings, roads, and utilities, which can limit the available space for setback areas. A 5m setback

here is considered to provide a reasonable degree of risk mitigation without placing undue restrictions on urban development.

37. Exceptions to the rule for some small structures, such as fences and small sheds, are acceptable. Although they could restrict the flow of water, they are relatively low-value and are more easily replaced after a flood event than other types of structures or buildings.
38. Although there are known deficiencies in the mapping of watercourses in the DCC Water Services Map, it is currently the best information available and is appropriate for the purposes of the setback method. This mapping is based on original as-built plans which date back to when the first piped drainage infrastructure (piped watercourses, DCC stormwater, wastewater and water supply network) was installed in the city and since then. Where open watercourses were identified during the process of design and installation of infrastructure, these have been identified on the historical plans and subsequently captured in GIS information. Mapping of watercourses in the DCC Water Services Map, will be updated as and when new information becomes available.

Change Res20 – Allowing 3 Waters agreements for RTZ transition

39. The purpose of Change Res20 is to review whether to amend Rule 12.3.1 on the release of land in the residential transition overlay zone (RTZ) to enable agreement between the DCC and the developer on 3 Waters infrastructure as an option to enable transition.
40. The scope of the change does not include review of any other parts of Rule 12.3.1 or rezoning or transitioning any existing or new RTZ land.
41. 3 Waters has been asked to comment on the suitability of providing for agreement between the DCC and the developer as an option for the release of RTZ land.
42. 3 Waters understands that the intended change to Rule 12.3.1 would be to include a similar clause to Rule 12.3.1.2.b, which is for transport infrastructure to enable the early release of land, which reads:

“b. An agreement between the DCC and the developer on the method, timing and funding of any necessary transportation infrastructure is in place.”

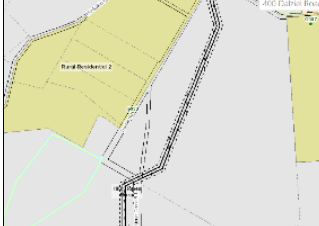
43. It is 3 Waters understanding that, in order for RTZs to be lifted earlier a Private Development Agreement (PDA) could be used as a mechanism for a developer when their proposed development requires strategic infrastructure within a timeframe that is not aligned with Councils infrastructure plans, or if the infrastructure the proposed development needs is different than that contemplated in Council’s 10-year Plan or has not been identified in the 10-year Plan.
44. In establishing a PDA the developer will be expected by the DCC to provide supporting information and detailed calculations of their development’s water supply and wastewater demands in terms of units of demand.
45. Infrastructure provision or upgrades that are to be met by the developer would be stipulated by Council in relation to the development and detailed in the PDA – it would be registered on the title and lodged against the property and registered on file at Council.
46. If an additional clause was included in Rule 12.3.1 that would enable the early lifting of RTZ land, a PDA (where specific requirements are met for 3 Waters infrastructure) could be an appropriate way of managing this. Alternatively, the existing Rule 12.3.1.2.b could be expanded to include 3 Waters infrastructure.

47. If a new rule is added, 3 Waters would appreciate “tighter” wording than what currently exists for the equivalent transport clause. The term “agreement” is too vague and should be more specific (e.g. Private Development Agreement).

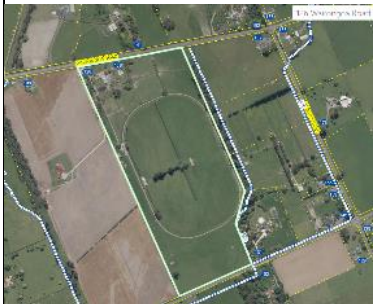
Change Tree2 – Correct mapping of existing scheduled tree groups and associated changes

48. The purpose of Change Tree2 is to correct and clarify the scheduled tree groups in the 2GP to ensure all are accurately mapped and listed.
49. The change includes updating information in the schedule of trees based on site visits and reassessing whether tree groups should remain scheduled and to what extent where the number of trees in the group has changed or where some trees in the group are unhealthy or present a risk according to the criteria set out in Policy 2.4.1.2.
50. To assess whether the nominated trees meet the criteria listed under Policy 2.4.1.2, they are required to be assessed regarding their potential risk to safety and potential to damage existing infrastructure, including 3 Waters infrastructure.
51. 3 Waters has been asked to confirm if the nominated tree groups—either the whole group or any specific tree(s) within them—are appropriate to be scheduled by ensuring that their ongoing effects on the 3 Waters assets are acceptable. Our feedback is summarised in Table 1.

Table 1: Assessment of existing tree groups’ potential to damage 3 Waters infrastructure

Tree ID	Address	Acceptable?	Comment	Associated Photos
G018	35 Braeside Mosgiel	No	There is water supply line within the canopy of the trees. There is also a Stormwater drain pipe that runs through the property.	 
G033	R Dalziel Road Dunedin	Yes	The location is in a rural zone. 3 waters do not service this area.	 

Tree ID	Address	Acceptable?	Comment	Associated Photos
G035	186 Doctors Point Road Waitati	Yes	The highlighted tree is 8-9m away from the water supply pipeline	 
G063	103 Maryhill Terrace Dunedin	Yes	The closest 3 waters wastewater and water supply pipe is at least ~20m away.	 
G073	1 - 73 Buccleugh Street Dunedin	No	To note there is a Stormwater pipe within 8m of the tree canopy. There is also an open course stormwater channel on the west side of the tree location.	 

Tree ID	Address	Acceptable?	Comment	Associated Photos
G102	126 Wairongoa Road North Taieri	Yes	The area is out of 3 waters serviced area. In addition, ORC drains are outside of the property area.	 

Change TreeX – Substantive Changes to the Schedule of Trees

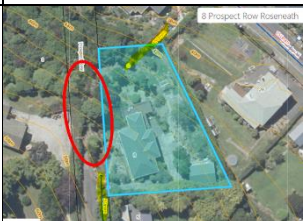
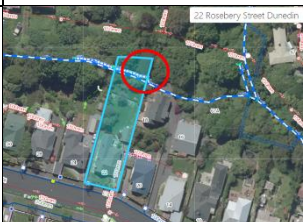
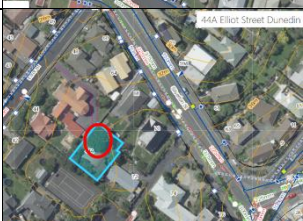
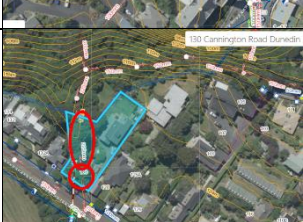
52. The purpose of Change TreeX is to add trees to the Schedule of Trees in Appendix A1.3 of the Plan as well as the planning map where they have been assessed as meeting the criteria set out in Policy 2.4.1.2.
53. To assess whether the nominated trees meet the criteria listed under Policy 2.4.1.2, they are required to be assessed regarding their potential risk to safety and potential to damage existing infrastructure, including 3 Waters infrastructure.
54. 3 Waters has been asked to confirm if the nominated trees are appropriate to be scheduled by ensuring that their ongoing effects on the 3 Waters assets are acceptable. Our feedback is summarised in Table 2.

Table 2: Assessment of nominated trees' potential to damage 3 Waters infrastructure

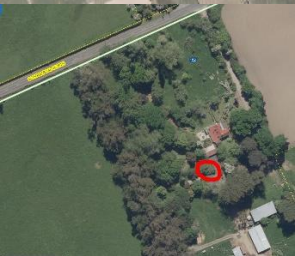
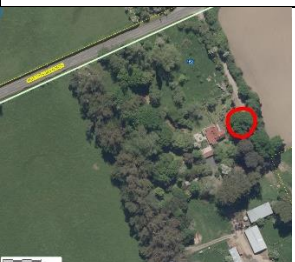
Tree ID (Final ID in brackets for proposed trees)	Address	Acceptable?	Comment	Associated Photos
TreeX1	27 Northfield Avenue Opoho	Yes (At the limit)	Tree at the front of the property. Water Supply (WS) is located at the front, approx. 3.5m away. Wastewater (WW) and Stormwater (SW) is located at the rear of the property.	

Tree ID (Final ID in brackets for proposed trees)	Address	Acceptable?	Comment	Associated Photos
TreeX2	174 Signal Hill Road Opoho	No	The tree is located at the back of the property. Wastewater & Stormwater pipes are located at the back of property. These pipes are approximately 2m away from the dripline. The pipes are in the property of 16 Northfield Ave. Note: Water Supply is located at the front of the property.	
TreeX4A (TX004) & TreeX4B	21 Driver Street Long Beach	Yes	3 Waters do not service this area. All WS / WW water services are tanked.	
TreeX6	88 Warrender Street North Dunedin	Yes	If it is the tree off Lachlan Ave/front of the site then ok as there are no 3 water services near.	
TreeX9	Fairfield Tavern Reserve - Behind 12 St James Place Fairfield	Yes, to top half & No to bottom half	Bottom half (blue) is a Stormwater Reserve.	

Tree ID (Final ID in brackets for proposed trees)	Address	Acceptable?	Comment	Associated Photos
TreeX10	9 Moerangi Street Broad Bay	Yes	-	
TreeX13 (TX002)	27A Riccarton Road East, East Taieri, Mosgiel	Yes	Providing the tree is located within the red circle area, as highlighted.	
TreeX14 (TX005)	6 Gamma Street Belleknoves	Yes - Providing it's the tree that is highlighted	It is 4.5m away from a disused water supply pipe (assumed 150mm)	
TreeX15	9 Victory Place Port Chalmers (towards the right front corner)	Yes - Providing it is the tree in highlighted red circle	There is a wastewater main and stormwater main running down the left- hand side of the property. Approx. 8m away.	
TreeX16	6 Eventide Lane Company Bay	Yes	-	
TreeX20	8 Fea Street Dalmore (Next to boundary of 16 Fea St)	Yes	-	
TreeX21	208 Elgin Road Balaclava	No	Next to wastewater connection point	

Tree ID (Final ID in brackets for proposed trees)	Address	Acceptable?	Comment	Associated Photos
TreeX22A	8 Prospect Row Roseneath (Pohutukawa)	Yes (Trees within road corridor, as highlighted in red circle)	Trees in the paper road, in a public access way. Note: There is a wastewater pipe within the property located at the back. Also, a water supply runs up the road corridor that feeds No. 8 Prospect Row.	
TreeX22B	8 Prospect Row Roseneath (Pittosporum)	Yes (trees within road corridor, as highlighted in the red circle)	Trees in the paper road, in a public access way. Note: There is a wastewater pipe within the property located at the back. Also, a water supply runs up the road corridor that feeds No. 8 Prospect Row.	
TreeX23	22 Rosebery Street Belleknowes	No	Too close to Stormwater, piped and overland water course.	
TreeX28 (TX006)	44A Elliot Street Andersons Bay	Yes	-	
TreeX29	130 Cannington Road Maori Hill (frontage of the site and front yard)	No	Wastewater pipe runs straight through. Stormwater pipe located at front of property.	

Tree ID (Final ID in brackets for proposed trees)	Address	Acceptable?	Comment	Associated Photos
TreeX30A	34 North Road North East Valley (Group of six Copper Beech)	Yes	Water supply is approx. 4 to 5m to the corner of the trees. Refer to the additional image. Within the easements requirements.	 
TreeX30B (TX001)	34 North Road North East Valley (Spreading Elm)	Yes	The tree is close to the wastewater main on the road, approx. 6m to the edge/dripline of the tree and 13m to the centre. There is another wastewater main that is approx. 8m away.	
TreeX31 (TX003)	27 Helensburgh Road Wakari (next to the northern boundary)	Yes	There are no 3 water services close to the tree.	
TreeX32	27 Lundie Street Kaikorai Valley	Yes	There are no 3 water services within the boundary. However, there are water supply connections at the front of the property. The water supply pipes are approx. 4m – 7m away.	

Tree ID (Final ID in brackets for proposed trees)	Address	Acceptable?	Comment	Associated Photos
TreeX33	505 Great King Street North Dunedin (next to entrance & garage)	No	There is a water supply and wastewater pipe that are too close and under the canopy of the tree.	
G106 (G106)	98 Woodside Road Outram	Yes	The area is out of 3 waters serviced area. In addition, ORC drains approximately 0.8km away.	 
T117 (T117)	152 School Road Nth North Taieri	Yes, as the area is out of 3 waters serviced area.	-	
T118 (T118)	152 School Road Nth North Taieri	Yes	ORC drain, runs through property, however, the nominated tree is approximately, ~18m away	 
T119 (T119)	152 School Road Nth North Taieri	Yes	-	

Zoning – ‘Z’ and ‘CZ’ Changes

We have been asked to provide comments on each of the proposed rezoning areas where development potential will increase, regarding whether effects on the efficiency and affordability of 3 waters infrastructure are acceptable. Our comments are summarised in tables 3 and 4 below.

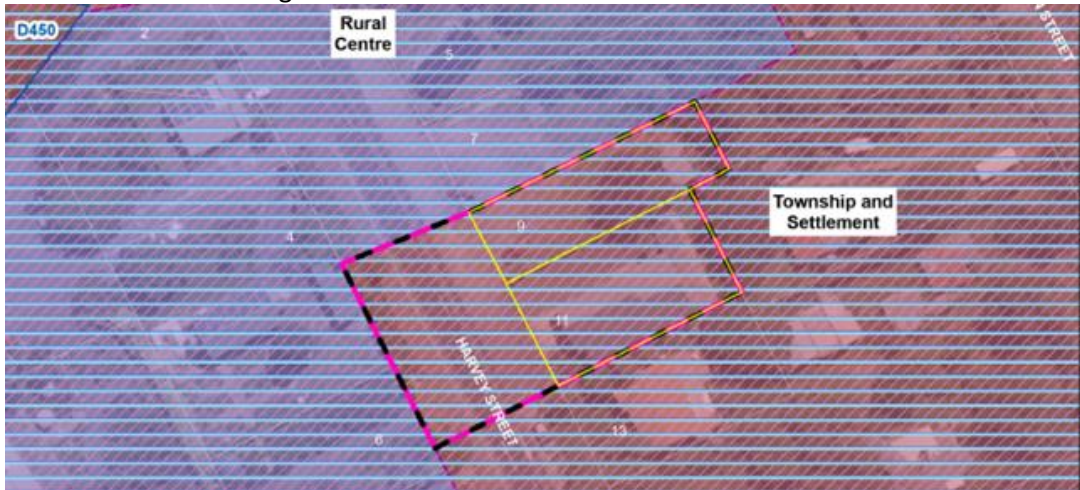
Table 3: 3W assessment of 3 waters effects from potential residential rezoning sites

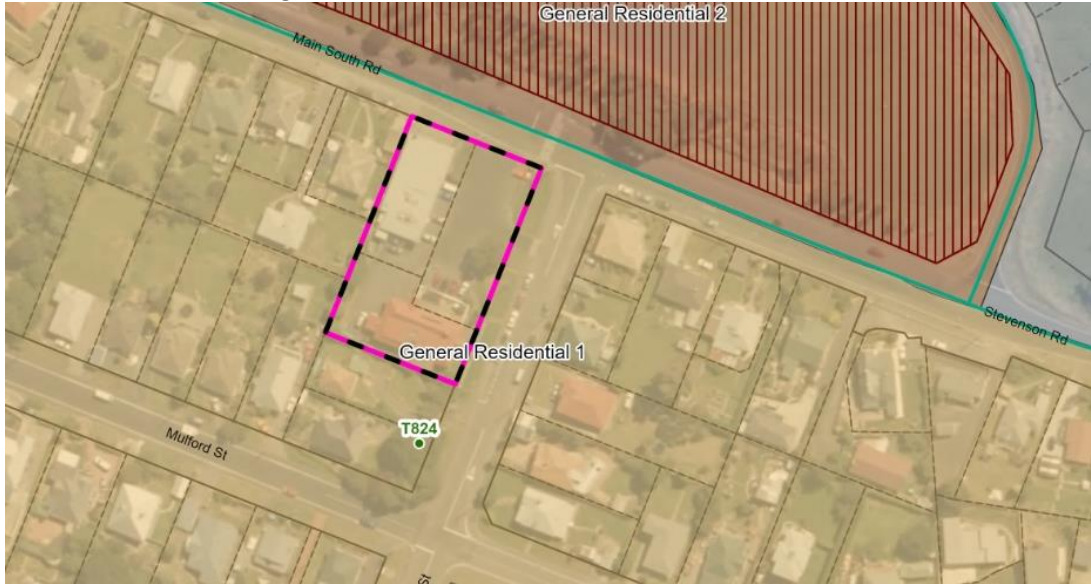
Change ID	Address	Existing zone	Potential zone	Acceptable?	3W Comments
GOING TO RESIDENTIAL ZONES					
Z1	1A and 15 Conway St, Macandrew Bay	Hill Slopes Rural	T&S	Yes 3 Waters would want to see that the riparian planting that has been undertaken by DCC on part of the site is maintained and not removed.	Water Supply - There are known issues meeting water supply demand on the peninsula in summer. However, upgrade projects are in design stage and funding is included in the 2021-31 Ten-Year Plan. The potential impact of the proposal on the water supply network is considered to be minimal and acceptable. Wastewater – there are some issues with the wastewater network in wet weather. The network model lacks detail on the peninsula. The potential impact of the proposal on the wastewater network is considered to be minimal and acceptable. Stormwater - Known downstream issues that have affected MacAndrew Bay School in the past. As part of flood mitigation DCC has undertaken riparian planting on a watercourse running through the site. 3 Waters are comfortable that District Plan Policy and Rules can mitigate any potential impacts of intensification on the site but we would want to see the planting that has been undertaken to be maintained and not removed.
Z7	32-34 Manuka St, 30 Rimu St, part of 11A Matai St, Ravensbourne	Hill Slopes Rural	GR1	No 3 Waters preference is for only: 32 Manuka Street	Water Supply - Moderate upstream network upgrades are required. Given existing use at the site, the potential impact of the proposal on the water supply network is considered to be minimal. Wastewater - there are some issues with the wastewater network in wet weather. The network model lacks detail in West Harbour. While the potential impact of the proposal on the wastewater network is considered to be minimal 3 Waters does not support extension of the GR1 zone into undeveloped areas of the two properties.

Change ID	Address	Existing zone	Potential zone	Acceptable?	3W Comments
				- Part of 34 Manuka Street (Lot 20 Blk II DP 37) to be rezoned. None of: 30 Rimu Street - Part of 11A Matai Street	Stormwater – there are no known or modelled issues in the immediate area however there is modelled flood hazard downstream of the sites. 3 Waters does not support extension of the GR1 zone into undeveloped areas of the two properties.
Z10	4, 12, & 15 Elsie Purnell Place and 56, 58 and 59 Heathfield Drv	GR1/LDR	GR1 or LDR	Yes, with conditions. The following as LDR: 4, 12, 15 Elsie Purnell Place 59 Heathfield Drv The following as GR1: 56, 58 Heathfield Drv	Water Supply - There are known issues due to current supply constraints to Mosgiel in peak summer demand periods. However, upgrade projects are in design stage and funding is included in the 2021-31 Ten-Year Plan. Significant upstream network upgrades required and will be medium term timeframe to resolve. Wastewater - Flows go to Green Island WWTP. Significant downstream network upgrades required as the network and treatment plants have issues in wet weather events. Medium to long term to resolve. Stormwater - The sites currently discharge via DCC piped network into a mixture of DCC open watercourses and private piped watercourses before discharge into ORC Schedule Drains (O5, also known as Quarry Creek) Creek which eventually joins the Owhiro Stream (O Drain) and Taieri River. Quarry Creek and the Owhiro Stream have capacity issues in rainfall events when the Taieri River level is up and the Owhiro can not discharge into it. There are known and significant flooding issues downstream of the sites and concerns from residents at Woodland Avenue, business in the Gladstone Road South Industrial area and East Taieri School. Balancing the zoning similarly to the existing in terms of impervious surfaces, and

<i>Change ID</i>	<i>Address</i>	<i>Existing zone</i>	<i>Potential zone</i>	<i>Acceptable?</i>	<i>3W Comments</i>
					managing stormwater using operative stormwater management rules should ensure that stormwater risks are mitigated.
Z19	1050 Highcliff Road	Peninsula Coast Rural	T&S	Yes	Water Supply - DCC does not provide servicing for water supply in this area. Wastewater - DCC does not provide servicing for wastewater in this area. Stormwater - DCC does not provide servicing for stormwater in this area. As DCC 3 Waters does not provide any services at this location we do not have a strong position on the proposed rezoning. The proposed rezoning seems sensible to align the zoning with the site boundary.

Table 4: 3W assessment of 3 waters effects from potential commercial and mixed use rezoning sites

Change ID	Address	Existing zone	Potential zone	Acceptable?	3W Comments
CZ1	9 & 11 Harvey Street, Waitati	T&S	Rural Centre	Yes	Area of review in zoning:  The two lots appear to be a vacant lot (No.9 and the Waitati Fire Station (No.11). No. 9 has an area of 468m² so is undersized for development in the Township & Settlement zone. Water Supply - The area is serviced by a restricted flow supply as part of the Northern Schemes Rural Water Supply. There are capacity challenges meeting water supply demand in Waitati in summer. The potential impact of the proposal on the water supply network is considered to be minor and acceptable. Wastewater - DCC does not provide servicing for wastewater in Waitati. Stormwater - DCC does not provide servicing for stormwater in Waitati. Drainage is achieved by roadside table drains/open channels/swales. The proposed changes are unlikely to result in significant changes to surface water run-off from No.11 but surface run-off from Lot No. 9 could change significantly. There are no impermeable surface area limits

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					in the Rural Centre zone within the 2GP. Given that No.9 is a relatively small site the overall impact on surface water flows in the area is expected to be minor. For these reasons the proposed rezoning is acceptable. Note that parts of Waitati have been affected by high flows in the Waitati River in the past. Natural hazards from alluvial flooding exist (refer to ORC reports).
CZ2	12 and 12A-C Main South Road, Green Island	General Residential 1 (GR1)	Neighbourhood Convenience Centre (NECC) – a type of commercial mixed use zone	Yes	12 Main South Road, Green Island has a site area of 841m² and contains the Concord Inn, in operation since 1989. 12A-C Main South Road, Green Island has a site area of 845m² and contains an existing strip of shops which include the 'Rapport Hair Art' hairdressers, 'Concord Takeaways, the 'Big Barrel' bottle shop and an associated carparking area. DCC records show that this bottle shop has been operating since 1996. Area of review in zoning:  Water Supply - The area is serviced by the Southern Reservoir Supply via Monticello Reservoir. The rezoning is considered to be consistent with the existing use and activities on

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					the site. The proposed change of zoning is not expected to make a significant impact on water demand for the area. Wastewater – Wastewater flows generated on the site flow downstream to the Green Island Wastewater Treatment Plant. Hydraulic models indicate some potential manhole overflows although none have been recorded. The rezoning is considered to be consistent with the existing use and activities on the site. The proposed change of zoning is not expected to make a significant impact on wastewater discharges for the site. Stormwater – Stormwater generated on the site is discharged to a privately owned piped watercourse (owned by the site owners) which runs under the site and discharges to an open watercourse, eventually flowing to the Kaikorai Stream. Upstream of the site is natural watercourse, both piped and open, including parts flowing through Emerson Park which received flow from areas as far south as Blackhead Road. The site is currently almost entirely consisting of impervious surfaces. The rezoning is considered to be consistent with the existing use and activities on the site. The proposed change of zoning is not expected to make a significant impact on stormwater discharges for the site.
CZ3	1870 Waikouaiti-Waitati Road (Arc brewery) and 7 King Street, Merton (Evansdale)	Rural Coastal	Rural Centre	No – constraints for all 3W. 3W is open to rezoning the existing use area only.	The ARC brewery and bar operates from 1870 Waikouaiti-Waitati Road. Food is served by way of food trucks, which regularly change. The site adjoining the eastern boundary of 1870 Waikouaiti-Waitati Road is 7 King Street Evansdale, which has obtained resource consent for the establishment and operation of a rural contracting yard with ancillary retail activity and a building construction yard on the southern part of the site. The area of review in zoning is shown below:

Change ID	Address	Existing zone	Potential zone	Acceptable?	3W Comments
					 Water Supply - The area is serviced by a restricted flow supply as part of the Northern Schemes Rural Water Supply. There are capacity challenges meeting water supply demand in Waitati in summer. The proposed zoning has the potential to increase water demand. As such the proposed rezoning is not acceptable from a water supply perspective. 3 Waters would accept a rezoning of the smaller area on the western side (the existing Arc Brewery site) but not the rest of the area which is undeveloped and rezoning is likely to result in increased water demand. Wastewater - DCC does not provide servicing for wastewater in Waitati. Servicing is by individual on-site wastewater treatment and disposal systems. The area is in close proximity to Blueskin Bay. Mana whenua and some community members have concerns over water quality in Blueskin Bay being adversely affected by individual on-site wastewater treatment and disposal systems. The proposed zoning is likely to increase wastewater discharges. Permitted activities within this zone type could result in the production of high strength wastewater which is more difficult to treat to a high effluent quality. As such the

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					proposed rezoning is not acceptable from a wastewater perspective. 3 Waters would accept a rezoning of the smaller area on the western side (the existing Arc Brewery site) but not the rest of the area which is undeveloped and rezoning is likely to result in increased wastewater discharges. Stormwater - DCC does not provide servicing for stormwater in Waitati. Drainage is achieved by roadside table drains/open channels/swales. The site intersected by Carey's Creek and the majority of the site is within a Hazard 2 (flood) classification in the 2GP Mapped Areas and identified in the ORC report "Coastal Hazards of Dunedin City District (2014)". As such the proposed rezoning is not acceptable from a stormwater perspective. 3 Waters would accept a rezoning of the smaller area on the western side (the existing Arc Brewery site) as this is mostly outside of the Hazard 2 (flood) area classification but not the rest of the area.

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