

To: RCL Group

Attention: Dan Wells

Project Name Homestead Bay

Project/File: 310104425

From: Stantec New Zealand  
Dunedin

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**Reference: Homestead Bay Fast Track Consent – Minute 4 of the Expert Panel****Revision Schedule**

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# 1 Introduction

This Technical Note provides a technical response to the Further Information Request Item 2b in Minute 4 of the Expert Panel dated 10 November 2025 in relation to the Fast Track Consent Application (including subsequent attachments) submitted to the Environmental Protection Authority (EPA) by RCL Homestead Bay Ltd for the development of a residential subdivision in Queenstown.

The Further Information Request Item 2b is:

*Comments noting that the proposed standalone wastewater facility could fragment the Council's intended network, undermining economies of scale and creating inefficiencies for future servicing of the wider corridor—both in terms of economic cost and opportunity cost. The Jardine comments (paragraphs 2.18 and 2.28.2) note that the standalone system would remove approximately one-third of the homes from the servicing calculus.*

Stantec have recently received a report "Three Water Servicing Plan, Te Tapuae Southern Corridor" from Queenstown Lakes District Council (QLDC) prepared on their behalf by Beca Ltd (Beca), dated 24 October 2025. That QLDC/Beca report outlines their currently preferred servicing plan for the Southern Corridor the area between Park Ridge and Oraka, including Homestead Bay. For wastewater, this preferred servicing plan is to convey raw wastewater to the Shotover Treatment Plant and expand the existing wastewater infrastructure (referred to as Option 6 in their report which includes connection of the catchment to Hanley's Farm pumping station, a second pump station and rising main from Hanley's Farm, and upgrades to reticulation in Frankton). While other analysis and proposals have previously been developed by Stantec, the QLDC/Beca report has been used as a basis for responding to the Minute in this Technical Note that is in line with Council's intended network.

# 2 Estimate of Contributing Wastewater Catchments and Quantities

The QLDC/Beca assessment adopts the following estimates of wastewater catchment and flows:

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*Table 1 – QLDC/Beca Adopted Wastewater Demand*

EXISTING TO 2027			STAGE 1 TO 2036		ULTIMATE DEMAND TO 2044	
Source Catchment  (as described in QLDC/Beca report)	Contributing Dwelling Unit Equivalents <sup>1</sup>  DUE	Existing Committed Peak Wet Weather Flow (litres/second PWWF)	DUE in 2036	PWWF in 2036 (litres/second)	Ultimate DUE in 2044	Ultimate PWWF in 2044 (litres/second)
Kawarau	0	0	0	0	0	0
Industrial	N/a		N/a	11.3	N/a	40.3
Park Ridge, Woolbrae, Woolshed	220	7.6	580	20.1	980	34.0
Hanleys	1600	55.6	1600	55.6	1600	55.6
Jacks Point Village	375	13.0	645	22.4	1555	54.0
Jacks Point Residential					805	28.0
Lakeside					40	1.4
Paterson	10	0.3	100	3.5	400	13.9
Jardines (HB West)	20	0.7	200	6.9	350	12.2
HB Village	20	0.7	200	6.9	700	24.3
Homestead Bay	250	8.7	2500	86.8	3000	104.2
<b>TOTAL</b>	<b>2495</b>	<b>86.6</b>	<b>5825</b>	<b>213.6</b>	<b>9430</b>	<b>367.9</b>

Source: Three Water Servicing Plan, Te Tapuae Southern Corridor, Appendix D, Beca Ltd October 2025.

<sup>1</sup> A dwelling unit is defined in the QLDC Code of Practice as “Any building or group of buildings, or part thereof used, or intended to be used principally for residential purposes and occupied, or intended to be occupied by not more than one household. This definition shall exclude Residential Flats”. A Dwelling Unit Equivalent in this Technical Memo refers to a source of wastewater of a quantity equivalent to that from a single dwelling unit.

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There are several points to note in the assumptions used to make these estimates in the QLDC/Beca report:

- This QLDC assessment is based on 600 litres/site/day of wastewater. This is lower than that required in the QLDC Code of Practice (750 litres/site/day) and used for the Homestead Bay Fast Track Consent application. For this Technical Note Stantec have followed this new figure.
- This QLDC assessment assigns 3000 Dwelling Unit Equivalents (DUE) to Homestead Bay. For this Technical Note Stantec have adjusted figures to allow for 2531 DUEs as in the proposal for the Homestead Bay development.
- This QLDC assessment allows for wastewater from 58 hectares of commercial development. However, Coneburn Industrial (19.5 hectares) received Resource Consent on 23 September 2025 (RM25.251.01) for on-site wastewater treatment and disposal from that development. For this Technical Note Stantec have adjusted figures to allow for this reduction in contributing wastewater and assessed it as DUE for the remaining peak flow at 325 DUE up to year 2036 and 750 DUE occurring following year 2036.

Adjustment for the points noted above on the size of Homestead Bay and Coneburn Industrial then yields the following figures as the basis for this assessment:

*Table 2 – Estimated Wastewater Demand*

EXISTING COMMITTED DEMAND			STAGE 1 DEMAND		ULTIMATE DEMAND	
Source Catchment	Existing Committed DUE	Existing Committed Peak Flow	DUE in 2036	Peak Flow in 2036	Ultimate DUE in 2044	Ultimate Peak Flow in 2044
Homestead Bay	250	8.7	2531	87.9	2531	87.9
Other Southern Corridor Catchments	2245	78	3650	126.8	7180	250.4
TOTAL	2495	86.6	6181	214.7	9711	338.3

Notes to Table 2:

1. Existing Committed Demand DUE and Peak Flow are as per QLDC/Beca figures in Table 1.
2. Stage 1 and Ultimate Demand DUE and Peak Flow for Homestead Bay is based on 2531 DUE as in the Consent Application.

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3. Stage 1 Demand DUE for Other Southern Corridor Catchments are from QLDC/Beca figures in Table 1, less amount for Homestead Bay and plus DUE for Industrial derived from the flow (i.e.5825-2500+325).
4. Stage 1 Demand Peak Flow for Other Southern Corridor Catchments are from QLDC/Beca figures in Table 1, less amount for Homestead Bay (i.e.213.6-86.8).
5. Ultimate Demand DUE for Other Southern Corridor Catchments are from QLDC/Beca figures in Table 1, less amount for Homestead Bay and plus DUE for Industrial derived from the flow without Coneburn Industrial (i.e.9430-3000+750).
6. Ultimate Demand Peak Flow for Other Southern Corridor Catchments are from QLDC/Beca figures in Table 1, less amount for Homestead Bay and for Coneburn Industrial (i.e.367.9-104.2-13.3).
7. Total DUE and Peak Flow for Stage 1 Demand and for Ultimate Demand are summed from the amounts for Homestead Bay and Other Southern Corridor Catchments.

Note that this summary does not reflect the view of Stantec but is simply to provide an assessment for the Panel request based on QLDC's own planning. Actual demand and timing of development is unknown and likely to differ from this. There is also potential for reduction in peak wastewater quantities by use of Low-Pressure Sewer which would mean less infrastructure was needed for a system to transfer wastewater as proposed by QLDC.

### 3 Capacity of Existing Infrastructure

The QLDC/Beca report identifies the following capacity in the Hanley's Farm Pump Station connection to Shotover Treatment Plant:

- Pumping capacity without further upgrades – 173 litres/sec
- Pumping capacity with upgrades to downstream reticulation in Frankton – 215 litres/sec
- Pumping capacity with adoption of Option 6 (see Section 1) and upgrades to downstream reticulation in Frankton – not specified.

Therefore:

- There is sufficient capacity in the existing Hanley's Farm connection to Shotover Treatment Plant to cater for existing demand and early stages of Homestead Bay
- There is sufficient capacity in the existing Hanley's Farm connection to Shotover Treatment Plant to cater for all expected demand outside of Homestead Bay by 2036
- With proposed upgrades in Frankton there is sufficient capacity in the Hanley's Farm pumping system to cater for all expected demand (including Homestead Bay) to 2036
- Upgrade of the Hanley's Farm pumping system (by Option 6 or other method) is needed to cater for all expected demand (including Homestead Bay) to 2044 – upgrade would be nominally required by 2036
- Lesser upgrade of the Hanley's Farm pumping system (upgrade capacity reduced from 123l/s to 35l/s) is needed to cater for all expected demand outside Homestead Bay by 2044.
- The figures in the QLDC/Beca report assume that the land disposal scheme that currently services the Jacks Point Residential areas will be discontinued and instead connect into the

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Council network, which is an uncertain proposition. If this does not occur, little if any additional capacity may need to be added to the Hanley's Farm pumping system.

## 4 Estimated Costs

The QLDC/Beca report includes the following table of estimated costs for their proposed wastewater system in the Southern Corridor in Table 4-13 of their report. Limitations stated in the QLDC/Beca report are recorded in Appendix A of this Technical Note – use of these estimates in this Technical Memo for comparison purposes are consistent with those limitations.

Table 4-13: Cost Estimate Summary Option 6 - Convey all raw WW to Shotover WWTP

Wastewater Option 6 Cost Summary			
Infrastructure Description	Stage 1	Stage 2	Total (Stage 1 and 2)
Approx. year required	2026-2030	2035	
Purchase of Treatment Capacity at Shotover WWTP	\$16,380,000	\$16,380,000	
Conveyance within Southern Corridor - Pipelines and PSs	\$13,010,000	\$23,850,000	
Conveyance upgrades in Frankton - Pipelines and PSs	\$ 7,500,000		
Gross Construction Estimate	\$36,890,000	\$40,230,000	
Construction contingency (30%)	\$11,067,000	\$12,069,000	
Rounding	\$ 43,000	\$ 1,000	
Total Construction Budget (2025 values)	\$48,000,000	\$52,300,000	\$100,300,000
Escalated @2.5% per year	\$54,310,000	\$66,950,000	\$121,260,000

Stage 1 is assumed to be to reach 215 litres/second effective capacity from Hanley's Farm pump station. Costs for conveyance within the Southern Corridor are assumed to be those to connect catchments to HFWWPS and then to Frankton).

These QLDC/Beca cost estimates have been used to determine the following estimates for the costs of the scheme, with or without Homestead Bay being included, adjusted for the revised quantities discussed above. Contingency and escalations have not been included as they are not required for purposes of comparison here. Costs for "purchase of treatment capacity" have not been included as they are anticipated to be proportional to the contributing flow (or DUE) and therefore not required for purposes of comparison here.

The QLDC/Beca report indicates that their Stage 2 costs of \$23.85M associated with the Southern Corridor includes the following components:

- New second rising main additional to Stage 1 from Homestead Bay to Hanley's Farm and Pump Station upgrade (estimated at 2km)
- New rising main from Jacks Point Village and other areas to Hanley's Farm and Pump Station upgrade (estimated at 3km).
- New rising main from Hanley's Farm to the Kawarau Bridge and Pump Station upgrade (estimated at 4km).

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The omission of Homestead Bay from the Southern Corridor removes the requirement for the new second rising main from Homestead Bay to Hanley's Farm.

It also results in a maximum flow between Hanley's Farm and the Kawarau Bridge of 250 L/s (above the capacity of the Hanley's Farm pumps of 215 litres/second. If then needed (potentially because of Jacks Point residential areas connecting in) the addition of a booster pump station at the junction of Kingston Road and Peninsula Road enables the additional 35 L/s to be conveyed through the existing rising main. This also removes the requirement for the new rising main from Hanley's Farm to the Kawarau Bridge.

Overall, this results in a reduction of  $\$23.85\text{M} \times 6/9 = \$15.9\text{M}$ . We have not allowed any additional component for the new booster pump station, on the basis that the Beca estimate includes allowance for pump station upgrades. The revised Stage 2 cost then becomes \$7.95million.

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*Table 3 – Summary of Estimated Cost Impact of Homestead Bay*

Including Homestead Bay				Excluding Homestead Bay			Notes
Item	Stage 1	Stage 2	Total	Stage 1	Stage 2	Total	
Conveyance in Southern Corridor and to Frankton	\$13.1m	\$23.85m	\$36.95m	\$13.1m	\$7.95m	\$21.05m	Explanation as above
Upgrades in Frankton	\$7.5m		\$7.5m			\$7.5m	No reduction made in estimate for reduced size of HB
Total estimated cost for all components			\$44.5m			\$28.55m	
Total DUEs			9711			7180	Homestead Bay 2531 DUEs. Industrial 750 DUEs
DUEs not currently serviced			7216			4935	
Cost per additional DUE			\$6166			\$5785	
Notes:	Assumed to be to achieve 215 l/sec capacity	Assumed Balance to achieve Beca ultimate design flow					



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Additional Notes to Table 3:

1. Number of DUEs not serviced is Total DUEs in Table 3 less Existing Committed Demand in Table 2 (2645 with Homestead Bay and 2495 without Homestead Bay)

## 5 Conclusion

Therefore, there is a small reduction in the estimated wastewater upgrade cost per DUE by omission of Homestead Bay from a scheme for all the Southern Corridor. There is no increase in per DUE unit cost through reduced economies of scale because existing infrastructure can service a higher proportion of the smaller catchment i.e. by previous infrastructure investments and unused capacity.

## Appendix A Limitations by Beca Ltd on Cost Estimates

The following limitations on cost estimates stated by Beca Ltd are copied here for record:

*“The following general considerations and limitation apply to this cost estimate and subsequent estimates provided in sections 4.4.2.4 and 5.11.4 of this report.*

- This estimate is solely for our Client's use for the purpose for which it was intended in accordance with the agreed scope of work. It may not be disclosed to any person other than the Client and any use or reliance by any person contrary to the above, to which Beca has not given its prior written consent, is at that person's own risk.*
- The high-level cost estimates presented in this section have been developed solely for the purpose of comparing and evaluating competing options. They are sufficiently accurate to serve this purpose. We recommend that they are not used for budget-setting purposes as common elements between options may have been omitted and/or the works not fully scoped. A functional design should be undertaken if a more reliable budget estimate is required.*
- While Beca believes that the use of the assumptions, as set out elsewhere in this report, are reasonable for the purposes of this study, Beca makes no assurances with respect to the accuracy of such assumptions and some may vary significantly due to unforeseen events and circumstances. To the extent that the conditions differ from those assumed in this report, the opinions expressed by Beca in this report may no longer be valid and should be reviewed.*
- In preparing these estimates, Beca has relied on the accuracy, completeness and currency of the information provided, therefore is not responsible for the information provided, and has not sought to independently verify it. To the extent that the information is inaccurate or incomplete, the opinions expressed by Beca may no longer be valid and should be reviewed.”*