

Josie Burrows

From: Colin Macdiarmid <cmacdiarmid@geosolve.co.nz>
Sent: Friday, 7 October 2022 3:15 pm
To: Josie Burrows
Cc: Josie Burrows
Subject: RE: EXPERT AUDIT/ REVIEW - Engineering - Suction dredging in Clutha River - Cold Gold Clutha Limited - 07/10/2022, 200834.17

Hi Josie,

No significant changes to the last application from our perspective, hence similar responses to last time. (Also the time spent will be less than the estimate).

Regards

Colin

Scope of work

Please provide an audit of what has been provided as part of the application and a response to the questions in the below template. I do not require a new or full assessment of effects or recommendations to make system changes. Please provide a response in the below table, or an attached report that uses the same structure.

Confirmation that you can complete this work in the agreed timeframe and the provision of the quote are considered to be the confirmation of engagement for the works as supported by our underlying contract.

I require an audit considering the following questions:

<i>Engineering</i>	
Q 1:	Is the technical information provided in support of the application robust (AEE and Flood Sense report), including being clear about any uncertainties and assumptions? Please explain.
R1:	The technical information provided is sufficiently complete in the context of the proposed activity.
Q:	Are there any other matters that appear relevant to you that have not been addressed in the application? Is any additional information needed to adequately understand the proposal or associated effects? If so, please specify what additional info you require and explain why it is required.
R:	No
Q:	If consent is granted, are there any specific conditions that you recommend should be included in the consent?
R3:	<ul style="list-style-type: none">The Applicant shall consult the Engineering section of the Otago Regional Council (ORC Engineering) prior to slipway work commencing, and all works including reinstatement shall be undertaken as directed by and to the satisfaction of ORC Engineering.

	<ul style="list-style-type: none"> • Slipway reinstatement shall include suitable compaction and revegetation to match adjacent ground conditions, contour and cover. • The applicant shall inspect and photograph the slipway sites annually and following significant flood events during their establishment and for two years after reinstatement, with brief reports and photographs to be submitted to the Consent Authority. Any damage shall be remediated promptly if necessary. • Slipway gradients should be no steeper than 2.5V:1H • If erodible soils, such as silts, are encountered in the Queensberry slipway, temporary erosion protection should be provided to prevent erosion during flooding.
Q4:	<p>Rongahere Road Slipway (Beaumont):</p> <ol style="list-style-type: none"> a) Page 9 describes the proposed slipway at Rongahere Road, and the Flood Sense report states that the effects of the construction will have no effect of flood level or flood flow characteristics. Do you agree with this? b) The proposed construction methodology for the Beaumont Rongahere slipway is described on page 9-10 (including river flow levels when works will be constructed). Please advise if you have any concerns with this methodology. c) Page 10 describes that the location of the slipway will be reinstated. Should any stabilisation (e.g. grassing, planting) be required? d) Are there flood protection assets or maintenance that occurs in this section of the river? e) Do you have any other concerns or questions in regard to the proposed Rongahere Road slipway?
R4:	<ol style="list-style-type: none"> a) Yes, this activity is addressed by the Flood Sense Limited report and we agree with this conclusion. b) No concerns, although the reinstatement should be better defined – see c below. c) The reinstatement backfill should be compacted and the surface re-vegetated to match adjacent ground conditions, contour and cover. d) We are not aware of any flood protection assets or maintenance in this reach of the river; however the ORC Engineering team may have information on this matter and should be consulted prior to work commencing e) The Flood Sense Limited site inspection and report has satisfactorily covered these issues.
Q5:	<p>Queensberry Slipway</p> <ol style="list-style-type: none"> a) Page 11 describes the proposed slipway in Queensberry. An assessment on hydraulic capacity and flow characteristics was provided for the Rongahere Road slipway (Flood Sense report). Do you consider a similar assessment is required for the proposed Queensberry slipway? b) Page 11 briefly describes the proposed construction methodology for the Queensberry Slipway. Please advise whether you have any concerns with this construction methodology. c) Page 11 also describes that the slipway will be re-instated when it is no longer required, however it is understood that the applicant wishes to keep this slipway ‘open’ for the requested 10-year duration of the consent. Should further

	<p>information on the way that the slipway will be stabilised (e.g. riprap, grassing, planting) if required be requested?</p> <p>d) Are there flood protection assets or maintenance that occurs in this section of the river?</p> <p>e) Do you have any other concerns or questions in regard to the proposed Queensberry Slipway?</p>
<p>R5:</p>	<p>a) No. Although the details will be different, the concept is similar. An excavated slipway at Queensberry will not restrict flood capacity. Local scour may be an issue, but would the effects would be expected to be no more than minor and readily remediated.</p> <p>b) There are significantly fewer details provided for this slipway, even though it will essentially be a permanent feature. Earthworks are noted to be minimal. Given that the slipway is to remain “open” for a number of years, the only concern would be if the slipway excavation encountered soils that were susceptible to erosion e.g. silts. This risk is considered low, so should be covered by the condition above.</p> <p>c) The reinstatement backfill should be compacted and the surface re-vegetated to match adjacent ground conditions, contour and cover.</p> <p>d) We are not aware of any flood protection assets or maintenance in this reach of the river; however the ORC Engineering team may have information on this matter and should be consulted prior to work commencing.</p> <p>e) We have no other concerns</p>
<p>Q6:</p>	<p>Use of suction dredge in the Clutha River:</p> <p>a) Page 7 and 30 describes briefly that the dredge retreats during flood events. Do you agree this is appropriate? Is further information required on the location of retreat and triggers for retreat (e.g. rainfall trigger of XX mm per hour, increase in water level by XX mm)?</p> <p>b) Could the dredge in the river be a flood risk if it does not retreat, or even once it has retreated?</p> <p>c) The applicant has proposed condition 6 which I understand is to manage effects on erosion of riverbanks. Is this condition appropriate?</p> <p>d) The applicant has proposed conditions 9 and 17 to manage effects on structures and flooding. Please advise whether they are appropriate.</p> <p>e) Do you have any other concerns or questions in regard to the proposed dredging?</p>
<p>R6:</p>	<p>a) Response to flood events is appropriately left to the judgement of the dredge operator. There is no need for specific criteria.</p> <p>b) Flood risk would mainly apply to the dredge itself. Assuming compliance with proposed consent conditions 9 & 17, any adverse effects to other parties or properties would be less than minor.</p> <p>c) The applicant should clarify why an “upper” flow level is appropriate rather than a “lower” flow level. Justification for the 400 m³/sec proposed should be provided and the location for this flow measurement provided.</p> <p>d) Yes these are appropriate.</p> <p>e) No other concerns or questions</p>

Kind regards
Josie

Josie Burrows

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Sensitivity: General

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