



Bells Island Pipeline Upgrade Consultation

The Nelson Regional Sewerage Business Unit (NRSBU) is a committee of the Tasman District and Nelson City Councils and looks after the Regional Sewerage Scheme.

Area covered by the NRSBU

The NRSBU treats city wastes (mainly domestic sewage) from Nelson City, Stoke, Tahunanui, Richmond, Wakefield, Brightwater (the Waimea Basin) and Mapua, and industrial wastewater from Alliance, ENZA, and Nelson Pine Industries.

The existing issue

Sewage from the service area is treated at the Nelson Regional Sewerage Business Unit's Bells Island Treatment Plant and discharged into the Waimea Estuary on the outgoing tide. Recently, the NRSBU has identified two critical issues with the treatment plant sewer pipe:

- There is an extreme risk of a pipeline failure in the estuary between Monaco and Bells Island. The necessary repairs could take a significant time to complete.
- The present pipeline to the Bells Island Wastewater Treatment Plant cannot handle present flows, let alone future higher flows. It is likely there will be an increasing frequency of overflow discharges to the Waimea Inlet during extreme wet weather.

Why consultation is necessary

In order to make the necessary repair/upgrades to the pipeline, the NRSBU must apply for resource consent and therefore, needs to consult the public on its proposed plans.

Proposed upgrade options

Upgrade options have been developed focussing on addressing both conditions.

Three upgrade concepts have been identified - labelled Options A, B, and C - and are described as follows:

- A** New pipework continues to direct flows in an anticlockwise flow direction around the Waimea Inlet, as at present.
- B** New pipework reverses the present flow direction to a clockwise direction around the Waimea Inlet, allowing the existing estuary crossing from Monaco to Bells Island to be abandoned and avoiding other new significant estuary crossings.
- C** New pipework directs flows in both directions around the Waimea Inlet for maximum operational flexibility and more effective utilisation of existing assets.

Within each of these three fundamental concepts, three further sub-categories relating to the location of the pipelines within or beyond the estuary boundaries have been considered:

1. Pipelines are kept out of the estuary, except for a crossing from Bests Island to Bells Island at the present tidal road access causeway.
2. Pipelines are land based as much as practicable, following the estuary shoreline to shorten the pipeline and reduce installation costs.
3. Pipelines continue to cross estuary, reducing pipeline lengths and keeping costs to a minimum.

Evaluating upgrade options

The evaluation of the different options must take into account four principle factors: cultural, social, environmental and economic. For instance, the laying of wastewater pipelines in an estuarine environment, and even the siting of the present treatment plant within this

environment, is of concern to many people. Additionally, with increasing pressure on agricultural water supplies in the region, future longer term planning may include considering the relocation of the present treatment plant inland so that treated effluent can be applied to land. How the different options might cater for future growth is also important.

Additionally the following principles are important when evaluating the options:

1. Maximum economic benefit from existing plant and infrastructure should be achieved.
2. All viable means of reducing the carbon footprint should be considered.
3. The options should lower the use of non-renewable energy and work towards optimising energy efficiency. Energy generation will be considered.
4. The minimisation of waste streams – domestic and industrial – should be encouraged.
5. An ongoing effort to lessen the cost of the treatment process to customers.
6. Alternative sites, away from the coast, will be considered in areas of future growth
7. Continue to consider treatment at source in order to minimise energy costs and maximise reuse opportunities.
8. Include international best practice and sustainability policies in all decisions.

With the considerations and principles in mind, the seven upgrade options have been identified as a basis for public consultation. There are variations to these options, but the NRSBU consider these best account for the cultural, social, environmental and economic considerations that must be addressed.

Comparison of projected charges per option for 2009/10*





Options	NCC Wastewater Charge incl GST	TDC Pan Charge incl GST
2009/10 Budget	\$330.66	\$618.75
A	\$391.61	\$733.89
B-1	\$417.71	\$777.00
B-2	\$393.53	\$736.51
C-1	\$403.09	\$752.52
C-2a	\$392.06	\$733.66
C-2b	\$394.09	\$737.34
C-3a	\$374.51	\$705.28
C-3b	\$374.85	\$705.72

Summary of Cost Estimates

Scenario	Capital Cost (\$M)	Net Present Value Capital Cost (\$M)	Annual Operations & Maintenance Capital Cost (\$M)	Net Present Value Capital Plus Operations & Maintenance (\$M)
A	45.9	31.4	0.43	36.4
B-1	49.9	46.6	0.52	52.7
B-2	35.1	32.8	0.52	38.9
C-1	52.6	35.2	0.52	41.3
C-2a	42.4	29.2	0.52	35.3
C-2b	32.7	29.7	0.52	35.8
C-3a	29.8	21.9	0.43	26.9
C-3b	24.8	21.1	0.43	26.1

* Please note: these costs are indicative only. In practice, each option has a different development timeline meaning costs are incurred irregularly over some 20 years. The figures shown for each option are just to give an idea of relative costs.

The eight options – strengths, weaknesses and costs

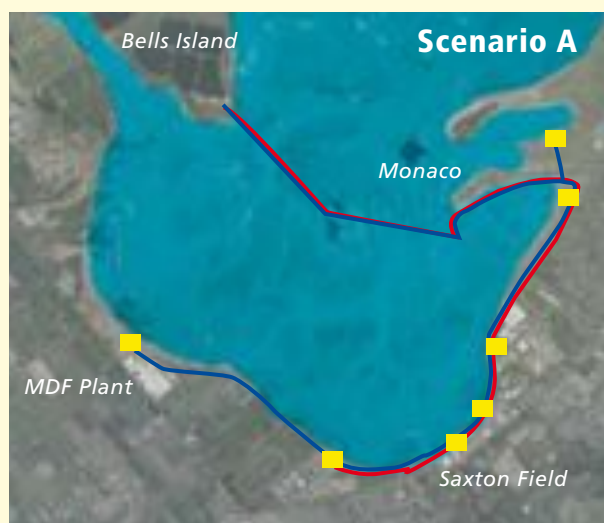
Legend			
	Existing pipeline		Pump station
	New pipeline		
	Decommissioned pipeline		

Scenario A Summary Description

Pipeline flows continue to run in an anti-clockwise direction as at present, with new duplicate pipeline installed across estuary from Monaco to Bells Island. Other new pipelines are land based where possible, but are laid along the estuary shoreline in places.

Comments

- Avoids further estuary crossings once the duplicate pipeline is installed
- Flows are all taken in the one direction, therefore there is little flexibility and redundancy for ongoing operations and maintenance
- Not well suited to longer term growth in the Tasman District
- Not well suited to a potential future move towards new treatment facility in Tasman District with land based effluent re-use away from coastal waters

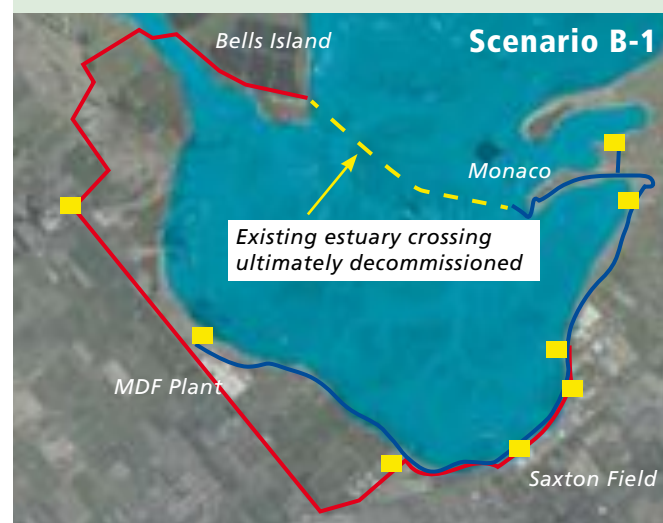


Scenario B-1 Summary Description

Existing estuary crossing is ultimately decommissioned, with all pipelines designed to now direct flow in a clockwise direction to Bells Island. All new pipelines are land based, except for the short estuary crossing from Best Island to Bells Island.

Comments

- Most expensive option
- Provides for ultimate decommissioning of the existing estuary crossing to Bells Island
- Keeps pipelines away from the estuary to the maximum possible extent
- All flows are taken in one direction, therefore there is little flexibility and redundancy for ongoing operations and maintenance



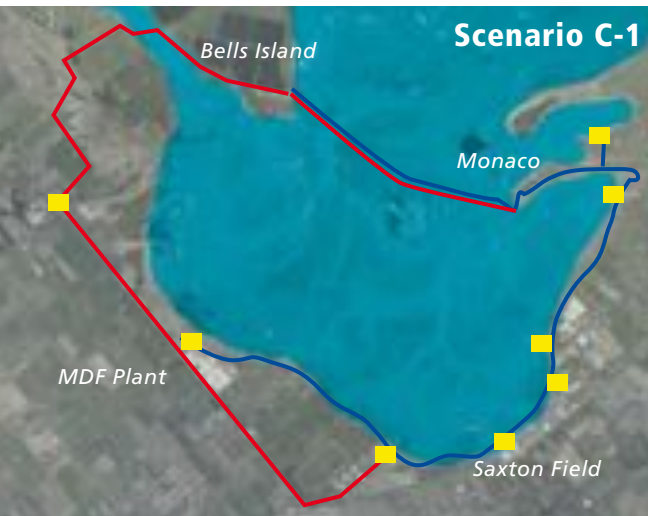
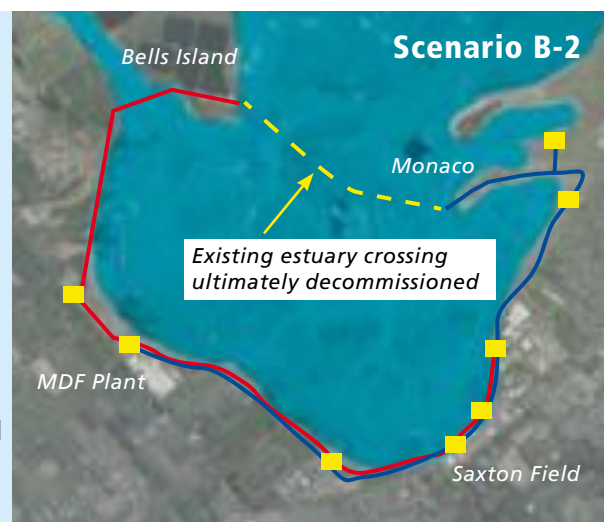
- Well suited to a potential future move towards a new treatment facility in Tasman District with land based effluent re-use away from coastal waters

Scenario B-2 Summary Description

Existing estuary crossing is ultimately decommissioned, with all pipelines designed to now direct flow in a clockwise direction to Bells Island. New pipelines are land based where possible, but more generally follow the estuary shoreline to Bells Island.

Comments

- Provides for ultimate decommissioning of the existing estuary crossing to Bells Island
- Avoids further estuary crossings (except Best Island to Bells Island), although some pipelines follow the estuary shoreline to reduce pipeline lengths and costs
- All flows are taken in one direction, therefore there is little flexibility and redundancy for ongoing operations and maintenance
- Slightly less suited than B-1 to a potential future move towards a new treatment facility in Tasman District with land based effluent re-use away from coastal waters



Scenario C-1 Summary Description

Pipelines are designed to direct flows in two directions to Bells Island for greater operational flexibility. The duplicate pipeline is installed from Monaco to Bells Island, for risk

mitigation purposes, and to allow other construction work to be deferred. All other new pipelines are land based (except for the Best Island to Bells Island crossing).

Comments

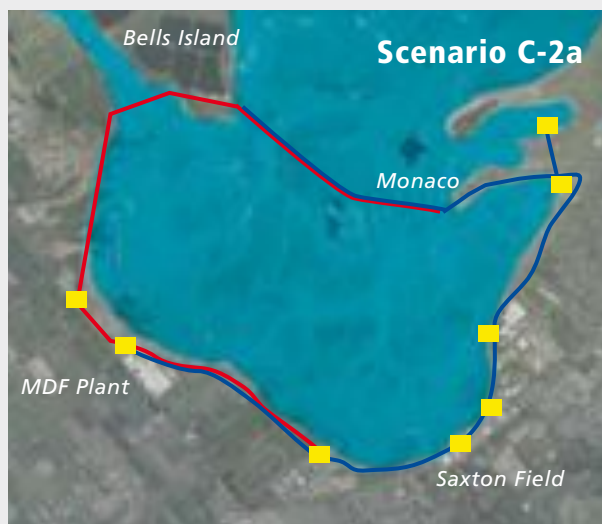
- Avoids further estuary crossings once the duplicate pipeline is installed (except for the Best Island to Bells Island crossing)
- Provides good flexibility and redundancy for ongoing operations and maintenance by allowing the direction of flows in two directions, according to circumstances
- Well suited to longer term growth in the Tasman District
- Well suited to a potential future move towards a new treatment facility in Tasman District with land based effluent re-use away from coastal waters

Scenario C-2a Summary Description

Pipelines are designed to direct flows in two directions to Bells Island for greater operational flexibility. The duplicate pipeline is installed from Monaco to Bells Island for risk mitigation purposes, and to allow other construction work to be deferred. New pipelines are land based where possible, but more generally follow the estuary shoreline to Bells Island.

Comments

- Avoids further estuary crossings once the duplicate pipeline is laid (except for the Best Island to Bells Island section)
- Some pipelines follow the estuary shoreline to reduce pipeline lengths and costs
- Provides good flexibility and redundancy for ongoing operations and maintenance by allowing the direction of flows in two directions, according to circumstances
- Well suited to longer term growth in the Tasman District
- Slightly less suited than C-1 to a potential future move towards a new treatment facility in Tasman



Scenario C-2b Summary Description

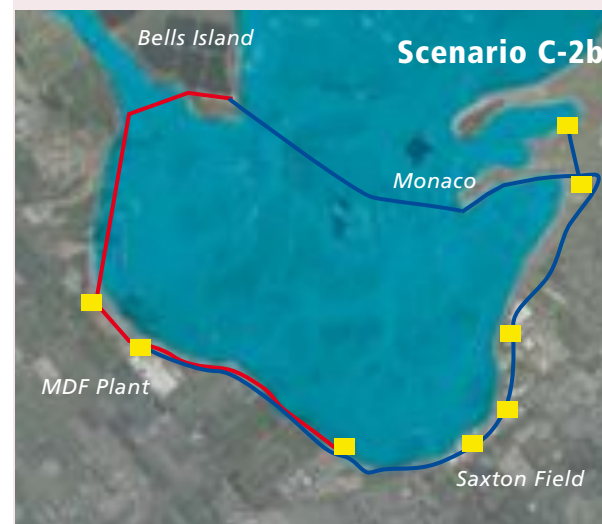
Pipelines are designed to direct flows in two directions to Bells Island for greater operational flexibility. The duplicate pipeline to Bells Island is NOT installed, in favour of constructing the new clockwise direction pipework immediately. The existing estuary crossing to Bells Island is retained and rehabilitated once the new pipelines are installed. New pipelines are land based where possible, but more generally follow the estuary shoreline to Bells Island.

Comments

- Avoids further estuary crossings (except for the Best Island to Bells Island section)
- The decision to not install the duplicate pipeline to Bells Island means that the risk of the existing pipeline failing continues for a longer period, while the new pipelines are constructed
- Some pipelines follow the estuary shoreline to reduce pipeline lengths and costs
- Provides good flexibility and redundancy for ongoing operations and maintenance by allowing the direction of flows in two

directions, according to circumstances

- Well suited to longer term growth in the Tasman District
- Slightly less suited than C-1 to a potential future move towards a new treatment facility in Tasman District with land based effluent re-use away from coastal waters

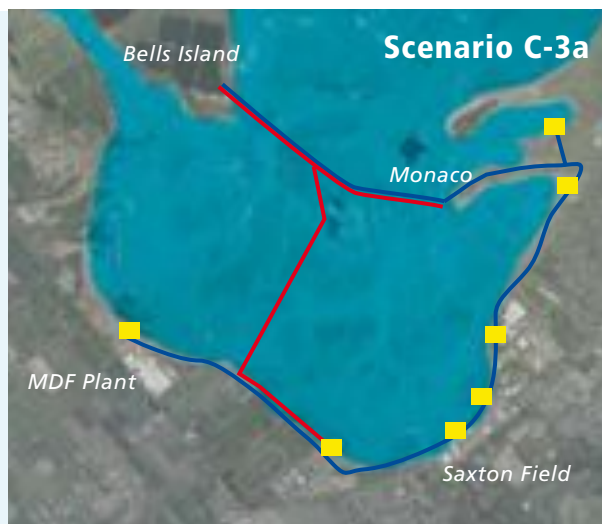


Scenario C-3a Summary Description

Pipelines are designed to direct flows in two directions to Bells Island for greater operational flexibility. The duplicate pipeline is installed from Monaco to Bells Island as an integral part of the pipeline strategy, whilst at the same time providing for risk mitigation purposes, and to allow other construction work to be deferred. The new clockwise directed pipeline is laid directly across the estuary from Headingly Lane to Saxtons Island, to join up with the duplicate pipeline.

Comments

- Lower cost scenario
- Involves a further significant estuary crossing
- Provides good flexibility and redundancy for ongoing operations and maintenance by allowing the direction of flows in two directions, according to circumstances
- Slightly less suited than the other 'C' options to longer term growth in the Tasman District
- Slightly less suited than C-1 to a potential future move towards a new treatment facility in Tasman District with land based effluent re-use away from coastal waters

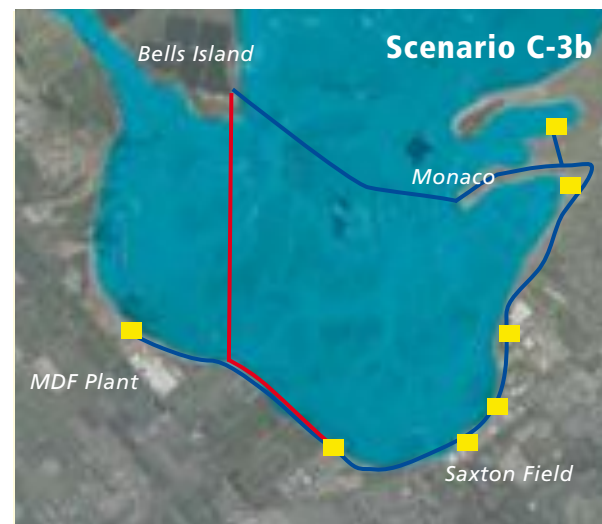


Scenario C-3b Summary Description

Pipelines direct flows in two directions to Bells Island for greater operational flexibility and lessen the risk of failure to the existing single pipeline. The new pipeline would follow the estuary shoreline to Headingly Lane and then directly across the estuary to Bells Island to provide an alternative route.

Comments

- Lowest cost scenario
- Involves a significant estuary crossing
- The decision to not install the duplicate pipeline to Bells Island means that the risk of the existing pipeline failing continues for a longer period, while the new pipelines are constructed
- Avoids Saxton Island and associated archaeological issues
- Provides reasonable flexibility and redundancy for ongoing operations and maintenance but less so than for Option C-3a
- Slightly less suited than the other 'C' options to longer term growth in the Tasman District
- Slightly less suited than C-1 to a potential future move towards a new treatment facility in Tasman District with land based effluent re-use away from coastal waters





Bells Island Pipeline Upgrade submission form

The NRSBU pipeline upgrade strategy is open to the Nelson Tasman region for public consultation. Submissions are welcome through to Friday 27 February 2009. Please send your submission to: Bells Island Pipeline Upgrade Consultation, Nelson City Council, Freepost 76919, PO Box 645, Nelson 7040.



Name _____ Organisation represented (if any) _____

Address _____ Phone _____ Email _____

Hearings will be held for submitters who wish to speak in support of their submission (the hearing date is yet to be determined).

Do you wish to speak at the hearing? Yes No *If you do not tick either, we assume you do not wish to be heard.*

Public information statement: Submissions to NRSBU consultations are public information. Your submission will be included in reports, which are available to the public and the media.

The consultation proposals for a pipeline upgrade are driven by the high risk of pipeline failure and capacity problems, now and in the future. The eight development options are guided by environmental, economic, social and cultural concerns. How should these concerns be balanced? Is the cost of the upgrade more important than environmental concerns? How much should the development consider future needs? Should all concerns be equally weighted?

Please indicate on the following scales how important you consider the environmental, economic, social and cultural concerns in relation to each other.

1. **Environment** (the need to contain spills into the estuary and outlying area, carbon footprint is reduced, lessen non-renewable energy use) 1 2 3 4 5 6
Not at all important Neutral Extremely important Don't know

Comments _____

2. **Economic** (minimise costs of pipeline development, costs of ongoing treatment, treatment at source to minimise costs) 1 2 3 4 5 6
Not at all important Neutral Extremely important Don't know

Comments _____

3. **Social** (encourage minimising waste streams from community and business, consider other sites away from coast to manage future growth) 1 2 3 4 5 6
Not at all important Neutral Extremely important Don't know

Comments _____

4. **Cultural** (pipeline placement and operation is sensitive to iwi needs) 1 2 3 4 5 6
Not at all important Neutral Extremely important Don't know

Comments _____

5. Thinking about your ratings in questions 1-4 – which option do you think best delivers your preferences? *(please tick just one)*
 Option A Option B1 Option B2 Option C1 Option C2A Option C2B Option C3A Option C3B None of the options

Comments _____

6. Which option would you rate as second best? *(please tick just one)*
 Option A Option B1 Option B2 Option C1 Option C2A Option C2B Option C3A Option C3B None of the options

Comments _____

7. Please tick any options you consider would be UNacceptable.
 Option A Option B1 Option B2 Option C1 Option C2A Option C2B Option C3A Option C3B None of the options

Comments _____

8. Are there any other areas you feel the strategy should consider, or that need to be further developed? _____

9. Other comments - please make any further comments on the strategy. _____

Please attach additional sheets if needed

Please tell us about yourself. It would be helpful if you could fill out the following panel. The information is used by Council to improve consultation methods. This is voluntary and is not used for any purpose other than this consultation.

10. Gender Female Male

11. Your location? Nelson North Nelson Central Nelson South Tahuna Stoke Richmond Waimea Plains Motueka
 Golden Bay Other, please specify _____

12. Age Under 20 Between 20 - 39 Between 40 - 59 Over 60

14. Are you a first time submitter? Yes No

THANK YOU FOR YOUR COMMENTS

How to make a submission

A submission form is provided at the right. However, you can make a submission in a number of different ways:

online forms at nelsoncitycouncil.co.nz

email or you may choose to write a letter to Council with your comments.

If you choose to email or write a letter please be sure to include:

- the topic (e.g. Regional Pipeline Strategy)
- whether you wish to speak on your submission at the hearing
- whether you are supporting or opposing the topic (either wholly or in part)
- the nature of your submission
- your reasons
- what decision you are seeking
- and your contact details

Submission forms and further information are available from all Council offices in Nelson and Tasman, regional libraries and the website nelsoncitycouncil.co.nz (search phrase = bells island pipeline upgrade).