

Part B Assessment of Environmental Effects – Construct, Use or Repair a Dam or Weir



Whangārei Office	Phone:	09 470 1200
	Fax:	09 470 1202
Kaitiāia Office	Phone:	09 408 6600
Waipapa Office	Phone:	09 470 1200
Ōpua Office	Phone:	09 402 7516
Dargaville Office	Phone:	09 439 3300
Free Phone		0800 002 004
Email		mailroom@nrc.govt.nz
Website		www.nrc.govt.nz

This application is made under section 88/section 127 of the Resource Management Act 1991

To: Consents Department
Northland Regional Council
Private Bag 9021
Whangārei Mail Centre
Whangārei 0148

PART B – ASSESSMENT OF ENVIRONMENTAL EFFECTS

Your application must include an Assessment of Effects on the Environment. This form is a guide to help you prepare it.

An assessment of effects is required so that you and others can understand what happens to the environment when you construct a dam. This will help you to propose ways to minimise those effects to the council's satisfaction.

The degree of detail required is in proportion to the scale of the environmental effects of your proposal. If the size of your proposed activity or the scale of its potential effects is significant, a report by a professional advisor in support of your application may be required.

Please note that the word “*environment*” includes the surrounding waterways including coastal water, adjoining land, any surrounding resource users, and local iwi.

It is advised that you make an appointment with an appropriate council officer to discuss your application prior to lodging it. This will help you supply all the required information at the outset and ensure the efficient processing of your application.

A. Description of the Proposed Activity

A.1 What is the name of the stream or catchment on which you propose to construct the dam?

A.2 What is the topography of the site (e.g. steep sided gully, easy rolling, swampy)?

A.3 What is the soil/rock type at the dam site?

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A.4 What is the vegetative cover of the dam site and area to be flooded?

A.5 Construction Details of the Proposed Dam

What is the height of the dam? _____ m

What is the length of the dam? _____ m

What is the approximate volume of earthworks involved in dam construction? _____ m³

What is the volume of water to be stored behind the dam? _____ m³

What surface area does the reservoir cover? _____ m²

What are the dimensions of the spillway (for small floods)? _____ m width

_____ m length

_____ m height

What are the dimensions of any auxiliary spillway _____ m width

(for extreme floods)? _____ m length

_____ m height

Provide justification (calculations) for the dimensions of the spillway _____

What materials are proposed for the dam? _____

Provide details on the properties of the materials, i.e. permeability _____

Details of the foundation of the proposed dam i.e. abutments, pipes through length of dam, any bore log details

A.6 Dam Location Details

What are the characteristics of the site? *(tick most appropriate description of the site and answer the associated questions)*

Dry Gully

Intermittently Flowing Stream

How many months on average would the stream be dry? _____

Dry between _____ and _____

Permanently Flowing Stream

What is the design minimum flow (DMF) of the stream? _____ litres/second

(Note: The design minimum flow (DMF) of the stream is equivalent to the flow in the stream during a drought that occurs within a period of time (i.e. a 1 in 5 year drought event). It is the flow considered necessary to be maintained downstream of your dam to allow the aquatic organisms (e.g. fish and other instream life) to survive. Council staff can assist you with making this determination, where it is required.)

How was the DMF obtained? _____

Wetland or Swamp

A.7 Catchment Details

What is the catchment area upstream of the dam? _____ hectares

What is the estimated flood flow at the dam site during a 1 in 100 year storm event?

_____ cubic metres/second

How was the flood flow calculated? _____

What is the land use in the vicinity of the dam? *(tick more than one if appropriate)*

Agriculture

Horticulture

Exotic forestry

Native forest/bush

Residential/industrial (urban)

Other *(specify)*: _____

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A.8 Construction Timing Details

What date do you expect to start the works? _____

When do you expect to complete the works? _____

Will the works be carried out in stages?

No

Yes, please describe the length of time for each stage, and the type of works undertaken during each

How are the works to be carried out? *(please describe)* _____

Who will be undertaking the works? _____

B. Location Maps and Plans

B.1 Site Maps

You must attach a map(s) that shows the following:

The location of the dam and the upstream catchment boundaries

The legal property boundaries in the vicinity of the dam and the names of the owners and/or occupiers

The location of any other water users within 500 metres of your dam

The location of other streams, rivers and/or springs in the area, and the direction of stream flow

B.2 Structure Plans

Please provide plans (including cross-sections) drawn to scale showing the following:

Dimensions of the dam structure (include height, length, width and batter slopes)

Site from which works material for dam construction is to be obtained

Surface area of the reservoir behind the dam, including during both normal and flood events, and location of the closest neighbouring properties to that reservoir

Dimensions and type of spillway(s), (e.g. concrete, pipe, grassed)

Any low flow pipes and their intake levels

Dimensions and design of any fish passes proposed

Note: If the dam exceeds 5 metres in height and/or holds more than 20,000 cubic metres of water, it is likely that you will need to obtain the services of a registered engineer or a suitably qualified person.

C. Assessment of Effects on the Environment

Where your dam could have an adverse effect on the environment a detailed environmental assessment is required.

C.1 Effect on the Stream

Are there any of the following in the vicinity of the proposed works?

	Present	
	Yes	No
Obvious signs or known aquatic biota (e.g. eels, other fish, insects, aquatic plants)	<input type="checkbox"/>	<input type="checkbox"/>
Areas where food is gathered (e.g. watercress, eels, wildfowl)	<input type="checkbox"/>	<input type="checkbox"/>
Natural Wetlands	<input type="checkbox"/>	<input type="checkbox"/>
Recreational activities (e.g. swimming, fishing, canoeing)	<input type="checkbox"/>	<input type="checkbox"/>
Areas of special aesthetic value (e.g. waterfalls)	<input type="checkbox"/>	<input type="checkbox"/>
Areas of indigenous vegetation	<input type="checkbox"/>	<input type="checkbox"/>
Areas of significance to iwi	<input type="checkbox"/>	<input type="checkbox"/>
Areas of slope instability	<input type="checkbox"/>	<input type="checkbox"/>

If you have answered **Yes** to any of the above, describe what effect your taking may have and the steps you propose to take to minimise (i.e. mitigate) these effects (attach a separate sheet if necessary).

If your proposed dam is located in a lowland part of a catchment, fish movement is likely to be impeded, and special measures would be required to mitigate these effects. Please describe how you intend to minimise these effects.

C.2 Construction Activities

What stream diversion works are you proposing during dam construction?

- Cofferdams
- Pipeline bypass
- Fish passes

Please provide details _____

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Are you proposing any sediment retention or sediment control methods?

No, why not? _____

Yes, provide details _____

Are you proposing to topsoil and revegetate bare areas of land at the completion of works?

No, what are the mitigation measures to avoid erosion? _____

Yes, provide details on what, how and when revegetation will occur?

C.3 Alternative Dam Sites and Water Sources

Have you considered any alternative dam sites or water sources?

No

Yes, provide details on what alternatives were considered and why the proposed site was chosen

C.4 Positive Effects

What positive effects will the proposed dam have on the environment? _____

C.5 Monitoring

What, if any, monitoring do you propose to carry out to ensure that your dam does not have any adverse effect on the environment (i.e. monitoring program, surveillance system, emergency action plan)?

Do you propose any future operating or maintenance activities, which may effect dam safety?

- No
- Yes, provide details _____

Note: Depending on the size of the proposed dam and the potential for adverse effects you may be required to supply an Emergency Action Plan.

C.6 Affected Parties

Will the damming of water have an effect on the water available to any nearby property, or will the reservoir affect adjacent properties?

- No, why not? _____

- Yes, who and how? _____

Where the proposed dam may adversely affect neighbours or other persons, the written approval of those persons is required in order to avoid notification of the application.

C.7 Consultation

Have you consulted with any of the following potentially affected parties:

	Yes	No
Neighbours	<input type="checkbox"/>	<input type="checkbox"/>
Other downstream water users	<input type="checkbox"/>	<input type="checkbox"/>
Department of Conservation <i>(if relevant)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Fish and Game Council <i>(if relevant)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Local iwi <i>(specify):</i> _____	<input type="checkbox"/>	<input type="checkbox"/>
Other <i>(specify):</i> _____	<input type="checkbox"/>	<input type="checkbox"/>

Please attach a record of the consultation that has taken place and the views of those that have been consulted.

Please ensure all the relevant questions on this form have been answered fully.

If you have any queries relating to information requirements or wish to meet with a council consents officer, please contact the Northland Regional Council.

Northland Regional Council offices:				
Whangārei Office 36 Water Street Whangārei 0110 Phone: 09 470 1200 or 0800 002 004 Fax: 09 470 1202 mailroom@nrc.govt.nz www.nrc.govt.nz	Dargaville Office 42 Hokianga Road Dargaville 0310 Phone: 09 439 3300	Kaitiāia Office 192 Commerce Street Kaitiāia 0410 Phone: 09 408 6600	Waipapa Office Shop 9 12 Klinac Lane Waipapa 0295 Phone: 09 470 1200 or 0800 002 004 Fax: 09 470 1202	Ōpua Office Unit 10 Industrial Marine Park Ōpua 0200 Phone: 09 402 7516