Request for Quotes (RFQ)

by: The Whakamana te Waituna Charitable Trust
for: Construction of Sediment Traps
ref: RFQ-CI-02-22

RFQ released: 14/02/2023
Deadline for Quotes: 5:30pm 28/02/2023

Whakamana te Waituna Charitable Trust
www.waituna.org.nz
c/o Environment Southland
220 North Road
Invercargill, 9810

The opportunity

This RFQ is issued by the Whakamana te Waituna Charitable Trust, referred to below as “the Buyer” or “we” or “us”.

What we need

The construction of two sediment traps (51m x 10m & 42m x 10m) and associated works, beside the Maher and Jordan Creeks (Waituna) in accordance with the Construction Methodology, Schedule of Works and Design Drawings in Attachment 1.

When do we need it?

March/April 2023 – See Section 2

Why should you quote?

This is a unique opportunity to be part of a multi-partner project to trial the effectiveness of sediment traps as a tool for reducing sediment loadings in Waituna Creek and the wider Southland Region. You will have the opportunity to showcase your construction skills on a project that has regional interest and ongoing publicity via the Whakamana te Waituna Trust partners.

Section 1: Key Information

1.1 Our timeline

Here is our timeline for this RFQ (all are New Zealand times and dates):

Deadline for Quotes:	**5:30pm 28/02/2023**
Expected start date of Contract:	7/03/2023

1.2 How to contact us

a. Contact us through our Point of Contact via email or the Government Electronic Tenders Service (GETS).

b. Our Point of Contact:

Name: Cain Duncan
Title/role: Contaminant Intervention Workstream Lead – Fonterra
Phone: 027 703 1743
Email address: cain.duncan@fonterra.com

1.3 Developing and submitting your Quote

a. Take time to read and understand the RFQ.

b. Take time to understand our Requirements. These are in Section 2 of this document.

c. Take time to understand how your Quote will be evaluated. See Section 3 of this document.

d. For resources on submitting a Quote: https://www.procurement.govt.nz/procurement

e. If you have any questions, ask our Point of Contact (see above) in advance of the Deadline for Quotes.

f. Use the attached Response Form to submit your Quote.

g. Complete and sign the declaration at the end of the Response Form.

h. Check you have provided all the necessary information in the correct format and order.

i. Submit your Quote before the Deadline for Quotes.

1.4 Address for submitting your Quote

Submit your Quote to the following address: **cain.duncan@fonterra.com**

Make sure you include all attachments and reference material.

1.5 Our RFQ Terms

a. Offer Validity Period: by submitting a Quote, the Respondent agrees that their offer will remain open for **one** calendar months from the Deadline for Quotes.

b. The RFQ is subject to the RFQ Terms.

1.6 Later changes to the RFQ or RFQ process

a. After publishing the RFQ, if we need to change anything or provide additional information we will let all Respondents know by contacting Respondents by email.

1.7 Define terms

These are shown by the use of capitals. You can find all definitions at the back of the RFQ Terms.

Section 2: Our Requirements

2.1 Background

The Whakamana te Waituna Trust is seeking to install two trial sediment traps on the Jordan and Maher Creeks, within the Waituna catchment. The sediment trap designs are based on the August 2019 Design Report by Tonkin and Taylor, which investigated the location, design, and construction of three instream sediment traps.

Reducing the amount of sediment entering Waituna Lagoon is a specific objective of the contaminant intervention workstream within the Whakamana te Waituna Trust, which aims to improve water quality and the ecological health of the lagoon and waterways within the catchment.

The effectiveness of sediment traps and settling facilities is variable and depends upon a complex interaction of a range of figures, therefore the Trust is seeking to trial two coarse sediment traps in the catchment prior to any larger scale rollout or investment.

The sediment trap design was based on the methodology outlined in Hudson's 2002 Best Management Practice Guidelines, which sets the geometry of the sediment trap based on the target sediment size and range of flows in the watercourse. The traps are designed to capture coarse silt (particle size above 0.063mm) at an efficiency of 90%.

The Tonkin and Taylor design is based on an instream sediment trap; however a number of benefits were seen in moving the design off-stream.

The sediment trap specifications (length, width, batter slopes, etc) have not been modified from the Tonkin and Taylor Design, the trap has only been moved to the side of the main channel to achieve the benefits outlined above. The design modifications required to achieve this have been undertaken by Dairy Green Limited in consultation with Andrew Dakers (EcoEng Ltd) and Robert Hall (Environmental Engineer – CPENG).

2.2 What we are buying

This procurement relates to the purchase of services.

What we are buying	Description
Construction Services	- Excavator and earthworks expertise for the construction of two off-channel sediment traps on the Jordan and Maher Creeks in accordance with the Construction Methodology, Schedule of Works and Design Drawings in Attachment 1. - The installation of two culverts and associated diversion weirs and the permanent fencing (with associated access points/gates) of the sites. - Removal of unused topsoil and subsoil to nearby (less than 200m) location on the landowners property. - *The successful Respondent will also need to operate in accordance with the conditions of project's Resource Consents (Attachment 2).*

2.3 What we require of a supplier

a. Track Record

We are seeking Respondents that can provide experienced machine operators and have a proven track record of undertaking earthworks and excavation projects to a high standard within the Southland Region. The successful Respondent must have proven experience working in and around waterways.

b. Capability

We are seeking Respondents that can provide skilled operators of heavy machinery, such as excavators and can read and accurately implement design drawings and construction methodologies. The successful Respondent must have good knowledge of safe work practices, health and safety regulations and environmental best practice when operating in and around waterways.

c. Capacity

We are seeking Respondents that have the capacity to deliver the construction services in March-April 2023, prior to higher flows occurring in the Maher and Jordan Creeks.

d. Solution

We are looking for Respondents that can work with our engineer (Dairy Green Limited) to implement the design plans and construction methodology (Attachment 1) to a high standard.

e. Timeframe

We are seeking suppliers that can deliver the construction works in March-April 2023, although later construction dates may be considered for the right supplier.

2.4 Key deliverables

Description	Indicative date for delivery
Site Meeting with Engineer (review design plans, construction methodology and Resource Consent Requirements. Plan construction works).	08/03/2023
Completion of Sediment Traps in accordance with design plans and construction methodology (not including connection to waterway)	31/03/2023
Sediment Traps connected to Maher and Jordan Creeks. Flow diverted into sediment traps via temporary sand bagging.	10/04/2023
Installation of culvert and diversion weir into the Maher and Jordan Creeks.	17/04/2023
Removal of sandbags	17/04/2023
Install permanent fence and access gates around sites	17/04/2023

While not preferred, consideration will also be given to quotes to construct one of the two sediment traps. Please make this clear within your quote.

2.5 Contract term

We expect that the Contract will commence February 2023. The anticipated Contract term and options to extend are:

Description	Years
Initial term of the Contract	2 months
Options for us to extend the Contract	By Mutual Agreement

2.6 Delivery locations

We anticipate the Respondent will need to deliver to these locations:

Location	What is being delivered here?
Maher Creek – 605 Lawson Road, Kapuka South	Construction of a 51m x 10m Off-Channel Sediment Trap and associated works listed in Section 2.2.
Jordan Creek – 136 Kapuka North Road, Kapuka	Construction of a 42m x 10m Off-Channel Sediment Trap and associated works listed in Section 2.2.

Section 3: Our Evaluation Approach

This section sets out the Evaluation Approach that will be used to assess Quotes.

3.1 Evaluation model

The evaluation model is **weighted attribute**. This means the Quote that is capable of full delivery on time and scores the highest (applying the weightings for the criteria outlined below) will likely be selected as the Successful Respondent.

3.2 Evaluation criteria

We will evaluate Quotes according to the following criteria [and weightings].

Criteria	Weighting
1. Price	40%
2. Capability (experience and track record) of the Respondent to deliver	30%
3. Capacity of the Respondent to deliver to the required timeframe	30%
Total weightings	**100%**

3.3 Price

If a Respondent offers a substantially lower price than other Quotes, we may make enquiries or require additional evidence to verify that the Respondent can meet all the Requirements and conditions of the Proposed Contract for the price quoted.

Section 4: Our Proposed Contract

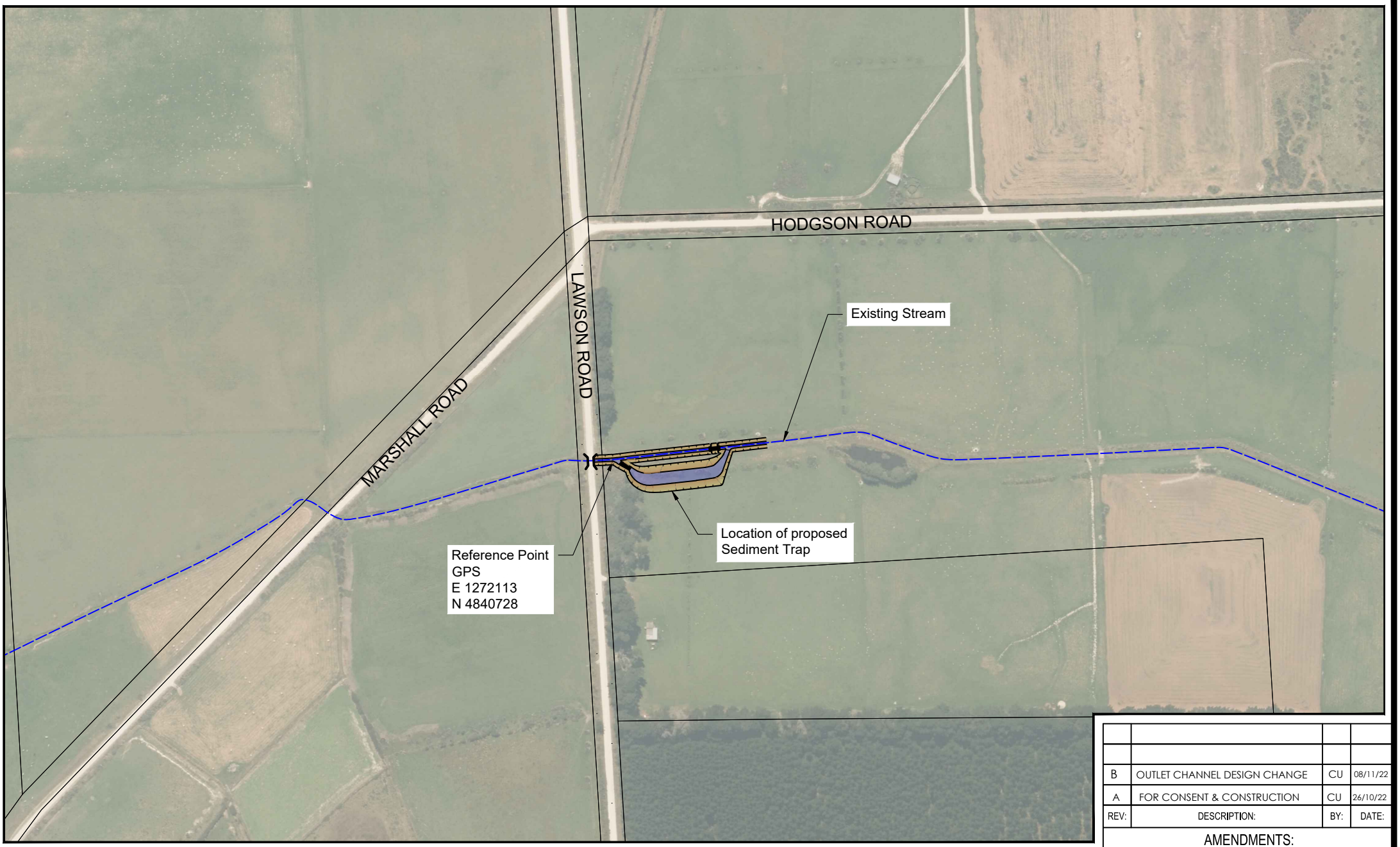
4.1 Proposed Contract

The Proposed Contract that we intend to use for the purchase and delivery of the services is attached to this RFQ

Section 5: RFQ Terms

View the RFQ Terms dated June 2021.

Attachment 1 – Design Drawings, Construction Methodology & Schedules of Work.



REV:	DESCRIPTION:	BY:	DATE:
B	OUTLET CHANNEL DESIGN CHANGE	CU	08/11/22
A	FOR CONSENT & CONSTRUCTION	CU	26/10/22

AMENDMENTS:

Dairy Green Ltd
Practical Engineering Solutions
Consents, Effluent, Stock water, Irrigation
Design through to Installation

INVERCARGILL OFFICE
Ph 03 215 4381
10 Kinloch Street,
PO Box 5003,
Waikiwi,
Invercargill 9843
scandrettrural@xtra.co.nz

SITE:
MUNRO SEDIMENT TRAP - LAWSON ROAD

TITLE:
SITE MAP

DG - 100	MUNRO		08/11/22
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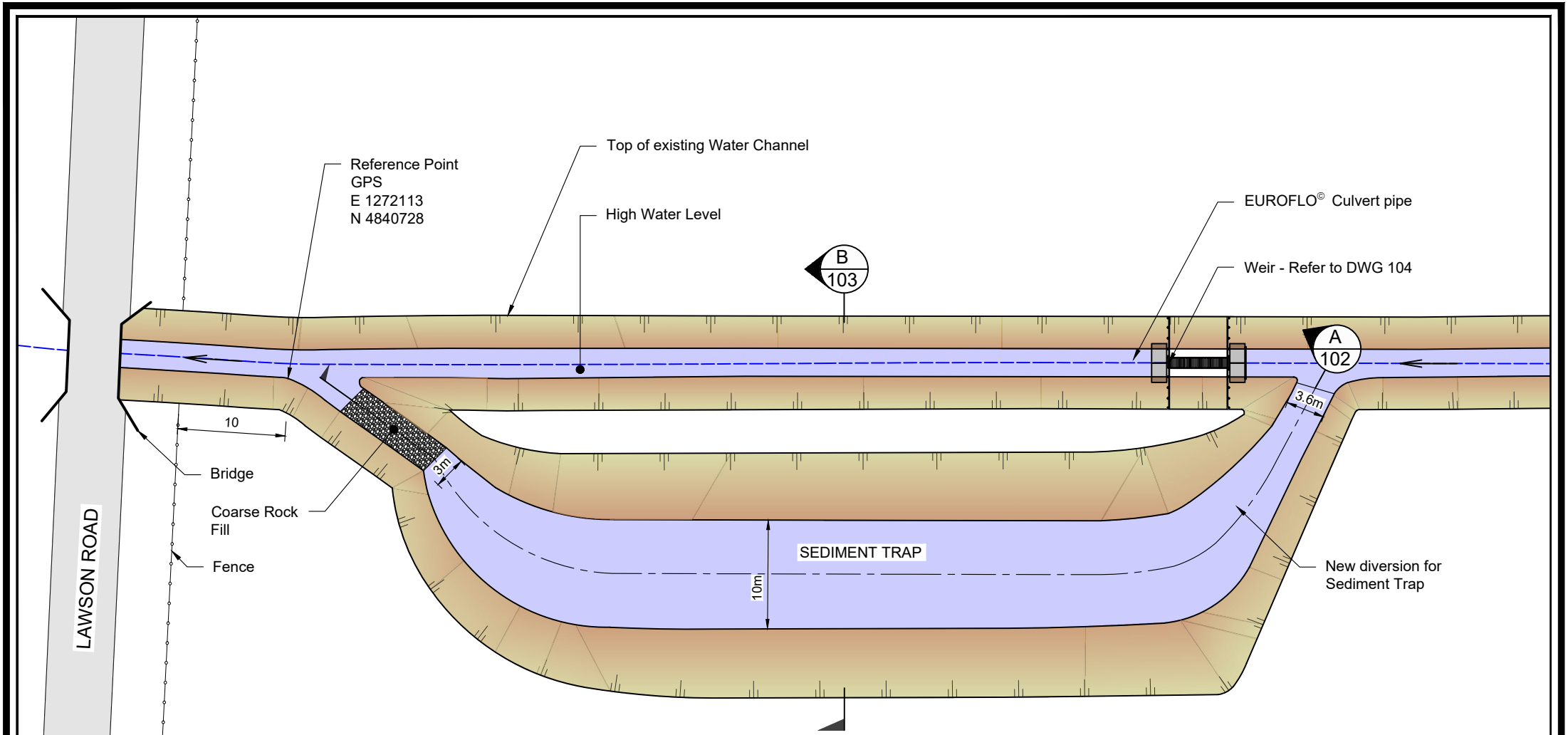

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TITLE: SEDIMENT TRAP PLAN

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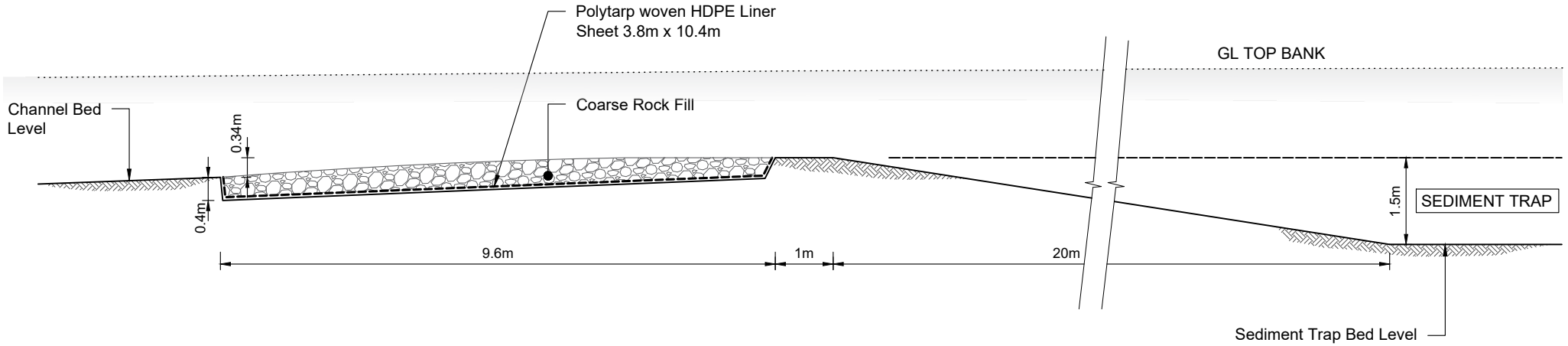
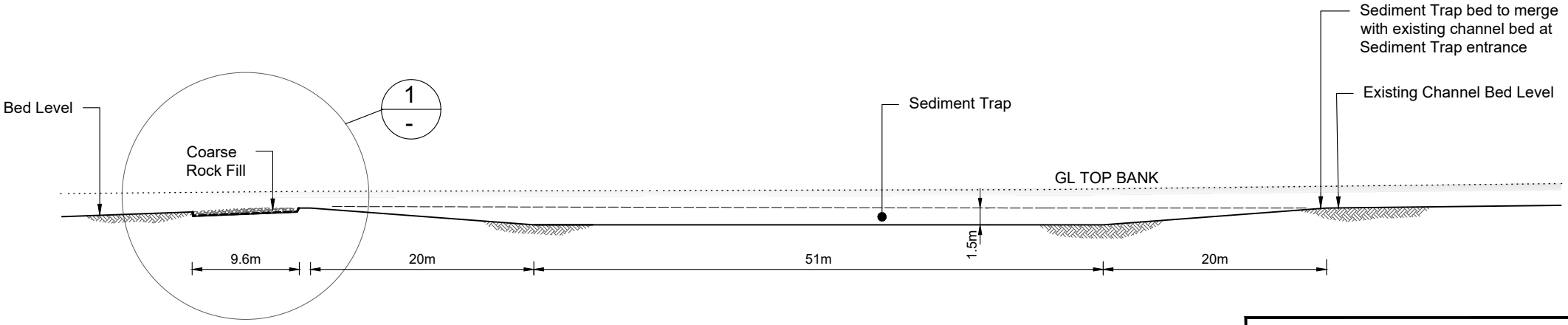


DETAIL 1: OUTLET CHANNEL DETAIL
SCALE 1:100



SECTION A: LONG SECTION AT BED LEVEL
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SITE: MUNRO SEDIMENT TRAP - LAWSON ROAD

TITLE: LONG SECTION AT BED LEVEL

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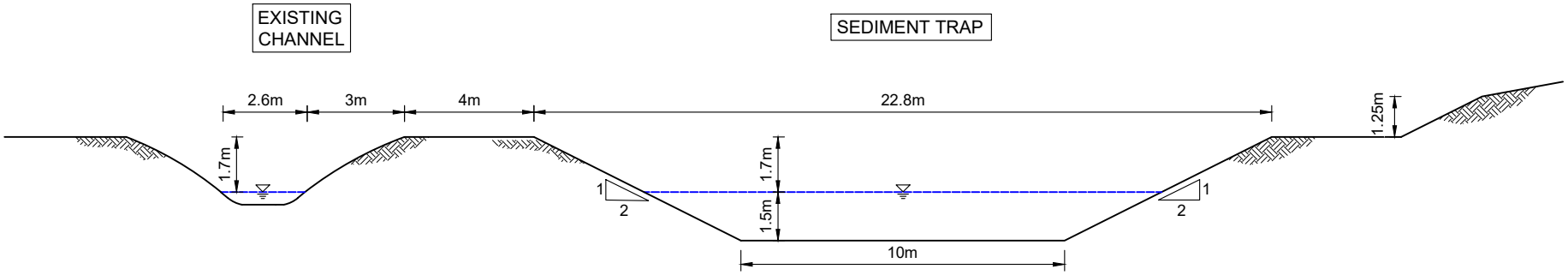

SECTION B: SEDIMENT TRAP CROSS SECTION AT MIDPOINT
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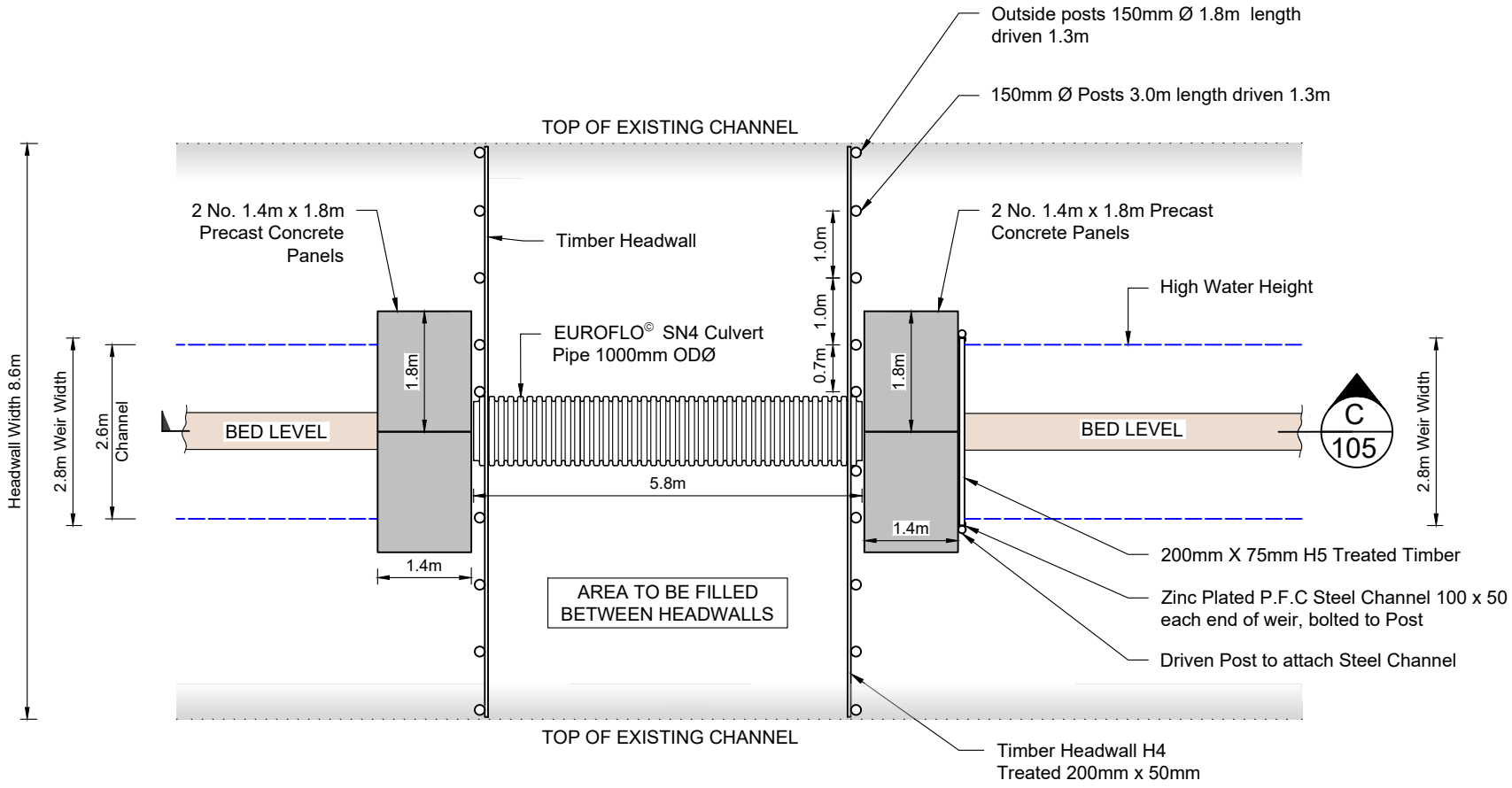

PLAN VIEW - CULVERT AND WEIR

SCALE 1:100

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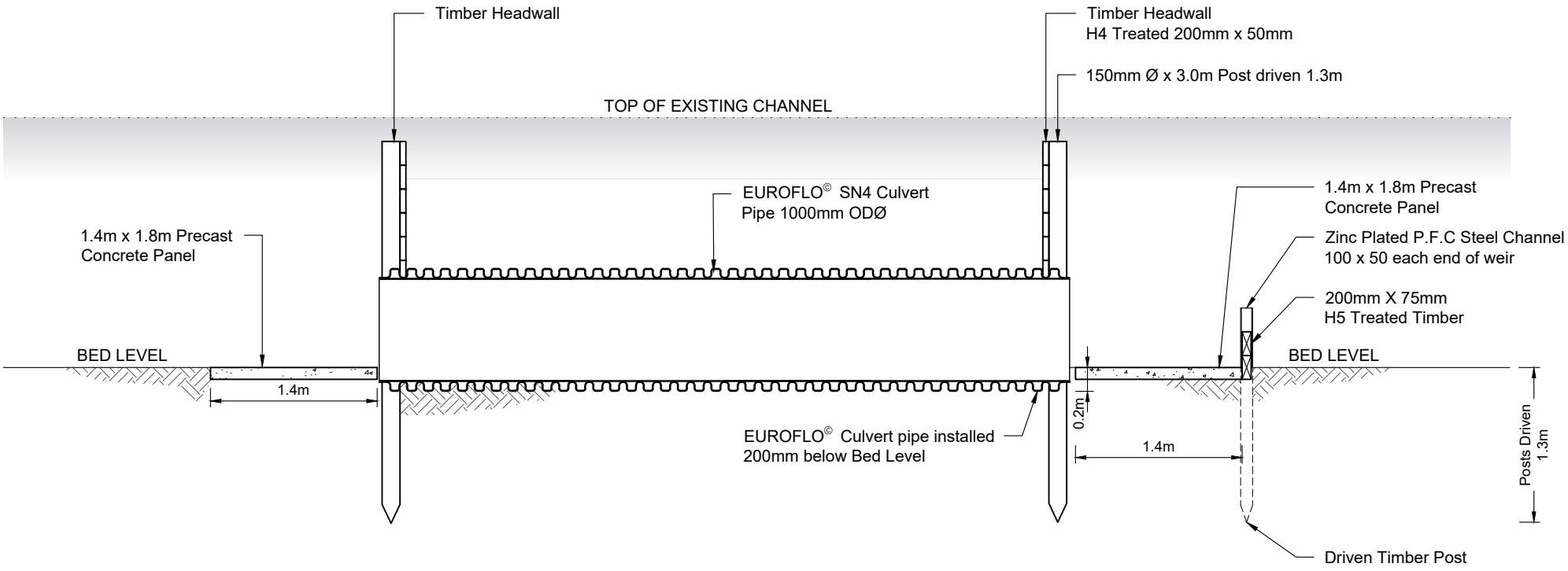

SECTION C: CULVERT AND WEIR LONG SECTION
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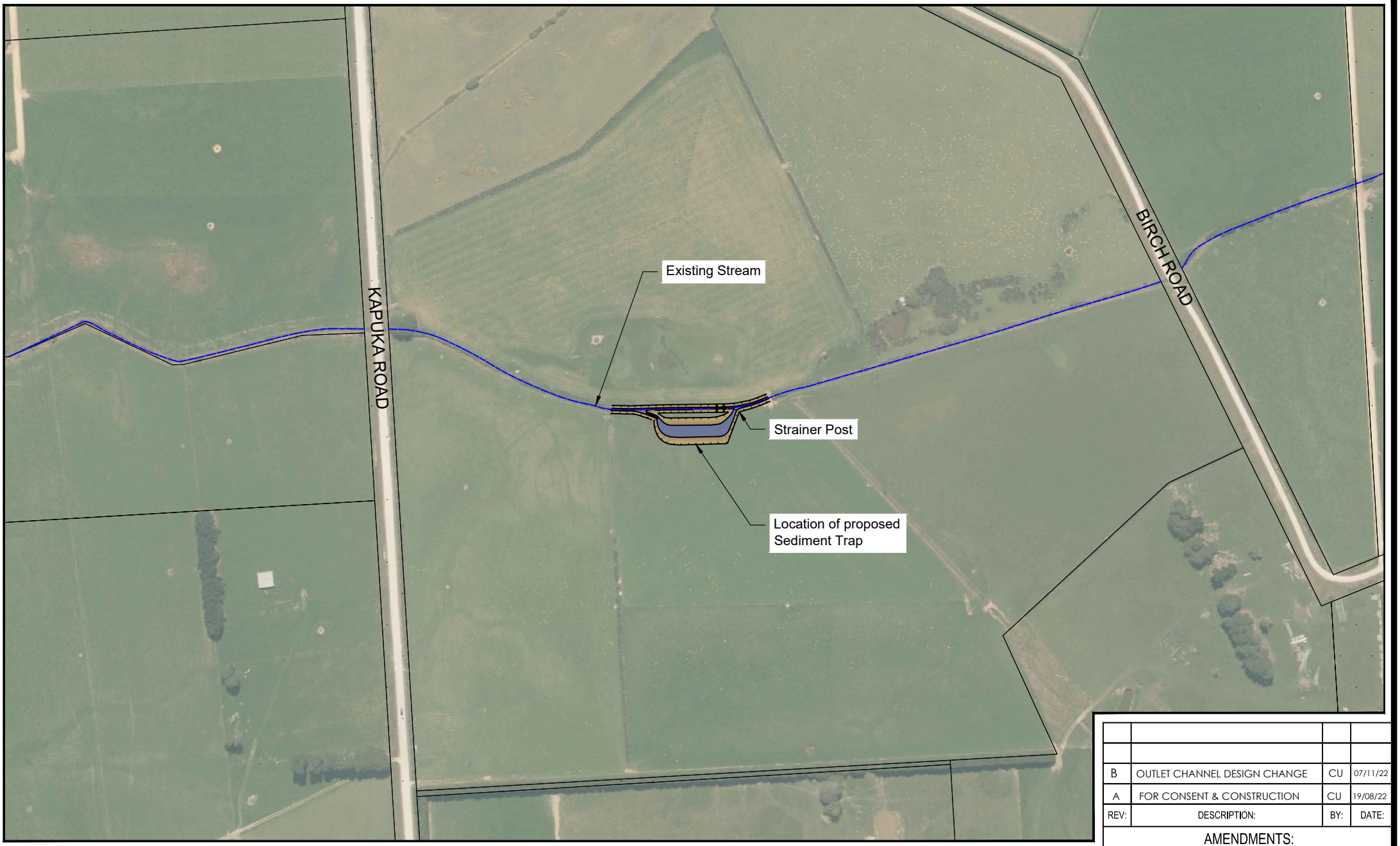

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SITE:
VAN ROSSUM SEDIMENT TRAP - KAPUKA RD

TITLE:
SITE MAP

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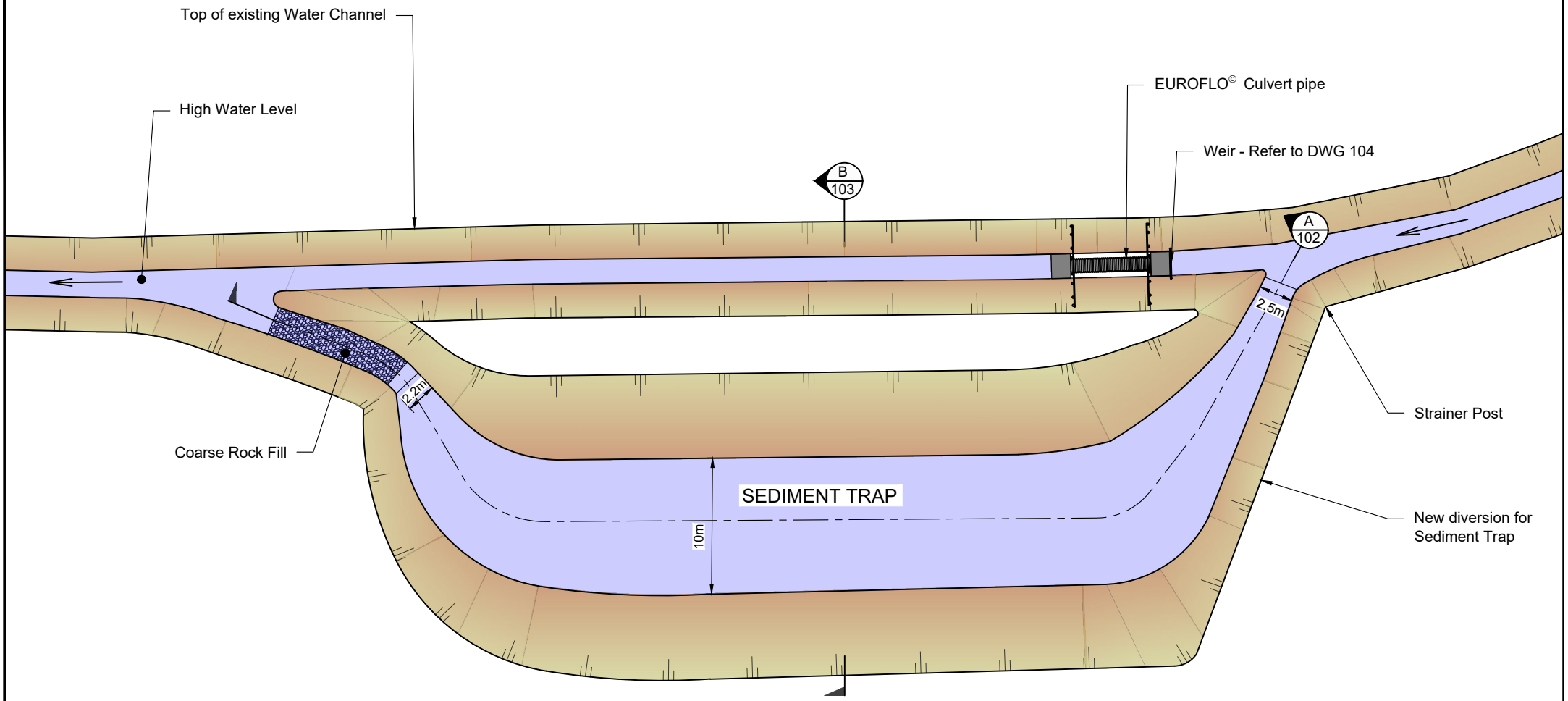

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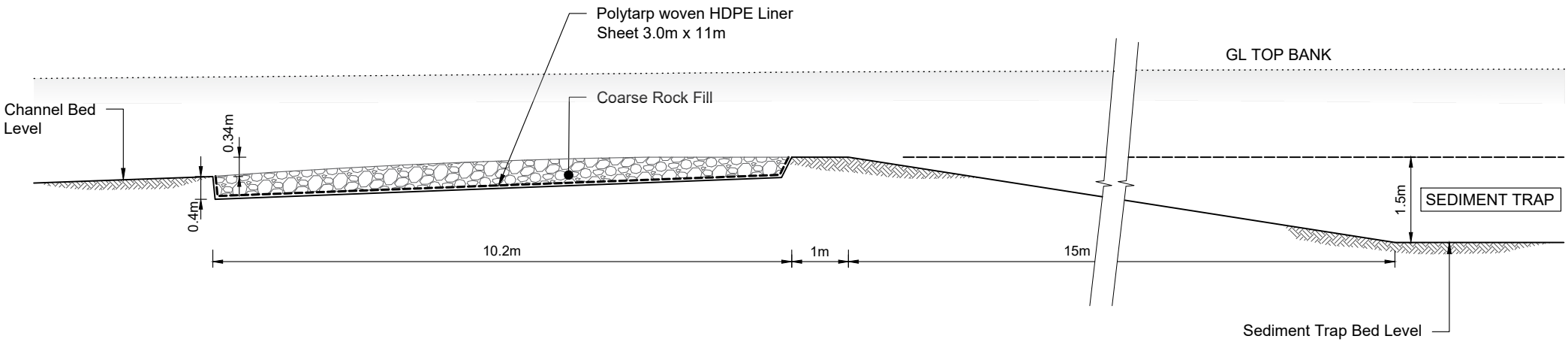

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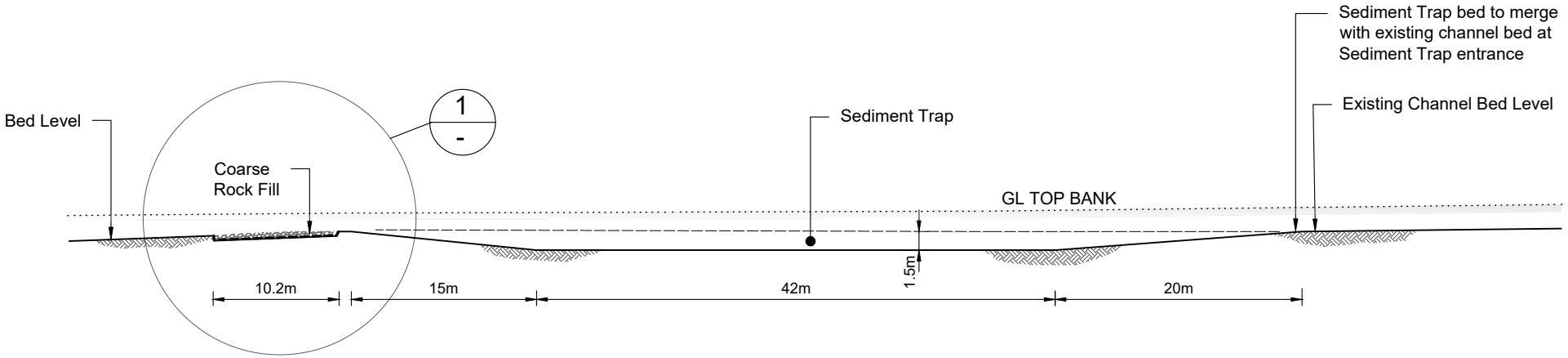

SECTION A: LONG SECTION AT BED LEVEL
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TITLE: LONG SECTION AT BED LEVEL

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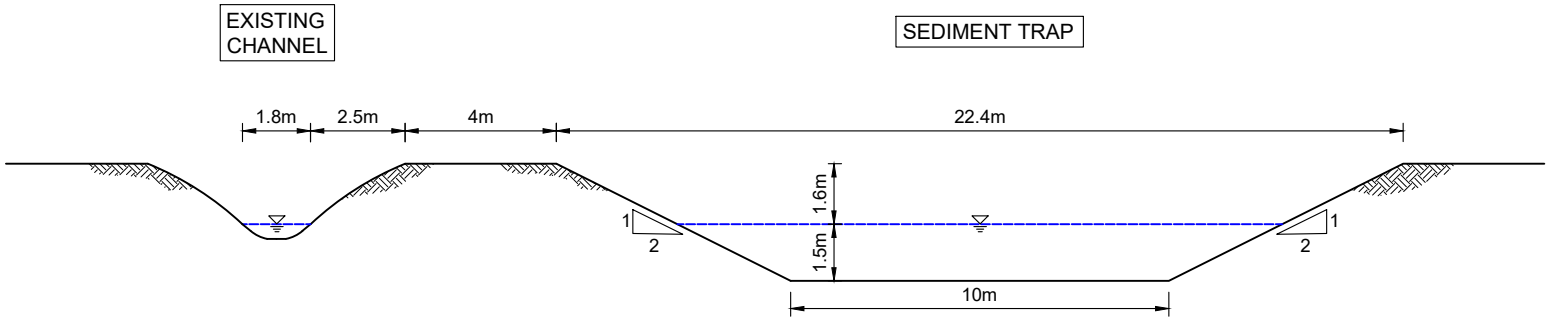

SECTION B: SEDIMENT TRAP CROSS SECTION AT MIDPOINT
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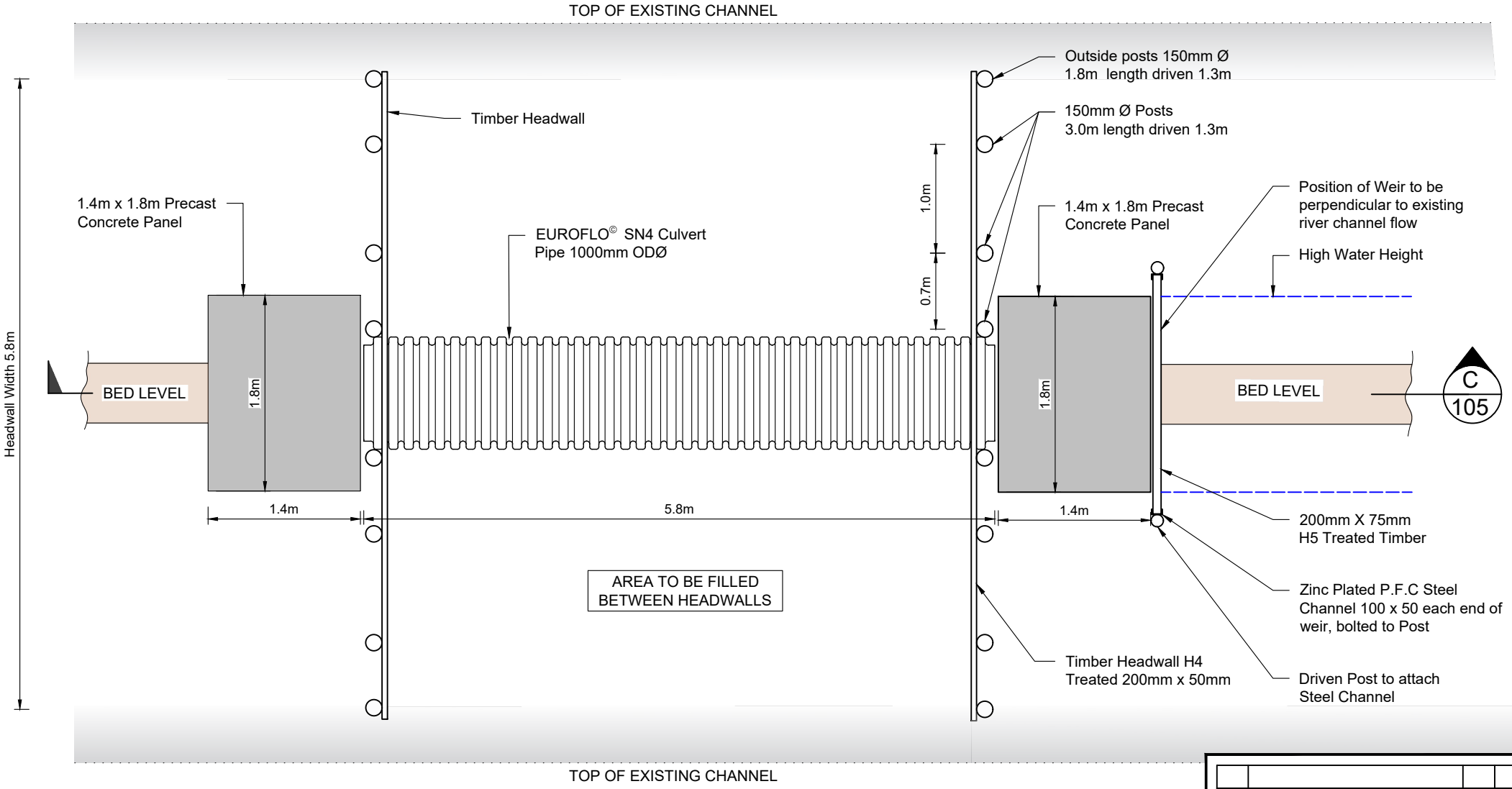

PLAN VIEW - CULVERT AND WEIR
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TITLE:
CULVERT AND WEIR

DG - 104	VAN ROSSUM		07/11/22
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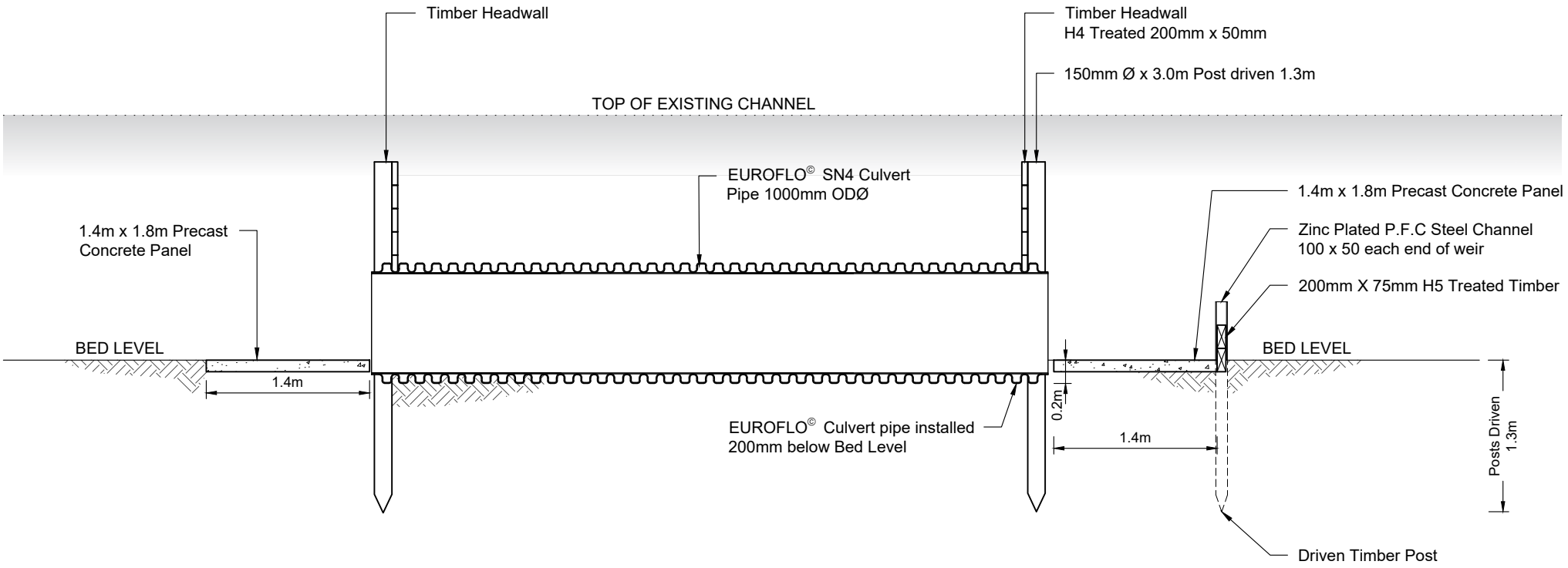

SECTION C: CULVERT AND WEIR LONG SECTION
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Construction Methodology

The following general comments apply to the construction of the Maher Creek and Jordan Creek sediment traps. Specific comments applicable to each site are listed after the general section.

General

Site Meeting

It is recommended a site meeting be held with Cain Duncan and John Scandrett and the property owner prior to the mobilisation of any machinery. The purpose would be to discuss the site plans and any specific site requirements including the placement of stock piles. The contractor would explain their work methodology and the equipment to be used. The property owner would confirm access arrangements including topsoil, subsoil and gravel transport routes and any constraints.

Health and Safety requirements can be discussed.

Pegging Out

The engineer will assist with pegging out the critical dimensions when work is due to start. After that any fences that need to be moved can be taken down. If there is a need for temporary fencing that can be discussed with the property owner.

Erosion and Sediment Management

Because the sediment traps are being built off channel the risk of sediment issues in the waterway should be much reduced. Care will be needed when excavating the connecting channels out of and into the trap. Consideration should also be given to sediment movement from any stock piles and that there will be sufficient riparian pasture treatment of any rainfall run off.

Excavation

The sediment trap should be excavated to dimension with topsoil, subsoil and gravel progressively removed, stock piled or taken to the fill sites as required.

Topsoil

The completed batter slopes should have topsoil / turf applied to stabilise them is quickly as possible.

Rock Rip-Rap

Once the sediment trap is excavated the outlet channel can be completed and rock rip-rap placed as per the plans. The inlet channel can then be excavated and flow gradually introduced into the trap.

Fish Assessment

At the time the sediment trap is to be connected to the creek Fish and Game will survey the reach that will be made dry and management the movement of fish.

Culvert

Prior to the installation of the culvert the creek will need to be sand bagged to divert the full flow into the sediment trap. The culvert and diversion weir can then be installed in the dry.

Reinstatement

The site will need to be reinstated back to pre works condition i.e. fences installed, in agreement with the property owner. Any pasture damage from machinery operation or stock piling of materials

will need to be made good. Access gates will be required to facilitate future sediment removal, particularly access to the culvert will be required.

Site Specific Information

Maher Creek Site, 605 Lawson Road

Adjacent to Lawson Road on the south side of Maher Creek and beside the proposed sediment trap site is on old gravel pit site. It is proposed to deposit surplus topsoil and subsoil in the gravel pit, progressively filling the hole until the subsoil is used. Any surplus topsoil after the sediment trap batters have been turfed will be used to cover the subsoil. The old gravel pit will need to be cleaned progressively as the subsoil is used to fill it.

Gravel from the sediment trap will be stock piled at a point to be determined by the landowner but will be within 200 m of the sediment trap site.

Jordan Creek Site, 136 Kapuka North Road

The fill area for surplus material from the Jordan Creek sediment trap will be deposited in the paddock on the north side of the creek. Access to the paddock will be via a new culvert on the laneway to the east of the sediment trap site.

Fill material will be deposited against the edge of an existing “terrace” and the topsoil will need to be stripped from the fill area first for replacement afterwards.

Surplus topsoil after the sediment trap batters have been turfed can also be used to cover the fill.

Gravel from the sediment trap excavation is to be stock piled adjacent to the sediment trap for the use of the property owner. The property owner has tractors and trailers and is potentially available to assist with cartage of materials.

Schedule of Work

Jordan Creek Site, 136 Kapuka North Road

Fencing

- Approximately 100 m of post and netting fence to be removed at the start of the job.
- Approximately 130 m of post and netting fence to be erected at the end of the job.
- One set of double gates to be supplied and erected to provide access to the culvert.

Earthworks

All volumes are solid measure.

Topsoil

- Assuming 0.5 m average topsoil depth, 814 m^3 to be stripped and stock piled.
- Once the sediment trap batters are cut, approximately 110 m^3 turf to be applied at 0.15 m depth allowance.

Subsoil

- A silt and sand subsoil underlies the topsoil and gravel under lies the subsoil
- Assuming 0.7 m average depth of subsoil the volume to excavate is approximately 935 m^3
- The volume of gravel to excavate is approximately 1,692 m^3

Culvert

Materials required.

1 x SN4 culvert pipe 1,000 mm OD x 5.8 m
2 x 1.4 x 1.8 m precast concrete panels x 0.08 m
12 posts 3.3 m long 150 mm SED
4 posts 1.8 m long 150 mm SED
91 m timber head wall H_4 Treated 200 mm x 50 mm
50 m^3 of gravel fill, approximately
Culvert to be installed as per the plans

Rock Rip-Rap

14 m^3 approximately of coarse rock rip rap to supply and place
32 m^2 approximately of woven HDPE liner, typically available in 4 m wide rolls to supply and place

Weir

2 x 1.8 m long 150 mm SED posts
2 x 100 x 50 zinc plated P.F.C. steel channel x 0.6 m long fastened to posts with 4 12 mm x 100 mm galv coach screws
3 x 200 x 50 H_5 treated timber x 2.1 m
Weir to be constructed as per the plans

Schedule of Work

Maher Creek Site, 605 Lawson Road

Fencing

- Approximately 108 m of post and netting fence to be removed at the start of the job.
- Approximately 140 m of post and netting fence to be erected at the end of the job.
- One set of double gates to be supplied and erected to provide access to the culvert.

Earthworks

All volumes are solid measure.

Topsoil

- Assuming 0.5 m average topsoil depth, 885 m^3 to be stripped and stock piled.
- Once the sediment trap batters are cut, approximately 160 m^3 turf to be applied at 0.15 m depth allowance.

Subsoil

- The subsoil is predominantly gravel with some sand layers through it.
- The volume to excavate and stock pile is approximately 3,344 m^3.

Culvert

Materials required.

1 x SN4 culvert pipe 1,000 mm OD x 5.8 m
4 x 1.4 x 1.8 m precast concrete panels x 0.08 m
16 posts 3 m long 150 mm SED
4 posts 1.8 m long 150 mm SED
97 m timber head wall H_4 Treated 200 mm x 50 mm
50 m^3 of gravel fill, approximately
Culvert to be installed as per the plans

Rock Rip-Rap

14 m^3 approximately of coarse rock rip rap to supply and place
32 m^2 approximately of woven HDPE liner, typically available in 4 m wide rolls to supply and place

Weir

2 x 1.8 m long 150 mm SED posts
2 x 100 x 50 zinc plated P.F.C. steel channel x 0.6 m long fastened to posts with 4 12 mm x 100 mm galv coach screws
3 x 200 x 50 H_5 treated timber x 3.0 m
Weir to be constructed as per the plans

Attachment 2 - Resource Consents

AUTH-20222662-03

environment SOUTHLAND REGIONAL COUNCIL
Te Taiao Tonga

Cnr North Road and Price Street
(Private Bag 90116
DX YX20175)
Invercargill

Telephone (03) 211 5115
Fax No. (03) 211 5252
Southland Freephone No. 0800 76 88 45

Land Use Consent

Under Section 104B of the Resource Management Act 1991, a resource consent is granted by the Southland Regional Council to **Whakamana te Waituna Charitable Trust** of **Private Bag 90116, Invercargill 9840** from **9 February 2023**.

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Permit

Purpose for which permit is granted:		To disturb the bed of a river to construct a sediment trap at two locations.
Location	- site locality	Site 1/Munro site: 605 Lawson Road Site 2/Van Rossum site: 136 Kapuka North Road
	- map reference	Site 1/Munro site: NZTM2000 1260702E 4840742N Site 2/Van Rossum site: NZTM2000 1264131E 4847590N
	- river/waterway	Site 1/Munro site: Maher Creek Site 2/Van Rossum site: Jordan Creek
	- catchment	Waituna Creek
	- FMU	Mataura
Legal description of land at the site:		Site 1/Munro site: Lot 9 DP 14284 Site 2/Van Rossum site: Lot 1 DP 4577
Expiry date:		**9 February 2033**

Schedule of Conditions

1. This consent authorises the disturbance of the bed of a river to construct two sediment traps at the locations specified above, as described in the application for resource consent dated 11th November 2022[1].

2. The sediment traps shall be equipped with rocky ramp outlets to dam surface water and allow for suitable fish passage.

Placement

3. (a) Construction of the sediment traps shall be completed by 9 February 2025.

   (b) The sediment traps shall be sized, constructed and located as shown on plan attached to this consent as Appendix A.

4. During construction of the sediment traps, the Consent Holder shall ensure that the sediment traps are not opened to the adjacent waterways to allow water to flow through the structures, until all construction works are complete.

5. As far as practicable, the works shall be completed within 6 weeks from commencement.

   (a) If not, the Consent Holder shall advise the Consent Authority, in writing (email: escompliance@es.govt.nz) of the reasons for the delay, whether any instream works remain to be completed, and the timeframe for completion.

6. After the construction works are complete, the inlet channels shall be progressively cut down to allow a gradual flow into and out of the sediment traps, in order to minimise sedimentation.

7. The Consent Holder shall ensure that any excess outflow or overflow can flow through the original channel of the waterway, in conjunction with the sediment traps as a flow sharing arrangement.

Use of the structure

8. The Consent Holder shall develop, maintain and operate in accordance with a Sediment Trap Monitoring and Maintenance Plan. The Plan shall include the requirements in Appendix B.

   (a) the Sediment Trap Monitoring and Maintenance Plan is required to be submitted to the Consent Authority (email: escompliance@es.govt.nz) within 6 months of the completion of the structures;

   (b) the Sediment Trap Monitoring and Maintenance Plan is required to be reviewed and submitted to the Consent Authority:
      i. by 31 July 2027 and 2031; and
      ii. after each significant natural hazard event that affects the structure.

   (c) the Sediment Trap Monitoring and Maintenance Plan can be combined with the Culvert and Weir Monitoring and Maintenance Plan required under AUTH-20222662-01.

Review of consent

9. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the

[1] Environment Southland reference document A846946

conditions of this consent during the period 1 February to 30 September each year, or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, or on receiving monitoring results, for the purposes of:

(a) determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit;
(b) ensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or Policy Statement;
(c) amending the monitoring programme to be undertaken; or
(d) adding or adjusting compliance limits.

for the **Southland Regional Council**

Lacey Bragg
Team Leader Consents

Note:

1. *The Consent Holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991. This charge may include the costs of inspecting the site upon completion of the works (or otherwise as set by the Consent Authority's Annual Plan).*

AUTH-20222662-01

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Land Use Consent

Under Section 104B of the Resource Management Act 1991, a resource consent is granted by the Southland Regional Council to **Whakamana te Waituna Charitable Trust** of **Private Bag 90116, Invercargill 9840** from **9 February 2023**.

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Permit

Purpose for which permit is granted:		To disturb the bed of, place and use a structure on the bed of a watercourse for the purpose of installing a culvert crossing and an adjustable weir at two locations.
Location	- site locality	Site 1/Munro site: 605 Lawson Road Site 2/Van Rossum site: 136 Kapuka North Road
	- map reference	Site 1/Munro site: NZTM2000 1260702E 4840742N Site 2/Van Rossum site: NZTM2000 1264131E 4847590N
	- catchment	Waituna Creek
	- FMU	Mataura
Legal description of land at the site:		Site 1/Munro site: Lot 9 DP 14284 Site 2/Van Rossum site: Lot 1 DP 4577
Expiry date:		**9 February 2033**

Schedule of Conditions

1. This consent authorises the placement and use of:

(a) The following structures at Site 1/Munro site, in the bed of the stream, at the location specified above, as described in the application for resource consent dated 11th November 2022[1]:
i. a culvert of 6 metre length and 1 metre diameter; and
ii. an adjustable height weir consisting of individual slats measuring 0.2m in height x 0.075m in width and 3m in length.

(b) The following structures at Site 2/Van Rossum site in the bed of the stream, at the location specified above, as described in the application for resource consent dated 11th November 2022[2]:
i. a culvert of 6 metre length and 1 metre diameter; and
ii. an adjustable height weir consisting of individual slats measuring 0.2m in height x 0.075m in width and 3m in length.

Placement

2. (a) Placement of the structure shall be completed by 9 February 2025.

(b) The structure shall be sized, constructed and located as shown on the plan attached to this consent as Appendix A1 and A2.

3. During placement of the structures, the Consent Holder shall ensure that:

(a) contaminants, other than sediment, but including cement and oil are prevented from entering the waterways during the construction works;
(b) all reasonable steps shall be taken to minimise the release of sediment to water;
(c) the structures and approaches are constructed so that run-off from the structures are discharged to land rather than directly to the stream/river;
(d) fish passage is not impeded as a result of the construction works;
(e) the invert of the culverts are installed 300 millimetres or one third of the internal culvert height, whichever is lesser, below the natural bed level of the streams;
(f) all construction equipment, machinery, plant, and debris are removed from the site on completion of the works;
(g) silt disturbance and instream works are kept to a minimum;
(h) no washing of equipment occurs in the stream;
(i) any stream banks disturbed or eroded during the construction works are to be restored and resown with pasture species upon completion of the works;
(j) works shall, as far as practicable, be undertaken when flows in the watercourse are low. To achieve this:
    i. the works shall not commence when flow in the Waituna Creek at Environment Southland's Waituna Creek at Marshall Road monitoring site is above 1.5 cumecs.
(k) as far as practicable, the works shall be completed within 6 weeks from commencement. If not:
    i. the Consent Holder shall advise the Consent Authority, in writing (email: escompliance@es..govt.nz) of the reasons for the delay, whether any instream works remain to be completed, and the timeframe for completion.

4. The Consent Holder shall ensure that the structures have been designed and installed so that once placement of the structures are complete, the works authorised by this consent do not cause any flooding, erosion, scouring, land instability or property damage.

[1] Environment Southland reference document A846946
[2] Environment Southland reference document A846946

5. In the event of any contamination of the watercourse during placement of the structures, the Consent Holder shall remove the contaminants immediately from the site and notify, without undue delay, the Consent Authority.

6. The Consent Holder shall notify the Consent Authority in writing (escompliance@es.govt.nz) on commencement and upon completion of the works to place the culvert and weir structures at each site.

7. The Consent Holder shall supply the Consent Authority (email: escompliance@es.govt.nz) with the information listed in Appendix 1 within 20 days of the culvert installation, for each culvert.

8. There shall be no disturbance of the roosting and nesting areas of the black fronted tern, black billed gull, and banded and black fronted dotterel, or the feeding areas of the banded and black fronted dotterel, during placement of the structures.

9. The Consent Holder shall take all reasonable precautions to minimise the spread of pest plants and aquatic weeds during placement and maintenance of the structures. In particular, the Consent Holder shall:

   (a) remove any vegetation caught on any machinery utilised for the placement and maintenance of the structures; and
   (b) to avoid the spread of the *didymosphenia geminata* or any other pest plant, do not use machinery in the berm or bed of the stream(s) that has been used in any area where the pest plant(s) are known to be present in the previous 20 working days, unless it has been thoroughly cleansed.

10. In the event of a discovery, or suspected discovery, of a site of cultural importance (Waahi Taonga/Tapu) during the construction, the Consent Holder shall immediately cease operations in that location and inform the local iwi authority (Te Ao Marama Inc, phone 03 931 1242). Operations may recommence at a time as agreed upon in writing with the Consent Authority. The discovery of Koiwi (human skeletal remains) or Taonga or artefact material (e.g. pounamu/greenstone) would indicate a site of cultural importance. Appendix 2 to this consent outlines the process that is to be followed in the event of such a discovery.

Use of the structure

11. The Consent Holder shall develop, maintain and operate in accordance with a Culvert and Weir Monitoring and Maintenance Plan. The Plan shall include the requirements in Appendix B:

    (a) the Culvert and Weir Monitoring and Maintenance Plan is required to be submitted to the Consent Authority (email: escompliance@es.govt.nz) within 6 months of the completion of the structures;

    (b) the Culvert and Weir Monitoring and Maintenance Plan is required to be reviewed and submitted to the Consent Authority:
        i. by 31 July 2027 and 2031; and
        ii. after each significant natural hazard event that affects the structure.

    (c) the Culvert and Weir Monitoring and Maintenance Plan can be combined with the Sediment Trap Monitoring and Maintenance Plan required under AUTH-20222662-03.

12. The Consent Holder shall monitor and maintain each structure to ensure its provision for the passage of fish does not reduce over its lifetime. This shall include visual checks of each structure

and its immediate environs in accordance with the timeframes outlined in the Culvert and Weir Monitoring and Maintenance Plan, for:

- build-up of debris on the upstream side;
- perching of the culvert(s) and/or a waterfall at the downstream side; and
- excess sediment build-up immediately either side of the structure(s), resulting in the stream largely infiltrating through the sediment rather than the majority of flow passing over the sediment.

Administration and review

13. The Consent Holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991. This charge may include the costs of inspecting the site upon completion of the works (or otherwise as set by the Consent Authority's Annual Plan).

14. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period 1 February to 30 September each year, or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, or on receiving monitoring results, for the purposes of:

    (a) determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit;
    (b) ensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or Policy Statement;
    (c) amending the monitoring programme to be undertaken; or
    (d) adding or adjusting compliance limits.

for the **Southland Regional Council**

Lacey Bragg
Team Leader Consents

Note:

1. *Avoid spreading Didymo – Environment Southland strongly recommends that the consent holder, and any person or contractor engaged by the Consent Holder to carry out the works authorised by this consent, use the "check, clean, dry" management approach as set out in the Biosecurity Management Guidelines (available at www.biosecurity.govt.nz or from Environment Southland) when entering and leaving the river environs.*

2. *The Consent Holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991. This*

charge may include the costs of inspecting the site upon completion of the works (or otherwise as set by the Consent Authority's Annual Plan).

environment SOUTHLAND
Te Taiao Tonga

AUTH-20222662-02

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Invercargill

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Southland Freephone No. 0800 76 88 45

Water Permit

Under Section 104B of the Resource Management Act 1991, a resource consent is granted by the Southland Regional Council to **Whakamana te Waituna Charitable Trust** of **Private Bag 90116, Invercargill 9840** from **9 February 2023**.

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Permit

Purpose for which permit is granted:		To partly dam and divert the surface water of a waterway to a sediment trap at two locations.
Location	- site locality	Site 1/Munro site: 605 Lawson Road Site 2/Van Rossum site: 136 Kapuka North Road
	- map reference	Site 1/Munro site: NZTM2000 1260702E 4840742N Site 2/Van Rossum site: NZTM2000 1264131E 4847590N
	- catchment	Waituna Creek
	- FMU	Mataura
Legal description of land at the site:		Site 1/Munro site: Lot 9 DP 14284 Site 2/Van Rossum site: Lot 1 DP 4577
Expiry date:		**9 February 2033**

Schedule of Conditions

1. This consent authorises the partial damming and diversion of a waterway to a sediment trap at the locations specified above, as described in the application for resource consent[1].

2. The diversion shall not result in:

   (a) flooding/inundation to any other person's property;
   (b) erosion/land instability effects; and

[1] Environment Southland reference document A846946

(c) adverse sedimentation effects.

3. (a) After the completion of the diversion and damming works, the Consent Holder shall monitor the sediment traps for stranded fish:
   i) during each monitoring inspection under the Culvert and Weir Monitoring and Maintenance Plan specified under AUTH-20222662-01; and/or
   ii) during each monitoring inspection under the Sediment Trap Monitoring and Maintenance Plan specified under AUTH-20222662-03.

   (b) The Consent Holder shall relocate any stranded fish identified during the inspections specified in Condition 3(a) or during any other inspections, downstream of the sediment trap(s).

Advice Note:
The Consent Holder has advised the relocation of any stranded fish identified under Condition 3(b) be done so in collaboration with Fish and Game.

4. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent during the period 1 February to 30 September each year, or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, or on receiving monitoring results, for the purposes of:

   (a) determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit;
   (b) ensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or Policy Statement;
   (c) amending the monitoring programme to be undertaken; or
   (d) adding or adjusting compliance limits.

for the **Southland Regional Council**

Lacey Bragg
Team Leader Consents

Note:
1. The Consent Holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991. This charge may include the costs of inspecting the site upon completion of the works (or otherwise as set by the Consent Authority's Annual Plan).

Attachment 3 – Site test pit investigation logs & pictures

TONKIN & TAYLOR LTD

EXCAVATION LOG

BOREHOLE No: TP 01
Location: 70 m downstream of bridge
SHEET 1 OF 1

PROJECT: Waituna Sediment Traps - Van Rossum Site | LOCATION: Van Rossum | JOB No: 1006933

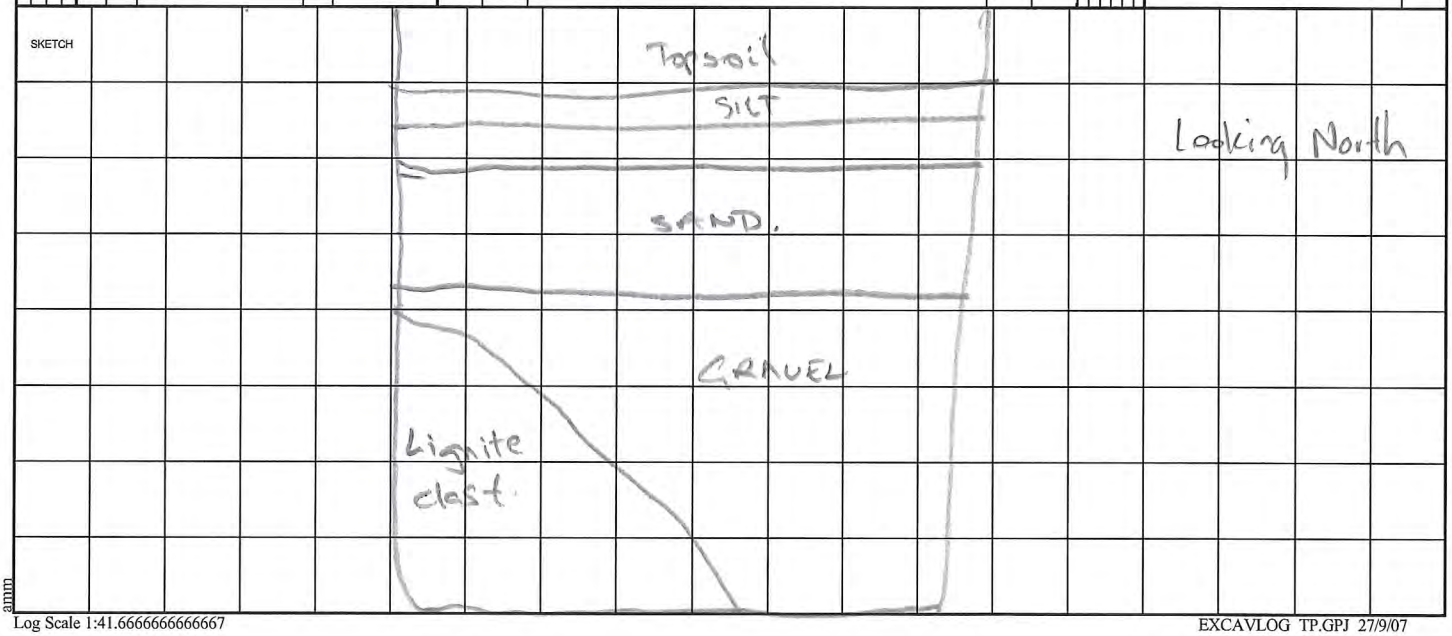
CO-ORDINATES: mN 4854142.83 mE 317721.45
R.L. m
DATUM

EXPOSURE TYPE: Testpit
EQUIPMENT: 14T Excavator
OPERATOR: Gunther Excavating
DIMENSIONS: 2.0 m x 4.0 m

EXCAV. STARTED: 21/05/2019
EXCAV FINISHED: 21/05/2019
LOGGED BY: EDA
CHECKED BY: SF

EXCAVATION TESTS						ENGINEERING DESCRIPTION					GEOLOGICAL	
PENETRATION 1 2 3	SUPPORT	WATER	SAMPLES, TESTS	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITION / WEATHERING	STRENGTH / DENSITY CLASSIFICATION	ESTIMATED SHEAR STRENGTH (kPa) 10 25 50 100 200	ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE	UNIT
			Rainfall preceeding test pits		0			SILT, some sand, minor rootlets and trace medium well rounded gravel, dark brown (organic), moist, soft.	M	S		Topsoil	
								SILT; trace rootlets and fibrous wood; brownish grey mottled orange and light grey; soft; dry; low-moderate plasticity.	D	S		Alluvial gravels and overbank deposits	
					1			Fine to coarse SAND; some silt; brownish grey mottled orange; loose; moist	M	L MD		Kamahi Terrace Gravels	
								Sandy fine to coarse GRAVEL with some silt; trace cobbles (150 mm); dark grey; rounded to sub rounded gravels and cobbles; sand is fine to coarse; moist; medium dense.	M	MD			
					2			Silty fine to coarse SAND; trace fine to coarse rounded gravels (quartz rich); bluish grey; medium dense; moist. Trace cobbles to boulders from 1.4 m	M				
					3			Silty sandy fine to coarse rounded GRAVEL; bluish grey with orange horizon on top of layer; saturated; medium dense to dense; Sand is fine to coarse. Lignite rip up clast; brownish black; hard from 2.4 m Colour change to dark brownish grey from 2.9 m.	S	MD -D			
					4			E.O.H at 4.0 m bgl - Target depth reached.					

SKETCH



Log Scale 1:41.6666666666667

EXCAVLOG TP.GPJ 27/9/07

TONKIN & TAYLOR LTD

EXCAVATION LOG

BOREHOLE No: TP 02
Location: 30 m downstream of bridge
SHEET 1 OF 1

PROJECT: Waituna Sediment Traps - Van Rossum Site | LOCATION: Van Rossum | JOB No: 1006933

CO-ORDINATES: mN 4854148.17, mE 317766.84 | EXPOSURE TYPE: Testpit | EXCAV. STARTED: 21/05/2019

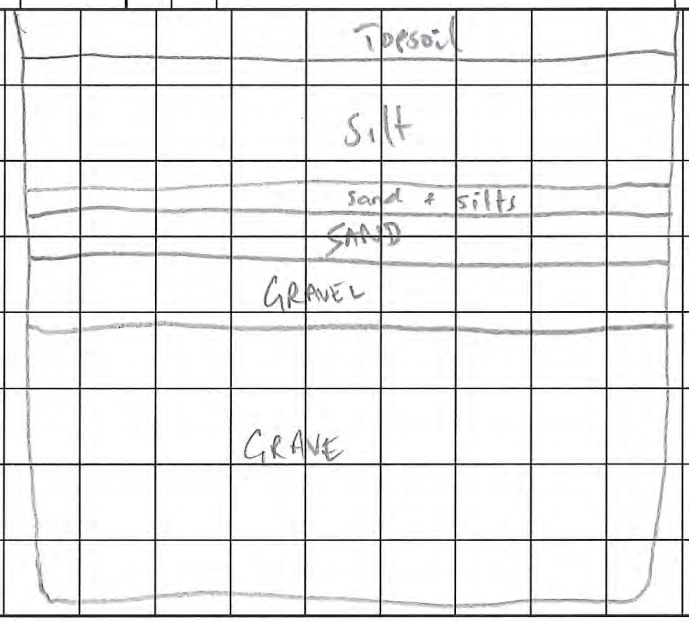
R.L. m | EQUIPMENT: 14T Excavator | EXCAV FINISHED: 21/05/2019

DATUM | OPERATOR: Gunther Excavating | LOGGED BY: EDA

DIMENSIONS: 1.5 m x 4.5 m | CHECKED BY: SF

EXCAVATION TESTS						ENGINEERING DESCRIPTION					GEOLOGICAL	
PENETRATION 1 2 3	SUPPORT	WATER	SAMPLES, TESTS	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITION / WEATHERING	STRENGTH / DENSITY CLASSIFICATION	ESTIMATED SHEAR STRENGTH (kPa) 10 25 50 100 200	ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE	UNIT
			Rainfall preceeding test pits		0			SILT, some sand, minor rootlets and trace medium well rounded gravel, dark brown (organic), moist, soft.	M	S		Topsoil	
					1			SILT; trace rootlets and fibrous wood; brownish grey mottled orange and light grey; soft; dry; low-moderate plasticity.	D	S		Alluvial gravels and overbank deposits	
		▶			2			Interbedded fine to coarse SANDS and SILTS; trace fibrous wood; medium grey with mottled orange; loose to medium dense/ firm; moist	M	L-MD		Kamahi Terrace Gravels	
								Silty gravelly fine to coarse SAND; trace cobbles and rootlets; medium dense; wet.	W	MD			
								Sandy fine to coarse GRAVEL; some silt and rootlets; light brownish grey with orange horizon (oxidised); sands are fine to coarse; gravels and cobbles are rounded; saturated; medium dense; fibrous wooden log present.	S	MD			
					3			Sandy silty fine to coarse rounded GRAVEL; bluish grey; saturated; medium dense to dense; Sand is fine to coarse.	S	MD -D			
					4			E.O.H at 3.8 m bgl - Target depth reached.					

SKETCH



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Log Scale 1:41.6666666666667

EXCAVLOG TP.GPJ 27/9/07

TONKIN & TAYLOR LTD

EXCAVATION LOG

BOREHOLE No: TP 03
Location: 50 m downstream of bridge
SHEET 1 OF 1

PROJECT: Waituna Sediment Traps - Van Rossum Site | LOCATION: Van Rossum | JOB No: 1006933

CO-ORDINATES: mN 4854145.74, mE 317745.53 | EXPOSURE TYPE: Testpit | EXCAV. STARTED: 21/05/2019

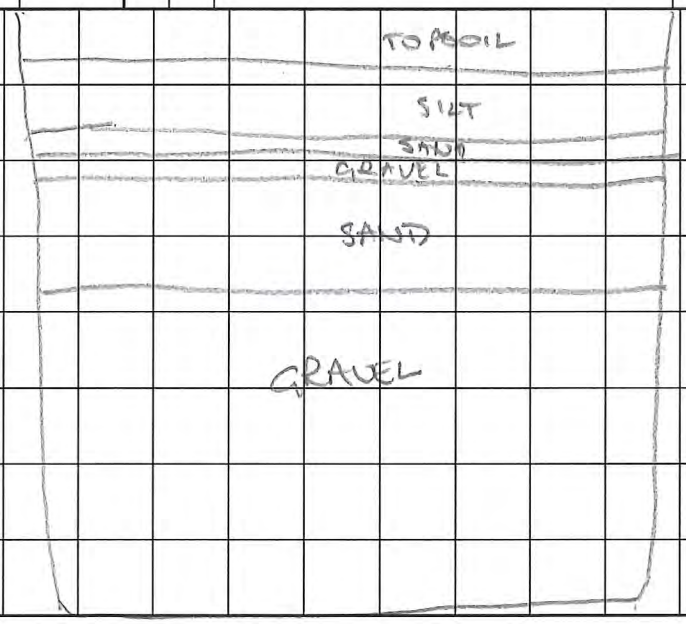
R.L. m | EQUIPMENT: 14T Excavator | EXCAV FINISHED: 21/05/2019

DATUM | OPERATOR: Gunther Excavating | LOGGED BY: EDA

DIMENSIONS: 2.0 m x 4.5 m | CHECKED BY: SF

EXCAVATION TESTS						ENGINEERING DESCRIPTION					GEOLOGICAL	
PENETRATION 1 2 3	SUPPORT	WATER	SAMPLES, TESTS	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITION / WEATHERING	STRENGTH / DENSITY CLASSIFICATION	ESTIMATED SHEAR STRENGTH (kPa) 10 25 50 100 200	ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE	UNIT
			Rainfall preceeding test pits		0			SILT; some sand; minor rootlets and trace medium, well rounded gravel; dark brown (organic); moist; soft.	M	S		Topsoil	
								SILT; trace rootlets and fibrous wood; brownish grey mottled orange and light grey; soft; dry; low-moderate plasticity.	D	S		Alluvial deposits	
					1			Fine to coarse SAND; some silt; brownish grey mottled orange; loose; moist.	M	L			
		▷						Sandy fine to coarse GRAVEL with some silt; trace cobbles (150 mm); dark grey with orange horizon; rounded to sub rounded gravels and cobbles; sand is fine to coarse; moist; medium dense.	M	MD		Kamahi Terrace Gravels	
					2			Silty fine to coarse SAND; trace fine to coarse rounded gravels (quartz rich); bluish grey; moist; medium dense.	M	MD			
								Silty sandy fine to coarse rounded GRAVEL; bluish grey; saturated; medium dense to dense; Sand is fine to coarse. Lenses of silt from 2.1 m. High water inflow from 2.6 m. 200 mm lense of silty sand with some gravel at 3.2 m.	S	MD -D			
					3								
					4			E.O.H at 3.9 m bgl - Target depth reached.					

SKETCH



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Van Rossum Site	Van Rossum Site
	
Van Rossum Test Pit 01	Van Rossum Test Pit 01
	
Van Rossum Test Pit 01	Van Rossum Test Pit 01

	
Van Rossum Test Pit 01	Van Rossum Test Pit 01
	
Van Rossum Test Pit 01	Van Rossum Test Pit 01
	
Van Rossum Test Pit 01	Van Rossum Test Pit 01

	
Van Rossum Test Pit 01	Van Rossum Test Pit 01
	
Van Rossum Test Pit 01	Van Rossum Test Pit 01
	
Van Rossum Test Pit 01	Van Rossum Test Pit 01

	
Van Rossum Test Pit 02	Van Rossum Test Pit 02
	
Van Rossum Test Pit 02	Van Rossum Test Pit 02
	
Van Rossum Test Pit 02	Van Rossum Test Pit 02

	
Van Rossum Test Pit 02	Van Rossum Test Pit 02
	
Van Rossum Test Pit 02	Van Rossum Test Pit 02
	
Van Rossum Test Pit 02	Van Rossum Test Pit 02

	
Van Rossum Test Pit 02	Van Rossum Test Pit 02

	
Van Rossum Test Pit 03	Van Rossum Test Pit 03
	
Van Rossum Test Pit 03	Van Rossum Test Pit 03

	
Van Rossum Test Pit 03	Van Rossum Test Pit 03
	
Van Rossum Test Pit 03	Van Rossum Test Pit 03
	
Van Rossum Test Pit 03	

TONKIN & TAYLOR LTD

EXCAVATION LOG

BOREHOLE No: TP 01
Location: Munro

SHEET 1 OF 1

PROJECT: Waituna Sediment Traps - Munro Site | LOCATION: Munro Farm - Closest to Lawson Road | JOB No: 1006933

CO-ORDINATES: mN 4847382.00, mE 314091.00 | EXPOSURE TYPE: Testpit | EXCAV. STARTED: 20/05/2019

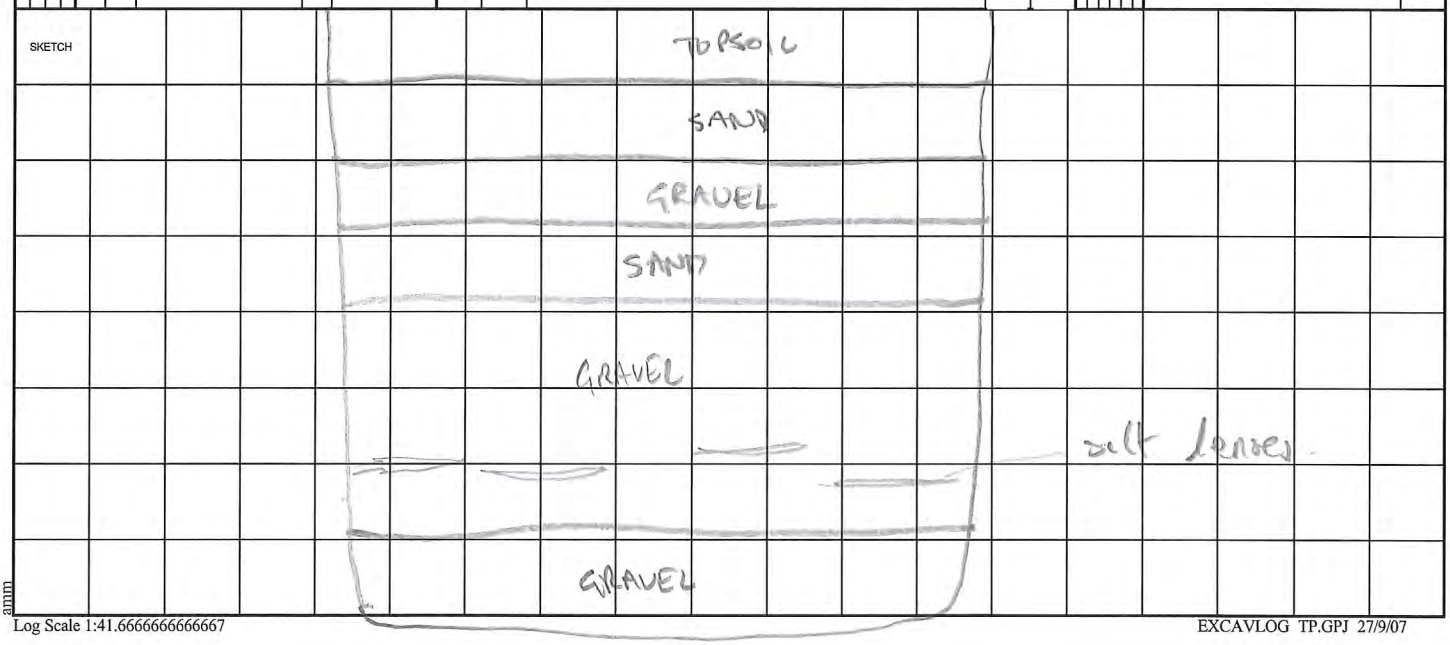
R.L. m | EQUIPMENT: 14T Excavator | EXCAV FINISHED: 20/05/2019

DATUM | OPERATOR: Gunther Excavating | LOGGED BY: EDA

DIMENSIONS: 2.5 m x 4.5 m | CHECKED BY: SF

EXCAVATION TESTS						ENGINEERING DESCRIPTION					GEOLOGICAL	
PENETRATION 1 2 3	SUPPORT	WATER	SAMPLES, TESTS	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITION / WEATHERING	STRENGTH / DENSITY CLASSIFICATION	ESTIMATED SHEAR STRENGTH (kPa) 10 25 50 100 200	ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE	UNIT
			Rainfall preceeding test pits		0			SILT, minor rootlets, dark brown (organic), moist, soft.	M	S		Topsoil	
								Gravelly fine to coarse SAND, minor silt and some cobbles; trace rootlets; light brownish grey; gravels are fine to coarse, sub-rounded to rounded; loose; dry.	D	L		Alluvial deposits and overbank deposits	
		▷			1			Silty sandy fine to coarse GRAVEL; light grey; gravels sub-rounded to rounded; wet; medium dense	W	MD		Kamahi Terrace Gravels	
								Silty fine to medium SAND; light bluish grey; saturated; loose to medium dense.	S	L-MD			
					2			Silty sandy fine to coarse GRAVEL; trace cobbles; bluish grey; saturated; medium dense.	S	MD			
								- Colour change to grey from 2.8 m.					
					3			- Lenses of sandy SILT from 3.1 m; sand is fine; slow dilatancy; firm; saturated.		F			
								3.5 m - 150 mm thick lense of lignite - blackish brown; very stiff.					
								Sandy silty fine to coarse GRAVEL; medium grey; sand is fine to coarse; gravels are rounded; saturated; medium dense	S	MD			
					4			E.O.H at 4.1 m bgl - Target depth reached.					

SKETCH



TONKIN & TAYLOR LTD

EXCAVATION LOG

BOREHOLE No: TP 02
Location: Munro

SHEET 1 OF 1

PROJECT: Waituna Sediment Traps - Munro Site | LOCATION: Munro Farm - furthest from road | JOB No: 1006933

CO-ORDINATES: mN 4847384.00, mE 314127.00 | EXPOSURE TYPE: Testpit | EXCAV. STARTED: 20/05/2019

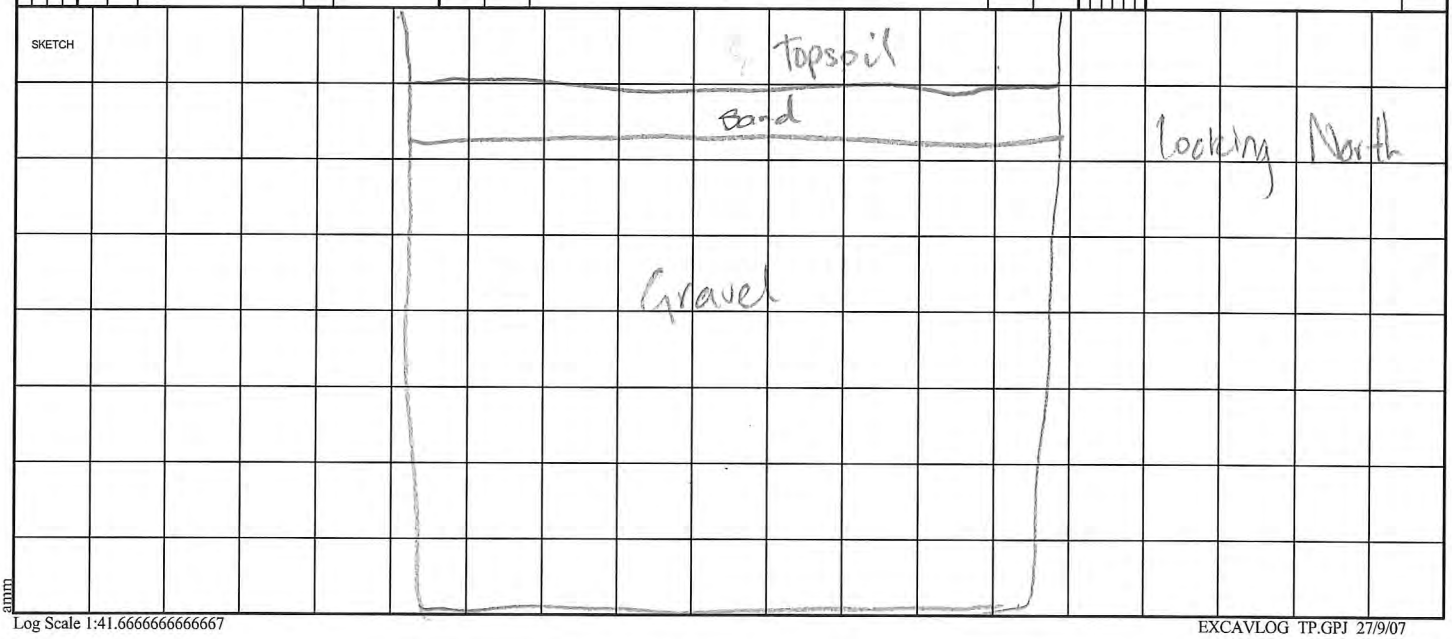
R.L. m | EQUIPMENT: 14T Excavator | EXCAV FINISHED: 20/05/2019

DATUM | OPERATOR: Gunther Excavating | LOGGED BY: EDA

DIMENSIONS: 2.5 m x 4.5 m | CHECKED BY: SF

EXCAVATION TESTS						ENGINEERING DESCRIPTION					GEOLOGICAL	
PENETRATION 1 2 3	SUPPORT	WATER	SAMPLES, TESTS	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITION / WEATHERING	STRENGTH / DENSITY CLASSIFICATION	ESTIMATED SHEAR STRENGTH (kPa) 10 25 50 100 200	ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE	UNIT
			Rainfall preceeding test pits					SILT, minor rootlets, dark brown (organic), moist, soft.	M	S		Topsoil	
								Silty fine to medium SAND; minor medium to coarse rounded gravels; light grey mottled orange and green; moist; loose	M	L		Alluvial deposits and overbank deposits	
		▷			1			Sandy silty GRAVEL; bluish grey, mottled orange; sand is fine; gravels are rounded; moist; loose to medium dense.	M	L - MD		Kamahi Terrace Gravels	
								1.3 m - Colour change to brownish grey; saturated	S				
					2			Medium dense from 2 m		MD			
								Trace cobbles from 2.2 m					
					3			3.5 m - colour change to bluish grey					
								E.O.H at 3.5 m bgl - Target depth reached.					
					4								

SKETCH



Log Scale 1:41.6666666666667

EXCAVLOG TP.GPJ 27/9/07

TONKIN & TAYLOR LTD

EXCAVATION LOG

BOREHOLE No: TP 03
Location: Munro

SHEET 1 OF 1

PROJECT: Waituna Sediment Traps - Munro Site | LOCATION: Munro Farm - Middle | JOB No: 1006933

CO-ORDINATES: mN 4847383.82, mE 314110.50 | EXPOSURE TYPE: Testpit | EXCAV. STARTED: 20/05/2019

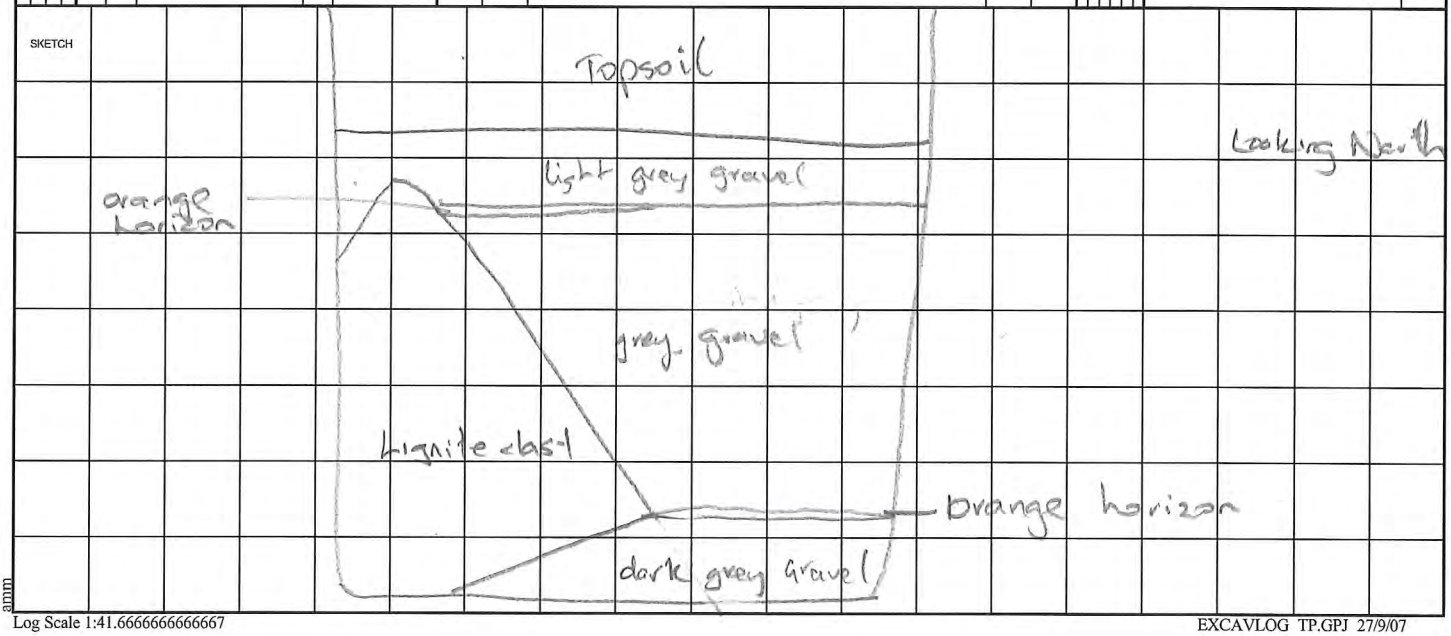
R.L. m | EQUIPMENT: 14T Excavator | EXCAV FINISHED: 20/05/2019

DATUM | OPERATOR: Gunther Excavating | LOGGED BY: EDA

DIMENSIONS: 2 m x 4 m | CHECKED BY: SF

EXCAVATION TESTS						ENGINEERING DESCRIPTION					GEOLOGICAL	
PENETRATION 1 2 3	SUPPORT	WATER	SAMPLES, TESTS	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS	MOISTURE CONDITION / WEATHERING	STRENGTH / DENSITY CLASSIFICATION	ESTIMATED SHEAR STRENGTH (kPa) 10 25 50 100 200	ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE	UNIT
			Rainfall preceeding test pits		0			SILT; minor rootlets; dark brown (organic); moist; soft.	M	S		Topsoil	
		▶			1			Sandy fine to coarse GRAVEL; some silt and rootlets; light brownish grey; sands are fine to coarse; gravels are rounded; saturated; medium dense - Colour change to bluish grey from 1.0 m -1.3 m - Lignite rip up clast; dark brownish black, very stiff, dry. Trace cobbles from 1.9 m -2.1 m - Lignite rip up clast; blackish brown; fibrous wood present. Colour change to bluish grey with orange brown horizon (oxidised) from 2.6 m.	S	MD		Kamahi Terrace Gravels	
					2								
					3								
					4			Silty sandy fine to coarse GRAVEL; some cobbles; bluish grey; gravel and cobbles are rounded; sand is fine to medium; medium dense to dense; saturated; absence of lignite rip up clast.	S	MD -D			
								E.O.H at 3.8 m bgl - Target depth reached.					

SKETCH



Log Scale 1:41.6666666666667

EXCAVLOG TP.GPJ 27/9/07

	
Munro Site	Munro Site
	
Munro Test Pit 01	Munro Test Pit 01
	
Munro Test Pit 01	Munro Test Pit 01

	
Munro Test Pit 01	Munro Test Pit 01
	
Munro Test Pit 01	Munro Test Pit 01
	
Munro Test Pit 01	Munro Test Pit 01

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Munro Test Pit 02	Munro Test Pit 02
	
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Munro Test Pit 02	Munro Test Pit 02

Munro Test Pit 02

Munro Test Pit 03

Munro Test Pit 03

Munro Test Pit 03

Munro Test Pit 03

	
Munro Test Pit 03	Munro Test Pit 03
	
Munro Test Pit 03	Munro Test Pit 03
	
Munro Test Pit 03	Munro Test Pit 03

	
Munro Test Pit 03	Munro Test Pit 03
	
Munro Test Pit 03	

Attachment 4 – Proposed Contract

Whakamana
Te Waituna

Contract for Services

Contract Details

Waituna Creek Tributary's Sediment Traps - WTW-CI-03-23

The Parties

The Buyer:

Environment Southland - for the Whakamana te Waituna Trust
NZBN 9429041915844
Environment Southland 220 North Rd Waikiwi Invercargill 9810

and

The Supplier:

The Contract

Agreement

The Buyer appoints the Supplier to deliver the Services described in this Contract and the Supplier accepts that appointment. This Contract sets out the Parties' rights and obligations.

Parts of this Contract

The documents forming this Contract are:

1. **Contract Details**: This section
2. **Schedule 1**: Description of Services
3. **Schedule 2**: Standard Terms and Conditions GMC Form 1 SERVICES | Schedule 2 (3rd Edition) available at: https://www.procurement.govt.nz/assets/procurement-property/documents/templates/services-schedule-2-contract-form-1-crown-government-model.pdf
4. Any other attachments described at Schedule 1.

How to read this Contract

- Together the above documents form the whole Contract
- Any Supplier terms and conditions do not apply

- Clause numbers refer to clauses in Schedule 2
- Words starting with capital letters have a special meaning. The special meaning is stated in the Definitions section at clause 17 (Schedule 2).

Acceptance

In signing this Contract each Party acknowledges that it has read and agrees to be bound by it.

Signed for and on behalf of the Buyer:		**Signed for and on behalf of the Supplier:**
_____		_____
(signature)		(signature)
Name:	Bob Penter	**Name:**
Position:	Executive Director, Whakamana Te Waituna Trust	**Position:**
Date:		**Date**

_____

(signature)

Name:	Nick Perham
Position:	Integration and Implementation Manager – Environment Southland
Date:	

Schedule 1
Description of Services

Contract Management and Personnel

Start Date	1/03/2023	*Reference Schedule 2 clause 1*
End Date	1/05/2023	*Reference Schedule 2 clause 1*
Renewal	not applicable.	*Reference Schedule 2 clause 1*

Contract Managers

Reference Schedule 2 clause 4

	Buyer's Contract Manager	**Supplier's Contract Manager**
Name:	Cain Duncan	
Title / position:	Workstream Lead - Contaminant Intervention	
Address:	C/o Fonterra 61 Bill Richardson Drive PO Box 429 Invercargill, 9810	
Phone:	+64277031743	
Email:	cain.duncan@fonterra.com	

Addresses for Notices

Reference Schedule 2 clause 15

	Buyer's address	**Supplier's address**
For the attention of:	Cain Duncan	
Delivery address:	Fonterra, 61 Bill Richardson Drive, Invercargill, 9810	
Postal Address	Fonterra, PO Box 429, Invercargill, 9810	
Email:	cain.duncan@fonterra.com	
CC:	projectmanager@waituna.org.nz	

Description of Services

Context

The Whakamana te Waituna Trust is seeking to install two trial sediment traps on the Jordan and Maher Creeks, within the Waituna catchment. The sediment trap designs are based on the August 2019 Design Report by Tonkin and Taylor, which investigated the location, design, and construction of three instream sediment traps.

Reducing the amount of sediment entering Waituna Lagoon is a specific objective of the contaminant intervention workstream within the Whakamana te Waituna Trust, which aims to improve water quality and the ecological health of the lagoon and waterways within the catchment.

The effectiveness of sediment traps and settling facilities is variable and depends upon a complex interaction of a range of figures, therefore the Trust is seeking to trial two coarse sediment traps in the catchment prior to any larger scale rollout or investment.

The sediment trap design was based on the methodology outlined in Hudson's 2002 Best Management Practice Guidelines, which sets the geometry of the sediment trap based on the target sediment size and range of flows in the watercourse. The traps are designed to capture coarse silt (particle size above 0.063mm) at an efficiency of 90%.

The Tonkin and Taylor design is based on an instream sediment trap; however a number of benefits were seen in moving the design off-stream.

The sediment trap specifications (length, width, batter slopes, etc) have not been modified from the Tonkin and Taylor Design, the trap has only been moved to the side of the main channel to achieve the benefits outlined above. The design modifications required to achieve this have been undertaken by Dairy Green Limited in consultation with Andrew Dakers (EcoEng Ltd) and Robert Hall (Environmental Engineer – CPENG).

Description of Services

Work in conjunction with the Buyer's engineer, Dairy Green Limited to undertake the construction of two sediment traps (51m x 10m & 42m x 10m) and associated works, beside the Maher and Jordan Creeks (Waituna), in accordance with the Construction Methodology, Schedule of Works and Design Drawings in Appendix 1.

Any variation from the Design Plans, Construction Methodology or Schedule of Works must be approved by the Buyers Engineer prior to being undertaken.

Deliverable/Milestone	**Performance Standards**	**Amount payable** (excl GST)
1. Site Meeting	Site meeting with Buyers Engineer and Landowners to review design plans, construction methodology, resource consent requirements and plan construction works.	$
2. Sediment Trap Construction	Completion of Sediment Traps in accordance with the Construction Methodology, Schedule of Works, and Design Drawings (not including connection to waterway)	$
3. Connection of Sediment Traps to Waterway	Sediment Traps connected to Maher and Jordan Creeks. Flow diverted into sediment traps via temporary sand bagging (or similar).	$
4. Culvert and Diversion Weir Installation	Installation of culverts and diversion weirs into the Maher and Jordan Creeks, in accordance with the Construction Methodology, Schedule of Works and Design Drawings.	$
5. Sandbag Removal	Removal of sandbags and modifications to the weirs to achieve optimum flow through sediment traps.	$
6. Installation of Fencing.	Installation of permanent fencing around the sites and the installation of double gates to facilitate access to the culvert crossings, as per the Schedule of Works.	$
	Total (excl GST)	**$**

Specific code of conduct / policies/ health & safety / protective security / legislative requirement

Supplier Code of Conduct

https://www.procurement.govt.nz/broader-outcomes/supplier-code-of-conduct/

Health and Safety at Work Act 2015
http://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html

Supplier's Reporting Requirements

Reference Schedule 2 clause 5.2

Report to:	Description of report	Due date
Contract Manager	Weekly Progress Update	Weekly During Construction

Charges

The following section sets out the Charges. Charges are the total maximum amount payable by the Buyer to the Supplier for delivery of the Services. Charges include Fees, and where agreed, Expenses and Daily Allowances. The Charges for this Contract are set out below.

Fees

Reference Schedule 2 clause 3

The Supplier's Fees will be calculated as follows:

Maximum Fee

A maximum Fee of $Fixed fee amount excluding GST.

Expenses

Reference Schedule 2 clause 3

No Expenses are payable.

Daily Allowance

Reference Schedule 2 clause 3

No Daily Allowances are payable.

Invoices

Reference Schedule 2 Subject to clauses 3 and 11.7

The Supplier must send the Buyer an invoice for the Charges at the following times:

On the following dates subject to completion of the relevant Deliverables/Milestones.

Deliverable/Milestone	Due date	Amount due (exc GST)
Deliverable/Milestones 1	Completion of Deliverable/Milestone 1	$
Deliverable/Milestone 2-6	Completion of Deliverable/Milestone 2-6 (at each individual site)	$
	Total (exc GST)	$Overall total

Other instructions about invoices

- Invoices must include the contract number WTW-CI-03-23 as the reference number
- Invoices must specify the Deliverable/Milestones it relates to, description of work undertaken, and costs incurred.

Address for invoices

Reference Schedule 2 clause 3

	Buyer's address
For the attention of:	Cain Duncan Whakamana te Waituna, Environment Southland
Delivery Address	Fonterra, 61 Bill Richardson Drive, Invercargill, 9810
Postal Address	Fonterra, PO Box 429, Invercargill, 9810
Email:	cain.duncan@fonterra.com
CC:	projectmanager@waituna.org.nz

Insurance

Reference Schedule 2 Clause 8.1

The Supplier must have the following insurance:

a. Public liability insurance of $1,000,000
b. Professional indemnity insurance of $500,000

Changes to Schedule 2 and attachments

Changes to Schedule 2

None

Attachments

Attachment 1 – Design Plans

Attachment 2 – Construction Methodology

Attachment 3 – Schedule of Works

Schedule 2
Standard Terms and Conditions

Form 1 SERVICES | Schedule 2 (3rd Edition) available at:
https://www.procurement.govt.nz/assets/procurement-property/documents/templates/services-schedule-2-contract-form-1-crown-government-model.pdf