ACKNOWLEDGEMENTS

This Code was developed by Environment Canterbury staff with assistance and input from:

• The Gravel Liaison Committee
• Fulton Hogan
• Road Metals
• Fish & Game
• Braided River Aid (BRaid)
• Aggregate and Quarry Association
• Te Rūnanga o Ngāi Tahu
• South Canterbury Shingle Extraction Industry (‘MOU’ Group)

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PART 1: BACKGROUND

1.1 Introduction

The Canterbury River Gravel Extraction Code of Practice (the Code) sets out good practice guidelines for managing the physical extraction of gravel from riverbeds. Development of the Code was a recommendation in the Canterbury Regional River Gravel Management Strategy (GMS) developed under the Local Government Act 2002 and adopted by the Council of Environment Canterbury on 1 November 2012.

The Code is designed as a guide to contractors so they can extract gravel, avoiding or where possible mitigating or remedying adverse environmental effects.

The Code consolidates commonly used resource consent conditions with the aim of simplifying the Gravel Authorisation issuing processes. The intention is to create a more streamlined process to enable extraction of river gravel while protecting, and where possible enhancing, the environment.

The January 2017 version of this document incorporates some minor amendments which needed to be made due to Plan Changes to the Land and Water Regional Plan and changes in the Health and Safety Legislation in New Zealand. The Code of Practice has now been operational for over 12 months, so a review of the COP was warranted to incorporate some improvements identified through this first year of operation and to correct minor grammatical or typographical errors.

1.2 Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorisation</td>
<td>Any permit issued by Environment Canterbury in respect of the requirements of this Code of Practice in accordance with “on behalf of” in Rule 5.149 of the proposed Canterbury Land &amp; Water Regional Plan</td>
</tr>
<tr>
<td>Archaeological site</td>
<td>A site listed on the New Zealand Archaeological Association’s Archaeological Site Recording Scheme website (<a href="http://nzarchaeology.org/cms/index.php/site-recording">http://nzarchaeology.org/cms/index.php/site-recording</a>) defined as any place associated with pre-1900 human activity where there is material evidence relating to the history of New Zealand. For sites solely of Māori origin, this evidence may be in the form of accumulations of shell, bone, charcoal, burnt stones, etc. In later sites, artefacts such as bottles or broken glass or ceramics, metals, may be found or evidence of old foundations, wells, drains, tailings, races or other structures. Human remains/koiwai may date to any historic period. For a map of archaeological site locations: <a href="http://www.archsite.org.nz">www.archsite.org.nz</a></td>
</tr>
<tr>
<td>Riverbed</td>
<td>Land extending between the outward extremities of any stopbank or flood-protection vegetation, as shown on the maps in the Canterbury Flood Protection and Drainage Bylaw 2013, and where there is no stopbank or flood protection vegetation or relevant map in the Bylaw, the land the waters of the river cover at its fullest flow without overtopping its banks</td>
</tr>
<tr>
<td>Berm</td>
<td>The vegetated edge of the active river channel - see Appendix A</td>
</tr>
<tr>
<td>Defences against water</td>
<td>Any structure or equipment, including any bund, weir, spillway, floodgate, bank, stopbank, retaining wall, rock or erosion protection structure, groyne, vegetation (including anchored tree protection) or reservoir designed to stop, divert, control, restrict or otherwise regulate the flow, energy or spread of water, including floodwaters, in or out of a watercourse for the purpose of flood mitigation and/or drainage</td>
</tr>
<tr>
<td>Structure</td>
<td>Any building, crossing, equipment or other facility fixed to land, and includes but is not limited to any fence, gate, line, raft, pipeline, cable, wire, rock, headwall, bridge or culvert</td>
</tr>
<tr>
<td>Spill response plan</td>
<td>A plan that details the methods and processes used to clean up a contaminant spill and should include emergency contact details for Environment Canterbury and waste collection service provider(s), instructions for operating a spill kit and instructions for removal and disposal of contaminated material</td>
</tr>
</tbody>
</table>
1.3 Why manage extraction of gravel from Canterbury riverbeds?

Gravel extraction is a key part of managing Canterbury’s flood hazard. Management of gravel and vegetation within riverbeds can enhance channel stability and reduce the risk of flooding. If too much gravel is removed, increased erosion and scour can put assets such as water intakes, stopbanks and berm vegetation at greater risk.

Residential and commercial development, and construction of infrastructure such as roads, depend on the ability to access, extract, process and transport gravel economically from both land and river sources. Territorial authorities and Environment Canterbury both play a role in planning for the availability of gravel as well as managing the effects of extraction on the environment.

Gravel extraction can maintain and enhance the river environment while providing for Environment Canterbury’s overall objective for gravel management - to sustainably manage the extraction of gravel for flood-management and erosion-control purposes while protecting and enhancing environmental, cultural, social and economic values.

In meeting this objective Environment Canterbury will:

• Provide for Ngāi Tahu cultural values of rivers, wetlands and hāpua
• Protect and where appropriate enhance environmental values
• Ensure consistency with regional planning documents
• Allow access to gravel to meet community needs
• Implement opportunities for scientific investigations.

These objectives are described in full in the Gravel Management Strategy.

1.4 Gravel Management Strategy

The Canterbury Regional River Gravel Management Strategy (GMS) was adopted by Environment Canterbury in November 2012. The GMS sets out the following guidelines:

• Authorisations to extract river gravel will not be granted in areas where a deficit of gravel has been identified or where proposed extraction may cause a deficit in gravel volumes - gravel cannot be over-allocated
• Authorisations will be issued for a maximum of 12 months and a maximum volume of 60,000 cubic metres (m3) for northern Canterbury. A limit of 30,000m3 per year applies to southern Canterbury per the South Canterbury Gravel Agreement known as the ‘MOU’ - see section 1.5
• Authorisations will be issued to parties on a first-in, first-served basis.

The GMS also details the legislative framework under which gravel is managed.

1.5 South Canterbury Gravel Agreement

In 2007, Environment Canterbury entered into an agreement (MOU) with the South Canterbury shingle extraction industry.

All provisions of this agreement still stand with the exception of consent duration. This was extended from 6 months to 12 months at the South Canterbury Gravel Users Group meeting on February 12 2015. The MOU applies to all extraction south of the Rangitata River.

Authorisations will be issued for a maximum duration of 12 months and a maximum volume of 30,000 m3.

1.6 Potential beneficial and adverse effects

Potential beneficial effects of gravel extraction:

• Flood risk to communities reduced through increased channel capacity
• Improved meander pattern
• Reduced concentration of flow against riverbanks, meaning resulting lateral erosion and localised bed scour is minimised
• More stable channel alignment and optimum bed level is maintained
• Renewable gravel resource for local construction
• Improved open gravel beaches can provide good habitat for indigenous birds
• Removal of invasive weeds and pest species
• Removal of habitat for predators of indigenous birds
• Improved recreational access

Potential adverse effects:

• Degradation of the riverbed if extraction is not managed within sustainability limits
• Discharge of fuels and lubricants from machinery
• Disturbance of the natural meander pattern
• Sediment discharge increasing turbidity and smothering habitat
• Dust generation
• Reduction of recreational access and effects on visual amenity
• Mauri (life force) of the river affected
• Disturbance of fish-spawning sites
• Disturbance of nesting birds
• Increased noise and traffic for adjacent landowners

1.7 Land ownership

It is often assumed that the Crown owns all riverbeds in New Zealand. This is incorrect – the situation is much more complex. Ownership can range from land administered by Land Information New Zealand (LINZ) or the Department of Conservation (DOC) on behalf of the Crown, to land owned by or vested in Environment Canterbury or another entity, to the common law right of AMF – ad medium filum aquae – where land ownership is presumed to lie with the adjacent land owner to the mid-line of the river.

The issue of an Authorisation document to extract gravel does not override land-ownership rights.

Environment Canterbury has an agreement with LINZ allowing for gravel extraction on land administered by it, provided this is for flood-protection or erosion-control purposes carried out under the Soil Conservation and River Control Act 1941. Authorisations will be issued on this basis on LINZ land.

For gravel extraction on land administered by DOC, Authorisation holders will need to apply for a concession from DOC directly.

For extraction on Environment Canterbury-owned land, such as regional parks, a separate licence will also be required. Contact Environment Canterbury to arrange the licence.
1.8 Cultural considerations

Ngāi Tahu Papatipu Rūnanga are tangata whenua and act as kaitiaki for the rivers of Canterbury. This stewardship is expressed through actions to protect natural resources in order to ensure the mauri (life force) of rivers, streams and wetlands are restored and protected.

Wai (water) is central to all Māori life. It is the taonga left by ancestors to provide and sustain life. It is for the present generation, as tangata tiaki (guardian or caretaker), to ensure that the taonga is available for future generations in as good as, if not a better state (Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 2000). This is the philosophy of ki uta ki tai – From the mountains to the sea.

Ngāi Tahu do not see themselves as separate from Te Ao Tūroa (the natural world) but as an integral part of it. Through whakapapa (genealogy), all people and life forms descend from a common source. Whakapapa binds Ngāi Tahu to the mountains, forests and waters and the life supported by them, and this is reflected in the traditional attitudes towards the natural world and resource management. It is therefore important to recognise that there is no separation between the bed of a river and the water and all life which flows through it and is sustained by it.

For Ngāi Tahu the management of water resources is linked to sustaining and promoting the connected nature of healthy waterways.

The following have been identified as key areas of concern with gravel extraction for rūnanga:

- the preservation of water quality
- the continued access to and quality of mahinga kai sites
- the protection of fish-spawning sites and fish passage
- the protection of nesting native birds
- the impacts on the river and coastal environment
- and the state in which the riverbed has been left following excavation and
  - protecting wāhi tapu, settlement or historical sites

The general guidelines and principles (section 2.1 and 2.2) and the rules in section 2.3 aim to avoid, remedy or mitigate any adverse effects on tangata whenua values.

1.9 Habitat Enhancement and Flood Management

As gravel extractors are actively working in river beds and have the equipment and expertise to undertake the earthworks they are well positioned to undertake habitat enhancement works in rivers. These works can off set potential adverse effects of gravel extraction on the river bed ecosystems, but can also be done to support community projects. An example of habitat enhancement would be creating bird islands in braided rivers, where birds can nest in a position where they are safer from predators and flood risks. Similarly, if an area has been left flat and uniform, work could be done to create habitat diversity through reshaping the bed to include clear flow channels, pools and riffles. This will better enable fish passage through the riverbed when flows are higher.

This work, which has a net positive effect on the river bed environment, can often trigger consent requirements due to the volumes of material needing to be moved around. This Code seeks to enable this habitat enhancement work, while also ensuring the work does not cause incidental effects on the river bed environment.

An Authorisation may be granted to carry out works for the purposes of reshaping the river bed to provide for a particular environmental enhancement including improving habitat for fish and birds.

Similar to habitat enhancement work, occasionally there is a requirement to reshape the river bed to protect structures and assets in the river but this work is unable to be done without a resource consent due to the volume of material to be disturbed. This is not applicable to defences against water (for example stopbanks, rock armouring, groynes) – works to protect defences against water are addressed under the Defences Against Water and Drainage Scheme Code of Practice and rule 5.138 of the Land and Water Regional Plan. Gravel authorisation may be issued for channel reshaping for flood or erosion mitigation where this work does not involve the removal of material from the river bed.

1.10 Health and safety

All operations shall be in accordance with the current health and safety in employment legislation:

- Health and Safety at Work Act 2015
- Health and Safety at work (Mining Operations and Quarrying Operations) Regulations 2016

Environment Canterbury must be satisfied that the site will be managed and operated in a safe manner in accordance with health and safety legislation. An Authorisation Holder will be required to provide a Site Specific Safety Plan (SSSP) which outlines how extraction on their site will be safely managed and information on health and safety policies and procedures within their business.

If there is mechanical processing of material, either within the river bed or stockpiling areas or off site, the operation may be deemed “quarrying”. This means a site manager overseeing the operation must hold the relevant Certificate of Competence (CoC). Please refer to www.worksafe.govt.nz for further information.

Where the activity poses, or is likely to pose, a risk to the public, the contractor shall erect warning signs adjacent to the site. These signs shall be removed when the activities are no longer a danger to the public.

1.11 Process for issuing Authorities

Authorisations cannot be issued for waterbodies listed as “High naturalness” in sections 6-15 of the Canterbury Land & Water Regional Plan (LWRP), or in salmon spawning sites as listed in Schedule 17 of the LWRP (see Appendix B) and in īnanga spawning areas shown on the LWRP Planning Maps (view the maps on www.canterburymaps.govt.nz).

The application form and guidance notes can be found at www.ecan.govt.nz/gravel. Refer to the guidance notes when filling out your application. Applications may be lodged either online or in hard copy.

Specify on your application form:

- Any variations to the standard conditions
- Whether Bylaw Authority is required for any aspect of the work
- Whether a land access permit is required for working on Environment Canterbury land
- Approval you have for access to private land
- Whether DoC concession is required
- Whether you are awaiting the outcome of a contract tender process

If complete information is provided by the applicant, a decision on your Authorisation will be made within 10 working days of receipt of the application.

For any queries relating to the application process, please contact Customer Services or gravel@ecan.govt.nz.
1.12 Reconsideration of decisions
A request may be made in writing to the Chief Operating Officer within 10 working days of the decision on your application being made to reconsider that decision to either grant or decline the application.

The Chief Operating Officer may decide to uphold the original decision or to reconsider it. When complete information has been provided in the request for reconsideration, the outcome of the reconsideration process and justification for the decision made will be advised to the applicant within 10 working days of receipt of the written request.

1.13 Charging

**Application Fee**

The application fee will be invoiced upon granting of the Authorisation. There are no charges associated with an unsuccessful application. The application fee depends on the volume applied for:

- For greater than 1,500m³ the fee is $862.50 (incl. GST)
- For less than 1,500m³ the fee is $345 (incl. GST)

**Gravel Management Fees (GMF)**

The gravel management fee will be invoiced upon granting of the Authorisation at the same time as the Application Fee. The GMF is currently $0.13c per cubic metre of volume granted.

**Discretion to waiver fees**

The River Engineering section has discretion to waive the Application Fee and/or the Gravel Management Fee under the following circumstances only:

1. For an application to take gravel from a section of river known to be an exceptional flood or erosion risk where the proposed extraction will significantly reduce this risk.
2. For applications to take less than 100 cubic metres of material.
3. For applications for habitat enhancement works, or bed reshaping for flooding and erosion control

1.14 Compliance

Environment Canterbury is required to monitor whether those operating under resource consents and permitted activity rules are complying with the conditions imposed on their consent or the permitted activity. Gravel Authorisations will also be monitored by Environment Canterbury.

The frequency of monitoring is determined by the scale of the activity, the sensitivity of the work area, compliance history and management systems in companies. Monitoring will include site visits while works in the river are under way, and monitoring of excavation volumes via gravel returns.

The guiding principles, general standards and the provisions of this Code have been introduced to make sure any adverse effects of gravel extraction are mitigated, so it is important to ensure compliance with those principles, standards and rules. It is the Authorisation Holder’s responsibility to make sure they are operating in accordance with their Gravel Authorisation and this Code.

Non-compliance with the Authorisation and the Code can mean that the activity is not covered by permitted activity status, meaning a resource consent is required.

Other consequences of non-compliance may include any or all of the following:

- Increased compliance monitoring and therefore increased monitoring costs
- Cancellation of Authorisation
- An infringement fine
- Prosecution

Non-compliance with Authorisation rules may also affect ability to obtain another Authorisation in future.

1.15 Authorisation holder’s responsibilities

In addition to ensuring health and safety and land access obligations are met, the Authorisation Holder is responsible for the following:

- Holding public liability insurance to the minimum value of $500,000
- Identifying the location of all overhead, buried or surface structures and services in the riverbed and banks before undertaking works
- The repair and cost of repair of any damage to structures and services located within, over or beside the bed and banks of the river caused by undertaking the activity authorised by their Gravel Authorisation
- Ensuring compliance with district council requirements including (but not limited to) hours of operation, traffic movement and noise
- To ensure compliance with the Heritage New Zealand Pouhere Taonga Act 2014
PART 2: STANDARDS AND RULES

2.1 GUIDING PRINCIPLES

The standards in this Code identify practices that will achieve environmental good practice by:

- Recognising and protecting the natural character of braided river beds
- Considering habitat and morphological diversity
- Minimising works within flowing water
- Minimising discharges of sediment or contaminants
- Mitigating/avoiding effects of activities on native bird breeding, chick rearing and associated habitat
- Mitigating/avoiding effects of activities on fish spawning, migration and habitat
- Recognising the sensitivities of archaeological or historic sites
- Recognising rivers’ ecological values
- Being aware of and responding to cultural values
- Recognising and considering emergency contingencies
- Mitigating against the transfer of aquatic pests
- Managing flood and erosion risks

2.2 GENERAL STANDARDS

2.2.1 Work in flowing water

Under the Land & Water Regional Plan (LWRP), vehicles and machinery are restricted from entering or working within flowing water. Should access to the gravel-extraction site require the installation of temporary culverts and bridges, separate rules apply. The Authorisation Holder will need to make sure they can comply with those requirements (LWRP rules 5.135 to 5.142) or otherwise obtain their own resource consent.

2.2.2 Temporary culverts and bridges

When taking gravel under LWRP rule 5.149 for or behalf of Environment Canterbury, the use of temporary structures and diversions is a permitted activity, provided the work is not within an inanga or salmon spawning site and the temporary structure is not in place for more than 4 weeks in any 12-month period. See LWRP rule 5.151 which permits the use of temporary structures and diversions.

2.2.3 Refuelling

Machine refuelling and fuel storage shall occur where no fuel can enter a waterbody in the event of a spill. Machinery leaking fuel, engine oils, hydraulic fluids or solvents shall be removed from the riverbed immediately. Separate rules control refuelling in the bed of a river. The Authorisation Holder shall ensure that they can comply with those requirements (LWRP rule 5.145) or otherwise obtain their own resource consent.

2.2.4 Equipment and machinery storage

All equipment and machinery shall be stored above the anticipated flood level at the site at the end of the working day or when the site is unattended.

2.2.5 Dust

Any effects from the deposition of dust on neighbouring properties when undertaking activities in a riverbed shall be minimised by water spraying or ceasing operation in unsuitable conditions. Separate rules control the discharge of dust in the Canterbury Air Regional Plan (CARP), see rules 7.36 and 7.37 of the CARP. The Authorisation Holder shall ensure that they can comply with those requirements or otherwise obtain a resource consent.

2.3 CODE OF PRACTICE – EXTRACTION RULES

The following criteria are outlined on the Gravel Authorisation and accompanying plan:

- Duration
- Location - area of excavation and deposition
- Quantity that may be extracted and stockpiled
- Duration of stockpiling
- Maximum depth of excavation
- Agreed conditions overriding those in the standard rules set

Standard rules

PRIOR TO WORKS COMMENCING:

1. Environment Canterbury: gravel@ecan.govt.nz or 0800 324 636, shall be notified at least two working days:
   a. prior to commencement of works, and
   b. prior to the re-commencement of works, where works have been discontinued for more than 14 days.

   Notification must include:
   c. Authorisation number
   d. Proposed start and end dates
   e. Name, address and contact telephone number of the person supervising the works

2. Before starting works, the Authorisation Holder shall provide a copy of the Authorisation and Part 2 of this Code to everyone on site and explain to them how to comply with the conditions, standards and rules

DURING WORKS

3. Access to the site shall only be:
   a. via the access routes indicated on the Authorisation plan.
   b. Whenever access to the riverbed is gained across a stopbank, the consent holder shall ensure that there is at least 200 millimetres of gravel on top of the crest of the stopbank, as indicated in Appendix C.

   Note: Environment Canterbury does not grant access to the extraction area. This must be arranged with the landowner. If a new access track is required, this should be discussed with Environment Canterbury because a separate authority under the Flood Protection and Drainage Bylaw may be required. Please indicate on your application form whether you require Bylaw Authority so this can be processed together with your Gravel Authorisation.

4. Gravel, sand and natural material shall not be excavated within:
   a. 10 metres of the banks of the river
   b. 10 metres of stopbanks or defences against water
   c. 150 metres of water level recorders
   d. 50 metres of any other structures
5. All stockpiling of gravel, sand and other natural material, including reject material, shall occur as follows:
   a. Stockpiles shall not be deposited closer than 20 metres to any riverbanks, stopbank, defences against water or structures.
   b. Stockpiles shall be positioned and aligned so as to not deflect the flow of the river on to adjoining land, riverbanks, stopbanks, and defences against water or structures.

6. All practicable measures shall be undertaken to minimise the works resulting in:
   a. erosion of the bed and banks; and
   b. the discharge of sediment.

7. If further excavation at the site in the active riverbed is not to occur within 14 days following the last working at the site, then the following shall occur:
   a. All deposits of gravel, sand and other natural material (including reject material) shall be levelled to the natural bed level.
   b. The excavation area shall be reshaped and formed to a state consistent with the surrounding natural riverbed.
   c. Any temporary structures shall be removed.

8. All vehicles and machinery operating in the bed of the river shall be clearly identified with the name or logo of the operating company, to ensure that the name is able to be read at a distance of 5 metres.

**Nesting birds**

9. Before any works authorised by this Authorisation are carried out in the period 1 September to 1 February, the Authorisation holder shall ensure:
   a. A suitably qualified and independent person inspects the proposed area of works, no earlier than 8 days before any works are carried out, and locates any breeding sites of birds listed in Table 1.
   b. The person carrying out the inspection prepares a written report that identifies all the located bird-breeding or nesting sites and provides copies of that report to the Authorisation Holder and Environment Canterbury (gravel@ecan.govt.nz).
   c. If the person carrying out the inspection deems that any part of the extraction activity may be undertaken at a distance other than 100m to any nesting birds, this must be clearly detailed on the report.
   d. The name and qualifications of the person carrying out the inspection are provided to Environment Canterbury with the report.
   e. Any person carrying out works authorised by this Authorisation are informed of any bird-breeding or nesting sites located.
   f. Where work ceases for more than eight days, the site will be re-inspected for bird breeding and nesting sites in accordance with parts (a) to (d) of this condition.

<table>
<thead>
<tr>
<th>Table 1: Bird species list referred to in condition 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrybill</td>
</tr>
<tr>
<td>Black-billed gull</td>
</tr>
<tr>
<td>Blue duck</td>
</tr>
<tr>
<td>Australasian bittern</td>
</tr>
<tr>
<td>Banded dotterel</td>
</tr>
<tr>
<td>Black-fronted tern</td>
</tr>
<tr>
<td>Grey duck</td>
</tr>
<tr>
<td>Marsh crane</td>
</tr>
<tr>
<td>Black stilt</td>
</tr>
<tr>
<td>Caspian tern</td>
</tr>
<tr>
<td>Paradise shelduck</td>
</tr>
<tr>
<td>Spotless crane</td>
</tr>
</tbody>
</table>

10. Vehicles and/or machinery shall not operate within 100 metres of birds which are nesting or rearing their young in the bed of the river, or at a distance specified on the report as per condition 9(c).

   **Note 1:** For the purposes of this rule, birds are defined as the bird species listed in Table 1.

   **Note 2:** Once the bird inspection report has been submitted to Environment Canterbury, it will be considered public information and may be passed on to third parties if requested.

11. No dogs shall be taken on site during the bird-nesting season.

**Pest plants**

12. To prevent the spread of pest species, including but not limited to didymo, the Authorisation Holder shall ensure that activities authorised by this Authorisation are undertaken in accordance with Biosecurity New Zealand’s hygiene procedures and that machinery shall be free of plants and plant seeds before use in the riverbed.

   **Note:** The most current version of these procedures are available from the Biosecurity New Zealand website, www.biosecurity.govt.nz

**Vegetation clearance**

13. No vegetation used for flood control or bank stabilisation shall be disturbed, removed, damaged or destroyed without prior approval through a Flood Protection and Drainage Bylaw 2013 Authority.

14. No woody vegetation shall be disposed of in, on, over or under the bed of a river without prior written approval from the Manager River Engineering or their nominee.

**Note:** Gorse and broom removal within the fairway is acceptable, but removal of any vegetation within the berm area requires approval. Other potential pest plants within the active bed, such as lone willow trees, may also be removed with prior permission. If you wish to clear any vegetation within the berm or create/cut a new track, particularly within a river rating district, indicate this in your application so a Bylaw Authority can be processed together with your Gravel Authorisation.

**Work in water**

15. There shall be no excavation of material from river channels containing flowing water and vehicles, and machinery shall not enter river channels containing flowing water.

16. All works resulting in:
   a. erosion of the bed and banks; and
   b. the discharge of sediment.

17. No vehicles and machinery shall operate within 100 metres of birds which are nesting or rearing their young in the bed of the river, or at a distance specified on the report as per condition 9(c).

18. All deposits of gravel, sand and other natural material (including reject material) shall be levelled to the natural bed level.

19. The excavation area shall be reshaped and formed to a state consistent with the surrounding natural riverbed.

20. Any temporary structures shall be removed.

21. All vehicles and machinery operating in the bed of the river shall be clearly identified with the name or logo of the operating company, to ensure that the name is able to be read at a distance of 5 metres.

**Nesting birds**

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<td>Australasian bittern</td>
</tr>
<tr>
<td>Banded dotterel</td>
</tr>
<tr>
<td>Black-fronted tern</td>
</tr>
<tr>
<td>Grey duck</td>
</tr>
<tr>
<td>Marsh crane</td>
</tr>
<tr>
<td>Black stilt</td>
</tr>
<tr>
<td>Caspian tern</td>
</tr>
<tr>
<td>Paradise shelduck</td>
</tr>
<tr>
<td>Spotless crane</td>
</tr>
</tbody>
</table>

23. All deposits of gravel, sand and other natural material (including reject material) shall be levelled to the natural bed level.

24. The excavation area shall be reshaped and formed to a state consistent with the surrounding natural riverbed.

25. Any temporary structures shall be removed.

26. All vehicles and machinery operating in the bed of the river shall be clearly identified with the name or logo of the operating company, to ensure that the name is able to be read at a distance of 5 metres.

**Nesting birds**

27. Before any works authorised by this Authorisation are carried out in the period 1 September to 1 February, the Authorisation holder shall ensure:
   a. A suitably qualified and independent person inspects the proposed area of works, no earlier than 8 days before any works are carried out, and locates any breeding sites of birds listed in Table 1.
   b. The person carrying out the inspection prepares a written report that identifies all the located bird-breeding or nesting sites and provides copies of that report to the Authorisation Holder and Environment Canterbury (gravel@ecan.govt.nz).
   c. If the person carrying out the inspection deems that any part of the extraction activity may be undertaken at a distance other than 100m to any nesting birds, this must be clearly detailed on the report.
   d. The name and qualifications of the person carrying out the inspection are provided to Environment Canterbury with the report.
   e. Any person carrying out works authorised by this Authorisation are informed of any bird-breeding or nesting sites located.
   f. Where work ceases for more than eight days, the site will be re-inspected for bird breeding and nesting sites in accordance with parts (a) to (d) of this condition.

<table>
<thead>
<tr>
<th>Table 1: Bird species list referred to in condition 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrybill</td>
</tr>
<tr>
<td>Black-billed gull</td>
</tr>
<tr>
<td>Blue duck</td>
</tr>
<tr>
<td>Australasian bittern</td>
</tr>
<tr>
<td>Banded dotterel</td>
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</tr>
<tr>
<td>Paradise shelduck</td>
</tr>
<tr>
<td>Spotless crane</td>
</tr>
</tbody>
</table>
16. In the event of any discovery of archaeological material:
   a. The Authorisation holder shall immediately:
      i. Cease earthmoving operations in the affected area and mark off the affected area
      ii. Advise Environment Canterbury of the disturbance – gravel@ecan.govt.nz
      iii. Advise Heritage New Zealand Pouhere Taonga of the disturbance
   b. If the archaeological material is determined to be kōiwi tangata (human bones) or taonga (treasured artefacts) by Heritage New Zealand Pouhere Taonga, the authorisation holder shall immediately advise the office of the appropriate rūnanga (contact information available from Environment Canterbury) of the discovery
   c. If the archaeological material is determined to be kōiwi tangata (human bones) by Heritage New Zealand Pouhere Taonga, the authorisation holder shall immediately advise the New Zealand Police of the disturbance
   d. Work may recommence if Heritage New Zealand Pouhere Taonga (following consultation with rūnanga if the site is of Māori origin) provides a statement in writing to Environment Canterbury, gravel@ecan.govt.nz, that appropriate action has been undertaken in relation to the archaeological material discovered. Environment Canterbury shall advise the authorisation holder on written receipt from Heritage New Zealand Pouhere Taonga that work can recommence.

Note 1: This may be in addition to any agreements between the Authorisation Holder and the Papatipu Rūnanga (Cultural Site Accidental Discovery Protocol)

Note 2: It is unlawful for any person to destroy, damage, or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga. This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the district or regional plan or whether a resource or building consent has been granted. The Heritage New Zealand Pouhere Taonga Act 2014 provides for substantial penalties for unauthorised damage or destruction

Spills and refuelling

17. All practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery including, but not limited to:
   a. There shall be no storage of fuel or refuelling of vehicles and machinery within 20 metres of flowing water
   b. Fuel shall be stored securely or removed from the site overnight
   c. The pump shall be attended at all times during refuelling
   d. Drip trays shall be used at all times while refuelling
   e. A spill response kit shall be kept on site at all times

Work hours

18. Works shall:
   a. Not be carried out on Sundays or public holidays
   b. Only occur between 7am and 7pm inclusive

Discharges to air

19. The activity in the riverbed shall not cause a discharge of offensive or objectionable dust or contaminants beyond the site boundary

Site rehabilitation

20. The area shall be restored to a state consistent with the natural character of the riverbed before any works occurred, unless the authorisation permits or requires environmental enhancement works to be carried out

Gravel returns

21. The volume of gravel removed from the riverbed shall be measured and recorded. This information must be transferred to a quarterly “Gravel Excavation Return” form which shall be submitted to Environment Canterbury, attention RMA Compliance and Enforcement Manager (Gravel.Returns@ecan.govt.nz) by 20 January, April, July and October each year

Note 1: If a load count method is used, all records shall be kept by the loader operator and recorded. Records shall detail any calculations used to determine the volume and record the name of the operator, date, time and identification details of trucks used to remove the gravel out of the riverbed. A copy of the logbook entries shall be made available to Environment Canterbury on request

Note 2: If scales or a “loadrite” system is used, a copy of the data shall be made available to Environment Canterbury on request

Health and safety

22. All operations shall be in accordance with the current Health And safety At Work Legislation. In particular, a site manager shall be nominated to monitor operations from a health and safety viewpoint.
# PART 3: SITE FORM

## General

<table>
<thead>
<tr>
<th>Site plan showing authorised area of extraction and access point(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum volume to be extracted: m³</td>
</tr>
<tr>
<td>Maximum volume to be stockpiled: m³</td>
</tr>
<tr>
<td>Operational hours (hours and days of week):</td>
</tr>
</tbody>
</table>

## Pre work

<table>
<thead>
<tr>
<th>Notification of works starting given to Environment Canterbury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy of Authorisation paperwork available</td>
</tr>
<tr>
<td>Requirements of Authorisation explained to site staff</td>
</tr>
<tr>
<td>Vehicles and machinery clearly identifiable with operator logo</td>
</tr>
<tr>
<td>Vehicles and machinery free of pest plants/seeds before entering river</td>
</tr>
<tr>
<td>Bird survey completed (for work between 1 September and 1 February)</td>
</tr>
<tr>
<td>Discovery protocol for archaeological material in place</td>
</tr>
</tbody>
</table>

## During work

<table>
<thead>
<tr>
<th>Not entering into or excavating from flowing water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complying with LWRP rules if using temporary culverts or bridges for access (see rules 5.135-5.142)</td>
</tr>
<tr>
<td>Excavation set up to ensure no sediment discharges to flowing water</td>
</tr>
<tr>
<td>200mm gravel maintained on stopbank crest (if applicable)</td>
</tr>
<tr>
<td>Excavation more than m away from riverbank, flood protection work, stopbank or any other structure?</td>
</tr>
<tr>
<td>Stockpiles more than m away from riverbank, flood-protection work, stopbank or any other structure?</td>
</tr>
<tr>
<td>Machinery refuelling done in accordance with LWRP rules (see rule 5.145)</td>
</tr>
<tr>
<td>✓ Spills cannot enter flowing water</td>
</tr>
<tr>
<td>✓ Refuelling and deliveries supervised by equipment operator</td>
</tr>
<tr>
<td>✓ Plant refuelled in designated area and drip trays used</td>
</tr>
<tr>
<td>✓ Spill response plan</td>
</tr>
<tr>
<td>Volume of material excavated recorded and gravel returns provided</td>
</tr>
<tr>
<td>If work stops for more than 8 days:</td>
</tr>
<tr>
<td>✓ Level all deposits except for stockpiles</td>
</tr>
<tr>
<td>✓ Reshape and naturalise works area</td>
</tr>
<tr>
<td>✓ Remove temporary structures</td>
</tr>
</tbody>
</table>

## Post work

| Site left in a condition consistent with surrounding natural riverbed |

Note: This form is a checklist for site operators only – full details of rule requirements should be read and conveyed to all staff. Monitoring of your Authorisation will be based on authority conditions and Part 2 of this Code of Practice rather than this form
Figure 1: River with stopbanks – cross-section and aerial image of the Waimakariri River bed with stopbanks on each bank illustrating the berm, fairway and riverbed extent.
Figure 2: River without stopbanks – cross-section and aerial image of the Waimakariri River bed with flood-protection vegetation boundary on each bank illustrating the berm, fairway and riverbed extent.
## Schedule 17 – Salmon Spawning Sites

<table>
<thead>
<tr>
<th>River Catchment</th>
<th>River, stream or reach name</th>
<th>Upstream Location Description</th>
<th>Downstream Location Description</th>
<th>Downstream Grid Reference</th>
<th>Upstream Grid Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiau</td>
<td>Henry River</td>
<td>Approximately 2 km above Anne River</td>
<td>St James walkway bridge</td>
<td>BT23:629-114</td>
<td>BT23:588-115</td>
</tr>
<tr>
<td>Waiau River - headwaters</td>
<td></td>
<td>Approximately 15.3 km upstream Waiau River from confluence with Ada River</td>
<td>Confluence of Ada River with Waiau River</td>
<td>BT24:677-145</td>
<td>BT24:720-281</td>
</tr>
<tr>
<td>Matagouri Point Stream</td>
<td></td>
<td>Approximately 2.7 km upstream Matagouri Stream from confluence with Waiau River at 790 m contour</td>
<td>Confluence of Matagouri Stream with Waiau River</td>
<td>BT24:690-194</td>
<td>(790 m)</td>
</tr>
<tr>
<td>Hurunui South Branch</td>
<td></td>
<td>Stream at 780 m contour</td>
<td>North Esk confluence</td>
<td>BV22:374-597</td>
<td>BU22:194-658</td>
</tr>
<tr>
<td>Homestead Creek</td>
<td></td>
<td>700 m contour</td>
<td>Confluence of Homestead Creek with the Hurunui South Branch</td>
<td>BV22:348-611</td>
<td>BU22:315-631</td>
</tr>
<tr>
<td>Rakaia</td>
<td>Glenariffe Stream</td>
<td>Top of Glenariffe Stream (approx. 4.8 km from confluence with Double Hill Stream)</td>
<td>Confluence of Glenariffe Stream with Rakaia</td>
<td>BW20:681-034</td>
<td>BW19:628-044</td>
</tr>
<tr>
<td></td>
<td>Double Hill Stream</td>
<td>Approximately 3.6 km upstream Double Hill Stream from Double Hill Run Road Bridge</td>
<td>Confluence of Double Hill Stream with Rakaia River</td>
<td>BW20:682-033</td>
<td>(450 m)</td>
</tr>
<tr>
<td></td>
<td>Manuka Point Stream</td>
<td>540 m contour</td>
<td>Confluence of Manuka Point Stream and Rakaia River</td>
<td>BW19:579-064</td>
<td>(540 m)</td>
</tr>
<tr>
<td></td>
<td>Hydra waters, Titan Stream, Chimera Stream</td>
<td>480 m contour</td>
<td>Confluence of Titan Stream with Rakaia River</td>
<td>BW19:671-068</td>
<td>(480 m)</td>
</tr>
<tr>
<td>Ryton River</td>
<td></td>
<td>Approximately 11 km upstream Ryton River from entrance to Lake Coleridge</td>
<td>Entrance of Ryton River into Lake Coleridge</td>
<td>BW20:805-062</td>
<td>BW20:831-085</td>
</tr>
<tr>
<td>Goat Hill</td>
<td></td>
<td>500 m contour</td>
<td>Confluence with Wilberforce River</td>
<td>BW20:685-126</td>
<td>(500 m)</td>
</tr>
<tr>
<td>Mellish Stream</td>
<td></td>
<td>4WD track 1.5 km upstream</td>
<td>Inlet of Mellish Stream to Harrisons Bight, Lake Heron</td>
<td>BX19:556-854</td>
<td>BX19:564-844</td>
</tr>
<tr>
<td>Rangitata</td>
<td>Deep Stream Complex - Mesopotamia</td>
<td>Approximately 500 m downstream Scour</td>
<td>Confluence of Scour Stream with Rangitata River</td>
<td>BX18:364-625</td>
<td>(470 m)</td>
</tr>
<tr>
<td>River Catchment</td>
<td>River, stream or reach name</td>
<td>Upstream Location Description</td>
<td>Downstream Location Description</td>
<td>Downstream Grid Reference</td>
<td>Upstream Grid Reference</td>
</tr>
<tr>
<td>-----------------</td>
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</tr>
<tr>
<td>Stream from Rangitata Gorge Road crossing to the 470 m contour</td>
<td>Deep Creek Complex – Mt Potts</td>
<td>Approximately 2.3 km south west of Rabbit Hill to the 500 m contour</td>
<td>Confluence of Deep Creek complex with Rangitata River (approximately 3 km west of Potts Road Bridge over Potts River)</td>
<td>BX18:314-723-723</td>
<td>(530 m)</td>
</tr>
<tr>
<td>Brabazon Fan</td>
<td>Unnamed tributaries of the Rangitata River to the 500 m contour</td>
<td>Confluence with the Rangitata River</td>
<td>BX18:312-696</td>
<td>(500 m)</td>
<td></td>
</tr>
<tr>
<td>Black Mountain Stream</td>
<td>Unnamed tributaries of the Rangitata River to the 580 m contour</td>
<td>Confluence with the Rangitata River</td>
<td>BX18:248-763-763</td>
<td>(580 m)</td>
<td></td>
</tr>
<tr>
<td>McKinnons Creek</td>
<td>Unnamed tributary of the Rangitata River known as McKinnons Creek to the 40 m contour</td>
<td>Confluence with the Rangitata River</td>
<td>BZ20:793-086-086</td>
<td>(40 m)</td>
<td></td>
</tr>
<tr>
<td>Orari</td>
<td>Orari River at Badham Bridge</td>
<td>Orari River mouth</td>
<td>BZ20:728-001-001</td>
<td>BZ19:677-063-063</td>
<td></td>
</tr>
<tr>
<td>Ohapi Creek</td>
<td>Ohapi South, Middle and North Branches at Guild Rd / 20m contour</td>
<td>Confluence with the mouth of the Orari River</td>
<td>BZ20:724-000-000</td>
<td>BZ19:662-028-028</td>
<td></td>
</tr>
<tr>
<td>Opihi</td>
<td>Opihi River at Fairlie at SH79 Bridge</td>
<td>Temuka River confluence</td>
<td>BZ19:652-975-975</td>
<td>BZ18:266-152-152</td>
<td></td>
</tr>
<tr>
<td>Temuka River</td>
<td>Ford at Oxford Crossing Road</td>
<td>Confluence of Temuka River with Opihi River (Approximately 3.5 km downstream of SH1 Bridge over Opihi River)</td>
<td>BZ19:652-975-975</td>
<td>BZ19:614-018-018</td>
<td></td>
</tr>
<tr>
<td>Waihi River</td>
<td>Beeby Road ford</td>
<td>Oxford Crossing Road</td>
<td>BZ19:614-018-018</td>
<td>BZ19:613-093-093</td>
<td></td>
</tr>
<tr>
<td>Opuha River Gorge</td>
<td>Approximately 1.5 km below dam</td>
<td>Skipton (SH79 Bridge over Opuha River)</td>
<td>BZ18:382-173-173</td>
<td>BY18:312-242-242</td>
<td></td>
</tr>
<tr>
<td>Tengawai River</td>
<td>Albury</td>
<td>Confluence of Tengawai River with Opihi River (Approximately 800 m upstream of Waitohi Pleasant Point Road over Opihi River)</td>
<td>BZ19:510-990-990</td>
<td>BZ18:306-006-006</td>
<td></td>
</tr>
<tr>
<td>River Catchment</td>
<td>River, stream or reach name</td>
<td>Upstream Location Description</td>
<td>Downstream Location Description</td>
<td>Downstream Grid Reference</td>
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</tr>
<tr>
<td>Waitaki</td>
<td>Lower Waitaki River</td>
<td>Waitaki Dam</td>
<td>SH1 Bridge</td>
<td>CB19:500-232</td>
<td>CA17:962-486</td>
</tr>
<tr>
<td>Hakataraamea</td>
<td>Cattle Creek</td>
<td>Confluence of Hakataraamea</td>
<td>SH1 Bridge</td>
<td>CB17:008-439</td>
<td>CA17:156-690</td>
</tr>
<tr>
<td>Larch Stream</td>
<td>540 m contour</td>
<td>Hopkins confluence</td>
<td>Car200000000</td>
<td>CA15:481-084</td>
<td>(540 m)</td>
</tr>
<tr>
<td>Stockyard Creek</td>
<td>555 m contour</td>
<td>Hopkins confluence</td>
<td>CB15:498-135</td>
<td>BZ15:498-135</td>
<td>(555 m)</td>
</tr>
<tr>
<td>Ohautributary</td>
<td>Just below 560 m contour</td>
<td>Lake Benmore</td>
<td>BZ16:763-861</td>
<td>BZ16:755-870</td>
<td></td>
</tr>
<tr>
<td>Ohautributary</td>
<td>Ponds beside Ohau C</td>
<td>Ohau confluence</td>
<td>BZ15:705-912</td>
<td>BZ15:682-926</td>
<td></td>
</tr>
</tbody>
</table>
Stopbank protection

When accessing the riverbed via a stopbank, 200mm of gravel must be maintained on the stopbank crest to make sure the stopbank is not being damaged.