Resource Consent Procedures for Road Maintenance Works in New Zealand

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Resource Consent Procedures for Road Maintenance Works in New Zealand:
Benefits, Costs & Alternatives

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Executive Summary

Introduction

Resource consents (issued under the Resource Management Act 1991) can sometimes be required for highway maintenance works in New Zealand. This is usually in situations where the maintenance work includes the repair of road structures in a stream bed or in the coastal marine area. The consent process is intended to ensure that the potential environmental effects of the maintenance work are properly identified and managed.

There has often been criticism, however, that the consent process is not necessary for routine road maintenance works and that the benefits of the process outweigh the costs. The aim of this research project has therefore been to establish more accurately what the true costs and benefits of the consent process are, and to consider other possible alternatives to that process.

The Case Studies

The study, carried out in 2001-2002, is based on an historical review of all known resource consents issued for maintenance works on New Zealand State Highways by each of the 16 regional authorities in New Zealand in the five-year period from 1997 to 2001 (inclusive).

A total of 195 highway maintenance-related resource consents were found to have been issued over this period. This means an average of 39 consents per year, or 2.5 per council per year. Most of the consents (about 95%) were for maintenance works in the bed of a river. Of these river-bed works, 70% involved either the repair or prevention of river damage to roads and bridges.

The number of resource consents issued for highway maintenance work over the study period varied significantly from region to region: from nil (in Nelson and Marlborough) up to 41 (on the West Coast). The number of consents issued in each region reflects the level of maintenance carried out in that region, but also the extent to which those activities are restricted by rules in the relevant regional plan, and whether those rules are actively enforced.

Issues Identified through the Resource Consent Process

The research shows that maintenance works are not necessarily always simple and uncontentious. Issues can and do arise through the consent process, either through council technical appraisals, public consultation, consent monitoring or public complaints. Issues arose during the consent process in 39 (20%) of the 195 resource consents reviewed in this study. These issues are unlikely to have been considered had the consent process not been applied. The remaining 80% of cases involved no such issues and the consent process became more or less a formality.

Other issues were raised through the consent process but resulted in no change to the way that the work was finally carried out. Some of these issues were nevertheless *potentially* significant. They have a value in terms of simply identifying these issues to the designer and prompting a closer scrutiny of the final design. The experience gained in dealing with these issues is also likely to be transferable to other future works.

Issues were also identified during the compliance monitoring phase for some of the projects. Eleven such instances were found in the research. Some relevant but usually minor site management problems were identified and dealt with through this process.

Total Costs of the Consent Process

The total cost of these 195 resource consents was estimated to be $560,000 (an average of $2,900 per consent). This includes the cost of preparation of resource consent applications and assessments of environmental effect (AEE) by consultants for Transit New Zealand (the government agency responsible for managing the State Highway network), plus consent processing and monitoring fees from regional councils.

Cost Increases over Time

The average cost of a resource consent appears to have risen significantly since 1997. Between 1997 and 2001 the estimated average cost of a consent increased by about 30% ($1,000). This increase is related to the growing size and complexity (and therefore cost) of assessments of environmental effect. The AEE makes up about 80% of the overall cost of a resource consent.

Economic Benefits

The consent process has at times provided economic benefits through cost savings from improved structural design. On five occasions regional council river engineering staff recommended design changes that are likely to have significantly improved the durability of certain structures. These improvements are estimated to have had a value of about $150,000 (resulting from the construction of longer lasting, lower maintenance structures).

Environmental Benefits

A few environmental benefits also arose from the process. Designs were modified to deal with environmental issues raised through consultation on seven separate occasions. However, in only three of these cases was there a clear and undisputable (if somewhat minor) environmental benefit. With the remaining examples, whether the modifications were really necessary, or whether they were added largely to satisfy potential objectors so that the consent process could be completed, remains in doubt.

Conclusions

The study finds that, overall, and in the context of highway maintenance works, the resource consent process is capable of delivering some benefits. The environmental benefits are usually minor, but the process has other benefits in terms of the discipline of consultation that it involves; the identification of potential issues, and the accountability and drive for innovation that comes with wider external scrutiny.

However, a fine margin exists between the scale of benefit and the scale of cost. Furthermore, this margin appears to be diminishing as AEEs become more complicated and more costly over time. There is scope for a reduction in these costs by rationalising the amount of information required for consent applications for maintenance-related work and by further limiting the circumstances under which consents are required.

This rationalisation of planning rules is already happening to a large extent as the new generation of regional plans become operative and replace long-standing but often out-dated rules governing activities in waterways. Many of these older rules were inherited from pre-1991 catchment board bylaws and carried over in to transitional regional plans. These rules have not worked well in the more structured RMA consent environment.

The problem of over-regulation is therefore gradually being corrected by the Councils themselves. The Councils are largely aware of the deficiency of the older transitional rules and are already endeavouring to replace these with more targeted, less onerous, resource consent requirements.

Recommendations

Future effort by Transit would be best directed at assisting councils in the development of more maintenance-friendly rules. This should be done in the context of the conventional regional plan review process. The solution is to fine-tune the existing system rather than attempt to develop a completely new system of regulatory control. The pursuit of other alternative regulatory methods (such as region-wide or global resource consents) is not recommended.

Regional rules governing road maintenance work should be structured to address individually the different types of maintenance activity to which the rules apply. 'Maintenance' can not be practically treated as a single generic activity. For effective and efficient management of the effects of road maintenance work it is necessary for each type of maintenance activity to be separately considered. A good example of this approach is in the Marlborough Regional Plan.

Abstract

This project examines the costs and benefits of, and alternatives to, the resource consent process of the Resource Management Act 1991 in circumstances where the process has been applied to routine maintenance works on New Zealand State Highways. The study is based on an historical review of 195 previous consents issued over a five-year period (1997 to 2001).

The study, carried out in 2001-2002, finds that maintenance works are not always uncontentious. Issues can and do arise through the consent process. Forty-one such issues are reported from previous consents. Some minor environmental benefits resulted.

The total cost of the 195 consents reviewed in the study is estimated to have been $560,000 (an average of $2,900 per consent). These costs appear to have increased over time (by about 30% between 1997 and 2001).

The study recommends that future effort be directed at the development of maintenance-friendly regional rules. Alternative methods, including the use of 'region-wide' consents, are not recommended.

1. Introduction

This project (*Benefits, Costs and Alternatives to Resource Consent Procedures for Routine Road Maintenance Works*) investigates the costs and benefits of the resource consent process as it applies to consents required for state highway maintenance works in New Zealand.

The study, carried out in 2001-2002, reviews all known consents issued for maintenance activities on New Zealand's State Highways between 1997 and 2001 under the Resource Management Act 1991 (RMA). It examines whether, on the basis of this sample, the consent process resulted in changes to the way that the work was eventually carried out. It assesses whether, and to what extent, those changes were ultimately beneficial.

The overall costs of the consent process are also assessed, based on costs associated with consent processing, consent monitoring by regional councils and the preparation of consent applications and Assessments of Environmental Effect (AEE) by Transit New Zealand's consultants.

The study finally examines alternatives to the resource consent process for the management of environmental effects associated with routine highway maintenance works.

2. Methodology

This study is based on an historical review of all known resource consents for highway maintenance works in the five-year period from 1997 to 2001.

2.1 Sources of Information

The main source of information for the review has been consent files held by the 16 regional councils throughout New Zealand. Altogether, a total of 195 consent files for highway maintenance activities have been located and obtained (representing an average of 39 consents per year, or 2.5 consents per council per year over the five year sample period). A complete list of cases is attached as Appendix 1. File notes, monitoring reports and copies of correspondence on these files provide a picture of what went on at the time, the issues that were raised and how those issues were later resolved. Other information has been obtained from interviews with council staff involved in the processing of these consents and in some cases from the overseeing consultant engineers and other parties involved in the original consent process.

Each of the 195 cases have been examined to find out whether, at any point in the consent process, issues arose that otherwise might not have been identified and dealt with if the consent process had not occurred. These issues have then been followed to their eventual conclusion to determine whether any kind of 'benefit' (environmental or otherwise) has resulted from the process.

2.2 Assessing Benefits & Costs

'Benefits' have been assessed in terms of any improvement to the outcome that would not have otherwise occurred. Sometimes this improvement is measurable in dollar terms, but in most cases a more subjective qualitative assessment is required. In the review of case studies we identify instances where the consent process can be seen to have made a difference to the final outcome, and assess whether and to what extent a 'benefit' (that is, an improved environmental outcome) actually or potentially resulted.

'Costs' have been calculated as the sum of council processing and monitoring charges on each consent (usually available from council files or accounting data-bases) plus the cost to Transit of preparing the original consent application and associated AEE.

The largest and most difficult component to cost is that of the preparation of the AEE for each consent application. Records of these costs are not normally available and therefore have had to be estimated by examination of each of the original documents and calculation of the amount of time and expense required to produce them. Each AEE has been examined and 'costed' in this way (based on estimates of time required for site visits, research, consultation and drafting, plus other expenses likely to have been incurred). The estimates are all based on 'present-day' cost.

2.3 Alternative Methods for Managing Environmental Effects

The final part of this study – the assessment of alternative methods – investigates a range of other techniques that have previously been used or attempted by regional authorities in New Zealand for managing the environmental effects of road maintenance work in ways that aim to simplify, or eliminate, the resource consent process as a requirement for some or all road maintenance jobs. The study considers to what extent each of these alternative methods have been successful in reducing compliance costs for the roading authority while still maintaining an adequate level of environmental control.

3. The Definition of 'Highway Maintenance Work'

For the purpose of this study 'highway maintenance work' means *work undertaken to repair, strengthen and/or protect an existing state highway structure* (where 'structure' means the road itself plus associated bridges and culverts).

The definition assumes that 'maintenance' is not only 'reactive' (patching and repairing a structure when it fails) but also 'pro-active' (the strengthening and protection of structures to stop them from failing in the first place). This may include in some cases the enlargement of a structure (to strengthen it) or the building of entirely new structures, such as river bank protection works, to protect an existing road or bridge. The strengthening and protection of a structure is seen as an essential part of the routine maintenance of a structure to keep it in sound order.

This definition has been used in the present study for the selection of case studies of road maintenance works from the sample period of 1997 to 2001.

Excluded from the definition are works carried out for the purpose of (or in conjunction with) improving the level of service of a road or road structure. This therefore excludes works such as road realignments, bridge widenings and culvert extensions. Even though some of these can be of a very similar scale and effect as maintenance works, they are not truly 'maintenance' *per se*.

Note also that two very specific maintenance activities – seal burning and chemical anti-icing treatment – have been excluded from the study. The issues affecting these particular activities are exceptional to the point that it would be impractical to consider them alongside other routine maintenance works.

4. Maintenance Works Situations Requiring Consent

Not all maintenance works actually need a resource consent. Indeed, for most day-to-day routine maintenance activities carried out on highways around the country (mowing, drain clearing, weed-spraying, road re-sealing) the requirement for a resource consent would be very unlikely.

Only when maintenance activities move off the road reserve and in to adjacent rivers or in to the coastal marine area are consents likely to be needed. Such activities are affected by sections 12, 13, 14 and 15 of the RMA, which respectively cover "restrictions on use of the coastal marine area", "restrictions on certain uses of beds of lakes and rivers", "restrictions relating to water" and the "discharge of contaminants in to the environment". Section 9(3) restrictions on earthmoving activities may also apply where there are concerns with erosion.

These are all areas of regional council responsibility. Hence, only through the regional (as opposed to district or city) councils are resource consents for highway maintenance activity normally required.

All activities covered by sections 12 to 15 activities need a resource consent *unless expressly allowed by rules in the regional plan.* The presumption of the RMA is therefore that these activities need to have a consent unless the regional plan says otherwise. For section 9(3) activities (restrictions on the use of land) consent may be required if the activity contravenes a regional council rule.

Whether or not a resource consent is required for a particular maintenance activity is therefore determined very much by the relevant regional plan, either because there are *no* relevant rules (in which case the restrictions of sections 12 to 15 of the RMA apply by default and consent is automatically required), or because the maintenance activity fails to comply with specific rules in the plan and is deemed to be either a controlled, discretionary or non-complying activity.

Each region sets its own rules and defines its own threshold limits to determine at which point a resource consent is required for various types of activity. The following are some past and present examples:

- *earthwork exceeding a volume of 250 m^3* (Waikato)
- *earthwork of greater than 100 m^3 volume or 100 m^2 in area* (West Coast)
- *earthwork on a slope of greater than 12 degrees* (West Coast)
- *earthwork in a catchment greater than 50 hectares* (Hawke's Bay)
- *earthwork within 20 m of a waterway* (West Coast)
- *earthwork within 10 m of a waterway* (Bay of Plenty)
- *earthwork within 5 m of a waterway* (Waikato)
- *bank protection over more than 20 lineal metres* (Northland)
- *alteration of a structure in a stream catchment >100 ha* (Bay of Plenty)
- *groynes extending across >10% of the width of a river bed* (Wellington)

- *extension of existing coastal protection works by >20%* (Wellington)
- *installation of a culvert greater than 900 mm in diameter* (Bay of Plenty).
- *a likely excess of suspended sediment limits* (Manawatu-Wanganui)
- *placing a structure in a waterway* (Manawatu-Wanganui)
- *building a 'defence against water'* (Manawatu-Wanganui)
- *widening, deepening, altering or diversion of a watercourse* (Canterbury)
- *work 'within' a watercourse* (West Coast)
- *a discharge of suspended sediment* (West Coast)
- *digging, excavating or quarrying in the vicinity of a watercourse* (Otago)
- *building a structure within the coastal marine area* (Waikato)

Any one of these rules could apply to certain types of road maintenance activity. Indeed, most of the examples that are given here are rules that are known to have been responsible for consent requirements for maintenance activities in the past (in the five-year period covered by the present study).

One of the main reasons that so many restrictive rules exist is that a large number of these rules are from transitional regional plans. These are plans that were compiled for the 'transitional' period immediately after the introduction of the RMA in 1991. Although they are being progressively phased out, more than half of the regional authorities in the country are still (in June 2002) operating to some extent on transitional plans while they work to make their new RMA plans operative.

The problem with transitional plans is that they are very often composed of rules adopted from pre-1991 bylaws, which were originally drafted in the context of a more flexible and informal consent regime than that which exists today. Waterway approvals under the old water and soil legislation often required little more than an exchange of letters with the local catchment board. This meant that it was feasible for the original bylaws to impose a sweeping control since the consent process was quick, easy and adaptable.

These rules have not translated well in to the more formal RMA consent process. Even very minor activities can be (and very often have been) deemed to be discretionary or non-complying activities and therefore required to be subject to a full scale consultation and assessment process.

Nevertheless, transitional rules are now disappearing with the progressive introduction of the new generation of regional plans. It is likely that within the next two to three years most if not all of the old transitional plans will be gone. This should go some way toward reducing the consent requirements on highway maintenance works. Indeed, in undertaking this study all of the regions where transitional plans have been or are being superseded, the restrictions on maintenance related activities have generally were found to have eased.

5. Maintenance Activities Historically Requiring Consent

The regional rules discussed in Chapter 4 illustrate the range of circumstances under which resource consents may be required for highway maintenance works. Table 5.1 shows more specifically the maintenance activities that these rules have historically affected (using examples of maintenance work from the sample period of 1997 to 2001).

The table shows a break-down of the types of highway maintenance activities for which consents have been issued in the five-year period to which the present study covers. The findings are from a total sample of 195 resource consents, out of which 277 separate 'consentable' activities have been identified[1]. The number of times that each of these activities has appeared in a resource consent is shown in the second column of the table.

Table 5.1 Breakdown of individual consented activities (1997 – 2001).

Maintenance Activity	No. of Times Consented[2]
Bank scour repair (gabions/rip-rap)	61
Bridge protection (gabions/rip-rap/groynes)	42
Repair of slope failure (excavate, infill, stabilise)	31
Bank scour deflection (groynes/spurs)	23
Channel re-training	19
Channel excavation	17
Structural bridge repairs & cleaning	13
Culvert replacement / upgrade	13
Coastal protection (rip-rap/sea wall)	12
Culvert repair	11
Installation/repair of a weir / drop-structure	6
Willow planting	5
Installation of an under-bridge foundation pad	4
Erection of scaffolding for bridge repair	4
Repair of culvert apron	4
Removal of channel vegetation	3
Installation of drains around a slip	3
Test-hole digging in a channel	3
Installation of a debris retention structure	2
Removal of old bridge piers	1
Total	**277**

The table shows that most of the activities for which consent was issued were concerned with river erosion problems, either to repair or prevent the undercutting of roads or bridges. These activities account for over 70% of the total number of consented maintenance works in the five-year sample period.

[1] Each maintenance 'work' may potentially include two or more identifiable activities. A bridge protection work may for example include channel re-training as well as the placement of rip-rap, with both being activities requiring a resource consent in their own right.

[2] Any consents issued for 'multiple site' maintenance activities have been treated as single activities for the purpose of these calculations (i.e. no multiplication per number of sites).

6. Benefits of the Resource Consent Process

This chapter presents a review of resource consents that have been required for highway maintenance works in the five-year sample period (1997 – 2001) and highlights where issues have been raised as a result of the process. The issues of interest are any that were unique to the site and circumstances of the particular maintenance project, and that therefore are unlikely to have been identified in the absence of a resource consent process. The extent to which each of these issues has contributed (or potentially contributed) to beneficial outcomes is considered.

Altogether 41 issues have been identified and will be examined in this chapter. These issues arose from 39 (20%) of the 195 consents reviewed in the present study. (For a full list of projects refer to Appendix 1.) The remaining 80% of projects passed through the consent process with no unusual issues or points of contention arising, either through the AEE, through consultation, or through any other stage of the process. The consent process was therefore largely a formality in these 80% of cases.

When issues *did* arise, these were at one or other of the following points in the consent process:

1. Council technical appraisals of the consent application.
2. Consultation with other parties.
3. Council compliance monitoring.
4. Public complaints while the work is in progress (or when completed).

6.1 Issues Arising from Council Technical Appraisals

All resource consent applications undergo a technical appraisal as part of the assessment of the application by the relevant consent authority. This will often include an engineering appraisal if the work involves a structure in a waterway. It will also, as a matter of course, include an assessment of other potential effects on the environment, usually assessed by council resource management staff.

From the sample of 195 resource consents, eleven examples were found where council technical appraisals identified issues or concerns with the original proposal. Of these, five resulted in specific changes being made to the design of the maintenance work. These are described in the following sections.

6.1.1 Council Technical Appraisals Resulting in Design Changes

1. "under-sized rip-rap will not withstand future flooding"

Bay of Plenty 1997: The Bay of Plenty Regional Council's river engineer assessed erosion protection work around a bridge on the Hauone Stream and advised that the configuration of the bridge meant that flood velocities would be very high. The grade of rip-rap material that had been selected for the work was deemed to be inadequate

to withstand future floods[3]. A calculated life (based on design standards) for the original rip-rap material was only about 2 years, as opposed to 20 years for the material that was finally used. The cost saving, from not having to return to the site to re-do the work, would have been in the order of $20,000.

Benefit? – Yes: ***An estimated cost saving of $20,000.***

2. "gabions are required, not just gravel removal"

Bay of Plenty, 1999: the Council's river engineer recommended that the proposed excavation of a gravel bar from around a bridge (as set out in the consent application) would not be sufficient to protect a threatened bridge abutment from future flood damage and that some kind of gabion protection (not just rip-rap) would also be required[4]. The gabion mattress that was then used probably saved the bridge abutment from a flood that occurred two years later. The abutment would not have stood up to the flood if only gravel removal and rip-rap had been employed (as illustrated by the failure of the opposite bank abutment that did have only rip-rap protection). The saving, in terms of damage prevented, is estimated to be between $50,000 and $100,000.

Benefit? – Yes: ***An estimated cost saving of $50,000 – $100,000.***

3. "under-sized rip-rap will not last"

Bay of Plenty 2001: The Bay of Plenty Regional Council's river engineer assessed the work and advised that the grade of rock that was being used as rip-rap for bank protection would be too small to stand up to future flooding[5]. Approximately 25% of the stock of material was deemed to be under-size and was ordered to be replaced. Calculations suggest that the rip-rap originally selected would have lasted for about 2 years (compared with a usual design period of 20 years). Retrospective repair of the protection works would have cost an estimated $20,000.

Benefit? – Yes: ***An estimated cost saving of $20,000.***

4. "a solid foundation and galmac coating are required"

Bay of Plenty, 2001: the Council engineer recommended that a proposed gabion wall would need both a solid foundation and 'galmac' coating on the gabion baskets to prevent damage and ultimately disintegration from the effects of bed-load abrasion[6]. This advice, as followed, is estimated to have extended the life of the gabion wall from 10 years to between 20 and 30 years. If this is so, the saving (assuming a $50,000 structure and a 10% annual rate of discount) would have been in the order of $20,000.

Benefit? – Yes: ***An estimated cost saving of $20,000.***

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3 Hauone River bridge protection works (1997).
4 Torere Stream bridge protection works (1999).
5 Ohinekoao Stream protection works (2001).
6 Opape Stream Dropout (2001).

5. "reinforcing rods will be a hazard to swimmers"

Wellington Region, 2001: Plans for the construction of bridge protection works in the Hutt River[7], involved the placement of demolition concrete rip-rap (along with other rock material) on the banks of the river. The proposed use of this material was brought to the attention of technical staff from the Council's River Management Group who warned of a risk of injury to swimmers if any of this material contained steel reinforcing rods. A problem had previously occurred in the Hutt River where reinforced concrete had been used and which had subsequently washed loose. Being of a lighter density than the bed material, the concrete had 'floated' along the river bottom and settled in some cases in swimming hollows where the protruding rods had presented a risk to swimmers. TranzRail (who had been responsible for this earlier work) were later required to find and recover all of the offending reinforced concrete. To prevent this happening again, Transit were advised to remove any reinforcing rods from the concrete before it was used as rip-rap. This may have saved Transit in the order of $10,000 if they had had to go back and retrospectively remove the reinforced concrete.

Benefit? – Yes: ***A possible cost saving of approx. $10,000. Also possibly avoiding future injury to swimmers in the Hutt River.***

6.1.2 Council Technical Appraisals Resulting in No Design Changes

In other cases the resource consent process has provided an avenue for Council technical staff to simply flag issues, but with no real change to the final design and implementation of the work. In these situations either the issue was resolved by further investigation or was considered but finally rejected by the designers. Some of the issues were nevertheless potentially relevant.

1. "the gabions might cause deflected erosion"

Gisborne District, 2000: Council river engineers raised concerns over the design of a protection work on the Waiapu River[8]. The engineers questioned whether the permeable groynes planned for this site would end up deflecting erosion in to other areas (including the site of an adjacent urupa). The design was finally unchanged, although both Transit and the Council have agreed to monitor the performance of the structures. The involvement of the Council in this case may have had the potential to avoid unnecessary further erosion of the river banks and the need for retrospective repairs.

Benefit? – Potentially: ***This was a valid concern. If verified, it could have alerted the designers to erosion problems caused by the structure, saving on retrospective repairs.***

2. "the landslip might be bigger than it appears"

Gisborne District, 1999: Gisborne District Council staff identified a possible problem with a proposed dropout reinstatement. Aerial photographs of the site suggested to

[7] Mangaroa Bridge, maintenance of river works (2001).
[8] Waiapu River erosion protection works 2000).

the Council that the area of instability might be larger than previously thought[9]. The Council therefore recommended further ground tests to Transit's consultants and suggested that longer term subsoil drainage and stabilisation measures might be required. We have been unable to find out what eventually happened with this issue. None of the respondents could recall. We assume, therefore, that nothing further came of it. Nevertheless, the Council's observation had a potential saving in long-term maintenance costs at the drop-out if a wider stability issue had been revealed.

Benefit? – Potentially: ***This was a valid concern. If substantiated, it could have alerted the designers to wider slope failure issues.***

3. "a 'falling apron' structure will not last"

Bay of Plenty Region, 2001: Council river engineers expressed some doubt at the survivability of a proposed 'falling apron' design for a drop-out repair on the Waioeka River[10]. It was argued by the council engineer that the structure would disintegrate, that it would be unsightly, and that (as it collapsed) it would present a hazard to canoeists on the river. The design engineers for Transit disagreed with this assessment but agreed as a condition of consent to monitor the works once built. It is too early yet to report on the performance of the structure. However, the issues raised by the Council engineer were relevant and could have alerted the design engineers to improvements to extend the life of the structure and reduce the hazard to river users.

Benefit? – Potentially: ***This was a valid concern. If substantiated, it could have alerted the designers to structural stability issues, saving expenditure on later repairs.***

4. "the opposite river bank may be eroded in the long term"

West Coast Region, 2001: In assessing a retrospective consent[11] application for emergency protection work in the West Coast region[12], involving the construction of groynes, river engineers for the Council identified a concern with the potential deflection of flows on to the opposite bank. Transit were instructed to consult with the landowner on the opposite side of the river. Nothing further came of this, but it highlighted a potential longer term problem with deflected erosion (given that the consent for the groynes was to be issued for a period of 35 years).

Benefit? – Potentially: ***This was a valid concern. This consultation may have potentially avoided future disputes with the landowner.***

5. "the lake may be over-drained by this design of culvert"

Otago Region, 2001: A council assessment of plans to upgrade a twin-culvert exiting from Lake Hayes raised concerns over the potential for the design of the culvert (its

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9 Hospital Hill dropout reinstatement (1999).

10 Waioeka River dropout repairs (2001).

11 'Retrospective' resource consents are applied for in circumstances where the work that requires a consent, has already been finished. This is common where emergency works are required to be carried out. There is, however, no guarantee that the consent will ultimately be granted. If not, the works may need to be removed or re-done.

12 Inangahua River emergency protection works (2001).

size, bed level and angle) to cause an over-draining of the lake[13]. The design consultants were asked to supply calculations to verify that the proposed new culvert would not have this effect. These calculations were provided and demonstrated that over-drainage of the lake would not occur. It was, however, a relevant issue and one that the council would have been justified in pursuing. An inaccurate design would have had the potential to lower the natural level of the lake, with adverse effects on the scenic and wildlife values of the area.

Benefit? – Potentially: ***This was a valid concern. If verified, it would have allowed changes to be made to the design before construction to avoid adverse effects on the lake and/or the need for retrospective changes to the culvert.***

6. "check flood capacity, control of sediment, etc."

Auckland Region, 1999: On two separate maintenance works (both involving the placement of gabion baskets for bridge protection), Council technical staff identified issues and sought further clarification of the design. In one of these[14] the Council asked for calculations to confirm that a proposed gabion basket and reno mattress structure would not adversely affect flood capacity. In the other[15], Council staff requested further information on reasons for the physical extent of the works, how access would be created for heavy machinery, how sediment and cement-water would be controlled, the effects of the structure on flood capacity, an explanation of why the work had to be done during the (high flow) winter months, and an outline of consultation undertaken with iwi. While there may be some question over the extent to which the council really needed to formally seek further information on at least some of these issues, presumably this process of inquiry had the potential to identify faults with the intended design and/or management of the works.

Benefit? – Uncertain: ***These issues may have potentially alerted the designers to areas where assessment and planning had been inadequate. On the other hand the level of detail sought by the Council may have been excessive.***

6.2 Issues Arising from Consultation with Other Parties

Other examples can be found where affected or interested parties had an influence on the consent process as applied to specific highway maintenance projects. Seven occasions can be identified where consultation with other parties resulted in modifications being made to the way that a maintenance work was later carried out. In seven further cases issues were raised and debated but did not result in any change to the way that the work was finally done.

[13] Hayes Creek culvert replacement (2001).
[14] Tauhoa Creek bridge protection works (1999).
[15] Wainui Stream No.1 Bridge protection works (1999).

6.2.1 Matters Raised by Affected Parties Resulting in Design Changes

1. "trim back the downstream outcrop to further reduce scour"

Southland Region, 1999: For a scour repair work near the Dunsdale Stream bridge in Southland[16], the original design for the work involved excavation of the river channel and placement of rock protection around the bridge abutments and along a bank of the stream. A neighbouring landowner who was consulted as part of the consent process suggested, however, that the work would not be very effective unless a natural outcrop immediately downstream of the scour site was removed and straightened to prevent a banking up of flood waters and further scour. The design engineers agreed with this and modified the plan to include the removal of the spur. This may have extended the life of the protection works around the bridge.

Benefit? – Yes: ***This suggestion, as acted upon, will have reduced the risk of future damage to the highway.***

2. "alter the gradient of the river banks"

Canterbury Region, 1999: Consultation with the Department of Conservation and an affected landowner resulted in modifications to the way that a channel excavation work was carried out[17]. The Conservation Department had wanted to ensure that the banks either side of the excavation would be left with a natural 'steep-bank' appearance. The farmer, on the other hand, wanted shallow sloping banks so that he could continue to drive stock across from one side of the stream to the other. A compromise was therefore struck where most of the stream bank was kept with a natural 'steep' appearance but with shallow-angled sections where stock could pass. The result was that the aesthetic appearance of the stream was retained for the benefit of the Department and passing motorists while at the same time providing for continued stock access.

Benefit? – Yes: ***A minor benefit in terms of leaving a more natural appearance to the river and benefit in terms of guaranteed continued stock access (at least until the natural channel form returns).***

3. "modify the sea wall to protect adjacent land"

Waikato Region, 1998: Concerns were raised during the design and consultation phase for a coastal protection project[18] that the proposed sea wall would cause an increase in erosion of an adjacent public domain. It was therefore agreed with the local Domain Board that an extra 'spur' would be built on to the wall to help prevent this erosion. A spur was then added, although recent inspections suggest that it has not worked very well and may even be increasing rather than decreasing the amount of erosion at the site (this being related to river erosion occurring in behind the structure, rather than coastal erosion at the front). The effect of the modification to the structure therefore may have been negative rather than positive.

Benefit? – Questionable: ***The modification to the groyne had the potential to protect the domain land as well as the highway (meaning a benefit to users of the***

[16] Dunsdale Stream bridge protection works (1999).
[17] Stewarts Fan channel improvements (1999).
[18] Mokau River bank protection (1998).

domain). However, the opposite effect may have resulted. Whether the extra spur was necessary for the highway or was simply the 'cost' of obtaining Domain Board approval for the resource consent is also unclear.

4. "offer of a more convenient spoil disposal site"

West Coast Region, 1997: A minor but beneficial change of plan was achieved for a drop-out repair project[19] on the West Coast where staff from the local Department of Conservation were able to offer the use of a more convenient and better-concealed disposal spoil disposal site than had originally been intended. The availability of this site will have resulted in some minor cost savings in terms of reduced cartage distances and time.

Benefit? – Yes: ***A minor cost saving in terms of reduced haulage distances, saving perhaps $1,000, and providing a more aesthetic finish.***

5. "move a drain to reduce flooding"

Gisborne District, 1998: On a bridge maintenance project[20] in Gisborne District involving bank protection an adjacent landowner required that, as part of the work, Transit should move a drain running across his land. The argument was that the works would increase the likelihood of water banking up the drain during floods and that a relocation of the drain would be required to reduce this threat to his land. The drain was therefore moved to a position where flooding would be better contained.

This was however an unusual situation in that the landowner claimed the existence of a previous agreement (dating back to the construction of the original road bridge) from the former Ministry of Works (MoW) in which his land would be protected from any resultant flooding. He claimed that Transit was under the same obligation, even though there was no evidence to show that the proposed maintenance work itself would further intensify flooding, and no record (after an extensive file search) of any such previous agreement with the MoW. That the drainage improvement was ultimately agreed to by Transit is likely to have been more a pragmatic move (to maintain landowner relationships to get the consent process completed) than one necessarily required to avoid or remedy adverse effects.

Benefit? – Highly Questionable: ***The moving of the drain appears to have been only very loosely related to the work in hand. This may be more accurately described as a 'cost' associated with getting consent approvals and maintaining landowner relationships.***

6. "the work might interfere with use of a Maori food gathering site"

West Coast Region, 2000: A bridge maintenance project on the Mikonui River[21] was brought to the attention of Ngai Tahu iwi through the resource consent process. The site of the bridge was identified as being near to a 1-hectare 'nohoanga' (seasonal camping area for food gathering) that had been set aside as part of the Ngai Tahu

[19] Thomas Bluff dropout repair (1997).
[20] Karakatuwhero River protection works (1998).
[21] Four West Coast Bridges (including Mikonui River bridge) – repair of spalling (2000).

claim settlement. Ngai Tahu wanted to ensure that the use of the nohoanga would not be affected by the maintenance work. This resulted in a condition being put on the consent that none of the repair work would be carried out between 16th August and 30th April in any given year (effectively limiting the work to the winter months), and requiring the local runanga to be notified in advance of any such work.

However, given that this particular nohoanga has rarely been used, and given the low-impact nature of the repair work (patching of deterioration of the bridge piers) the necessity of the restrictions thereby imposed on the work must be debatable. That Transit agreed to the condition is likely to be more for pragmatic reasons (the maintenance of relationships) than out of recognition of any actual potentially significant effect.

Benefit? – Minimal: ***The very low level of use of the nohoanga and the low impact nature of the maintenance work makes it debatable whether any significant environmental benefit was obtained by the consent conditions finally agreed. The outcome will however have protected future working relationships between Transit and iwi.***

7. "do not damage a stand of willow trees"

Southland Region, 1999: Consultation with neighbouring residents prior to a channel clearing and bank protection work[22] gave rise to a request from one of the neighbouring families that care should be taken, if possible, not to harm a particularly nice stand of willow trees growing near the bridge. This was agreed to. Other nearby willows were used instead for all of the bank reconstruction work, and this particular stand was left unaffected.

Benefit? – Yes: ***This agreement caused no inconvenience to the work but meant that care was taken not to harm the identified stand of willows, where otherwise these may have been used as bank protection material. Other nearby material was used instead.***

6.2.2 Matters Raised by Affected Parties Resulting in No Design Changes

Other issues were raised that did not result in any change to the design or implementation of the work. In each of these cases either the issue was resolved by further investigation or was considered but rejected by the designers of the project.

1. "the culvert will increase downstream flooding"

Waikato Region, 1998: A culvert upgrade project[23] undertaken in the Thames area involving a relatively simple upgrading of an existing culvert to increase its flow capacity gave rise to strongly expressed concerns (raised by the local territorial authority, downstream farmers and local iwi). These were that an increase in downstream flooding would result, that more flood pumping would be needed, and that the works might affect the migration of eels. These concerns were not

[22] Princhester Creek channel clearing, bank reconstruction and protection (1999).
[23] Komata Drain upgrade (1998).

substantiated by any of the technical assessments that were subsequently carried out. The consent application therefore proceeded and was granted.

Benefit? – Potentially: ***Flooding is a valid concern in this area. It was therefore important to verify, without any doubt, that flooding would not be increased as a result of the new culvert. The consent process ensured that a thorough assessment of this risk had been undertaken.***

2. "bridge modifications have increased flooding"

Southland Region, 2000: Transit was required to apply for retrospective consents for emergency repairs and gravel clearance work on the Mararoa River bridge[24] (under section 330 of the RMA). Two downstream landowners submitted against the consents, complaining that the gravel removal work in the channel and strengthening to the bridge had resulted in the formation of a gravel island that was threatening to cause flooding of their land. They argued that Transit should excavate a channel through the island to fix the problem. Later technical assessments (by both Transit and the Regional Council) failed to support the claims of the landowners and the consent was ultimately granted, although only after prolonged investigations and debate (which to some extent remains on-going).

The full story to this case is unclear: in particular whether the landowners saw this was a genuine issue or whether it was seen as an opportunity to get improved flood control from Transit. However, a suggestion by staff at the Regional Council is that the dispute may well not have arisen at all if the work had originally been carried out in consultation with the landowners. It is suggested that the adverse reaction from the landowners was initially triggered by an absence of prior consultation.

Benefit? – Debatable: ***This example lends justification to the consent process insofar as it demonstrates the kind of adverse reaction that can result where affected parties are not consulted prior to the work. There is however some question over the validity of the concerns raised by the landowners in this case, and whether the consent process was used by them as a vehicle for expressing legitimate concerns or simply as a leverage for getting free flood protection work.***

3. "less damaging extraction methods may be possible"

Otago Region, 2001: On a routine channel clearance job[25] where gravel was to be cleared from 500 m upstream and downstream of a bridge, a Department of Conservation submission questioned the method used and whether the scale of impact could be reduced by the installation of an upstream debris retention dam to concentrate the gravel in one place. The submission also questioned whether some kind of wider catchment management could be initiated to reduce the amount of gravel entering the creek. No change of design resulted, but the suggestion was relevant.

[24] Mararoa River emergency works (2000).
[25] Kurinui Creek flood alleviation (2001).

Benefit? – Potentially: ***This was a relevant concern. The idea put forward might have potentially reduced the area of impact for future gravel clearing, saving perhaps 400 m of river from temporary (2 to 3 months) loss of fish habitat each time the river is cleared.***

4. "river training is damaging and may be unnecessary"

Southland Region, 1998: In regard to a stopbank repair project[26], a Fish & Game Council submission questioned whether the repair work really needed to include channel re-training as well. The claim was that re-training results in the drying out of river bed habitat and causes bed instability.

While the design of the protection work in this particular case was not, in the end, altered in response to the Fish & Game submission, it is significant to note that (according to Fish & Game and Regional Council sources), less river training work is now carried out in the region as a whole than there would have been in 1998. This is said to reflect a changing design philosophy in river management in favour of a more restrained use of channel training. Where possible, other solutions are found, like relying exclusively on bank protection (as Fish & Game in this case promoted), or making only partial (so-called 'dry') channel diversions that will break through and create a new channel only with the advent of a flood. The 1998 Fish & Game submission, therefore, while not necessarily changing the outcome on the maintenance project that it was addressing, may have helped effect some of the changes in river management practice that have since taken place.

Benefit? – Potentially: ***The concerns raised here were valid and might have potentially avoided the temporary (2–3 month) loss of fish habitat from this section of the river. They may have also provided part of the impetus for later changes in river management in the region.***

5. "remove only as much gravel as the job requires"

Southland Region, 2000: Fish & Game Council were involved as submitters on another gravel clearing project[27] where they contested the amount of gravel proposed for removal. The application for consent had specified 8,000 m^3. This was later modified (in response to the submission from Fish & Game) to 2,380 m^3.

Whether the original figure of 8,000 m^3 just happened to be a generous estimate is unclear. Also debatable is whether, by removing the originally specified amount of gravel, any greater adverse effect on the environment would actually have occurred. The counter argument is that if less gravel is removed in a single operation then the operation is likely to have to be repeated more often (which would be more damaging to the river habitat in the longer term).

Benefit? – Questionable: ***It is questionable whether the precise quantities of gravel to be removed in this case was particularly relevant.***

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[26] Raspberry Patch (Upper Hollyford) river training and bank protection (1998).

[27] Princhester Creek channel clearance (2000).

6. "a sediment trap is needed to protect a downstream wetland"

Wellington Region, 2000: An additional culvert was installed to overcome flooding problems on the highway[28]. The consent for this work received a submission from iwi to require the contractor to build a silt trap to stop sediment from washing downstream in to a wetland. It is uncertain, however, whether a sediment trap would have worked at this location, given the low-lying nature of the site on the fringe of the Pauatahanui Inlet. A gravity-fed sediment trap would have been below high tide water level. The contractor was in any case proposing to use other measures (silt fencing and isolating sheet-piles) to minimise sediment loss and was generally aware of the issue. Final conditions of consent from the Regional Council were not specific to the requirement for a sediment trap.

Benefit? – Questionable: ***A sediment trap probably would not have worked at this site. Proposed sediment control measures were already adequate. The raising of this issue will however have ensured that closer attention was given to the design of sediment controls.***

7. "A sloping wall might provide stronger coastal protection"

Bay of Plenty, 1998: Consultation with Department of Conservation over a proposed repair of coastal protection works[29] gave rise to suggestions from them that the designers should consider replacing the existing vertical sea wall with a more sloping, energy-absorbing structure. After some discussion, however, the agreement was that the existing wall had been intact for 20 years and that any changes would be costly.

Benefit? – Potentially: ***The suggestions from Department of Conservation meant that alternative options were put under closer examination.***

6.3 Issues Arising from Council Compliance Monitoring

The resource consent process does not end with the granting of a consent. Once the consent has been issued the possibility is that the council will still carry out compliance monitoring to check that the work is being undertaken in accordance with consent conditions, and that it is otherwise not having any significant adverse effects on the environment. The costs of monitoring will usually be charged back to the consent holder.

Not all resource consents are monitored. This will depend on the practices of the particular council and whether the work in question is thought to have the potential for causing a significant adverse effect.

Council compliance monitoring reports will usually identify aspects of the work where the contractor is not complying with any of the conditions of consent. The reports will also often pick up on other problems or potential problems where the

[28] SH58 culvert upgrade (2000).
[29] Waiotahi Beach protection works (1998)

compliance officer believes improvements can be made to minimise the impact of the work.

The following are issues that were raised through the compliance monitoring of the sample of highway maintenance works investigated for the present study.

1. "the contractor is illegally using rocks from the river"

Bay of Plenty Region, 1998: Council monitoring of work on the repair of a dropout on the Waioeka River[30] found that, without consent to do so, the contractor was removing rocks from the river bed to use in gabion baskets. This happened twice (after an initial warning) and resulted in the work being temporarily closed down by the Council. Although the removal of these rocks was unlikely to have a significant physical adverse effect on the river, it was likely to be an issue for the tangata whenua. This would have potentially had adverse repercussions for the relationship between the Council, the contractor and iwi, and might have jeopardised the future use of river rock for other purposes.

Benefit? – Potentially: ***Council intervention may have avoided jeopardising relationships with iwi and the future ability to recover rock from the river, thus avoiding a future cost on other projects.***

2. "machinery is being unnecessarily driven through the river"

Bay of Plenty Region, 1998: During the same dropout repair project on the Waioeka River (see above), the Council also instructed the contractor to stop driving machinery through the river when shuttling loads of material. The tracking of vehicles through the water was causing unnecessary silting of the river water downstream. The contractor was therefore ordered to lay down a temporary low level crossing. This allowed trucks to continue to access the work site without stirring up large amounts of sediment.

Benefit? – Yes: ***Council intervention ensured a likely reduction in the amount of sediment washing off the work site and in to adjacent waterways (meaning less water discolouration and less likelihood of harm to aquatic life).***

3. "improve sloppy sediment controls"

Auckland Region, 2000: The monitoring of a slip repair project[31] likewise identified problems with the way that the contractor was managing on-site sediment controls. The work was ordered to be closed down until such time that the controls had improved. Council monitoring reports identified concerns with the lack of impoundment of excavated earth, the absence of a flow spreading device on a sediment settling pond, and a dysfunctional floating decant. Later monitoring reports refer to the need to trench in the filter fabrics and to stabilise the spillway on one of the settling ponds. These improvements to the sediment controls can be assumed to have been beneficial. It can also be assumed that these improvements would not have happened without on-site enforcement.

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[30] Waioeka River dropout (1998).
[31] Barr Road slip repair (2000).

Benefit? – Yes: ***A likely reduction in the amount of sediment washing off the work site and in to adjacent waterways (meaning less water discolouration and less likelihood of harm to aquatic life).***

4. "downstream discolouration could have been avoided"

Wellington Region, 1997: Council monitored the upgrading of a series of culverts in the Ngauranga Gorge. The contractor on this project had earlier claimed that the only practical way to 'muck out' the stream channel was to do this while the stream was in flow (causing a significant amount of water discolouration down stream and prompting complaints from downstream residents), and that a diversion of this water around the work area was not possible. However, it was later found that a diversion could in fact have been created. This was demonstrated by the contractor's own use of a pump diversion when it came time to carry out work on the culverts themselves. The Council was critical of this in so far as it appeared that the effects on water quality in the stream could well have been avoided (although it was by this time too late for the Council to do anything about it).

Benefit? – Potentially: ***The council was too late to act in this case. However, the consent process would have provided the means for potentially controlling the impact that occurred.***

5. "rip-rap is causing erosion of the opposite bank"

Bay of Plenty Region, 2001: A culvert upgrade project[32] had compliance action taken on it when it was found, during a site inspection, that rip-rap had been placed downstream of the culvert as protection on one bank. This had not originally been consented as part of the work and the positioning of the rip-rap was found to be causing a deflection of stream flow (and consequently erosion) on the opposite bank. The contractor was required to repair the scour, work out a way to prevent future scour, and apply for a retrospective consent.

Benefit? – Yes: ***Intervention by the Council prevented further erosion of the opposite bank of the stream.***

6. "fish access needs to be provided"

Bay of Plenty Region, 2001: On another culvert upgrade project[33] monitoring inspections identified a problem with fish access. One of the culverts had a 20-cm drop downstream that would have been impassable for fish. The contractor was instructed to install a fish pass leading in to the culvert. This may not have been done had there not been compliance monitoring on the project.

Benefit? – Yes: ***Unless the contractor would have done so later, Council intervention ensured that fish passage was maintained.***

[32] Hauone Stream Tributary culvert upgrade (2001).
[33] Ohinekoao Stream culvert replacements (2001).

7. *"a gravel bar has been left and is causing scour"*

Manawatu-Wanganui Region, 1999: On a bridge underpinning project[34] the Regional Council found, during the final monitoring inspection, that a mound of gravel had been left behind by the contractor in the river channel. This was causing scour in the river bed around one of the piers of the bridge. The Council instructed the contractor to return to the site to clear away this mound and repair the area of scour. If the gravel mound had been left, it could potentially have caused continuing scour that would harm the stability of the bridge.

Benefit? – Yes: ***Intervention by the Council prevented further erosion of the river bed and possible damage to the bridge.***

8. *"groynes may not work, willow poles are not secure"*

Canterbury Region, 1998: Council monitoring of river protection works on three separate rivers[35] identified a number of concerns with the way that the work was being done. At one of the sites the suggestion in the monitoring report was that the 'sputnik' (angular railway iron) groynes being installed on the river bank would not actually work. The monitoring reports also suggested that the re-graded river banks would not be stable in a flood because compaction had been inadequate, and claimed that some of the willow poles that had been planted along the banks were insecure, and that cuttings had been left strewn along the banks. All of these claims were disputed by the consultant engineer for the project. Whether in fact there were problems with the way that the work had been carried out therefore remains a matter of opinion and debate.

Benefit? – Debatable: ***Council's monitoring observations are disputed by the project supervisor. However, the points raised in the monitoring reports may have resulted in a more durable work.***

9. *"gravel has been extracted and stock-piled illegally"*

Southland Region, 2000: While carrying out emergency works in a river bed[36] the contractor for the project took the opportunity to also excavate gravel from the river and stock-pile it nearby. No consent had been issued for this. Council compliance staff ordered that the contractor had extracted this material illegally and that he should apply for a retrospective consent (which was then granted).

Benefit? – Yes, Minor: ***Little or no environmental harm was caused by the extraction of this gravel, but without a consent being sought the Council could neither claim a royalty nor add the data to their monitoring database.***

10. *"machinery is operating in the river channel"*

Canterbury Region, 1998: Compliance monitoring for a channel clearing work[37] found that, contrary to consent conditions, the contractor was operating a digger from

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[34] Waikawa Stream Bridge underpinning of piers (1999).
[35] Hurunui, Hope & Boyle Rivers protection works (1998).
[36] Mararoa River emergency bridge protection works (2000).
[37] Stewart's Fan channel clearance emergency works (1998)

within the flowing river channel. The contractor was ordered to make sure this did not happen again.

Benefit? – Yes: ***The intervention of the Council will have reduced unnecessary stirring-up of sediment in the channel during the course of the work. Although only of minor, short-term environmental benefit on this project, it was a reminder to contractors on other similar projects in the region to comply with conditions of consent.***

11. "construction litter is being left in the stream"

Taranaki Region, 1997: Council compliance monitoring of a number of bridge strengthening works[38] found that some construction debris (wire, waste timber and sacking) had been dropped in the streams. The contractor was ordered to tidy up these sites.

Benefit? – Yes: ***The intervention of the Council ensured an aesthetic improvement in terms of keeping the sites and waterways tidy and safe.***

6.4 Issues Arising from Public Complaints

Consented maintenance works can be influenced by complaints from the public that are received either during or after the completion of the work. These complaints will be acted upon by the council if they highlight any lack of compliance with consent conditions or if they indicate that the works are in some other way failing to comply with the requirements of the regional plan or the RMA. Otherwise, the contractor may just use his or her own initiative to put the problem right.

The following are complaints that arose from some of the maintenance works reviewed in this study.

1. "the works are jeopardising existing flood protections"

West Coast Region, 2001: A complaint was lodged by a farmer owning land on the opposite side of a river to that where contractors were repairing a dropout[39]. The complainant said that, while he did not oppose the repair works, he believed that the contractors were taking a "cavalier attitude" in the way that they sourced gravel from the river while conducting these repairs. The gravel, he claimed, was being taken in an ad-hoc way adjacent to his own (legally consented) river protection works and was threatening the integrity of these works. He asked why he had not been consulted during the consent process and asked that Transit be instructed to ensure that his river works were not threatened.

Benefit? – Yes: ***This appears to have been a valid concern. The complainant may have avoided damage to his own river protection works, where Transit might have otherwise been potentially liable.***

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[38] Waipuku-iti, Mangamawhete, Waitepuke, Maketehinu, Makatawa, Piakau & Ngatoro-iti Bridges (1997).

[39] Shines Hill dropout repair (2001).

2. *"bridge abutment repairs are causing flooding"*

West Coast Region, 1999: A small group of farmers complained that concrete reinforcing work around the abutments of a bridge on the Blackwater Creek[40] was causing a back-up of water in the creek during flood events and flooding on their property. Hydrological assessments from the Regional Council suggest in fact that the cause of the flooding is more likely to be a mass of willow trees crowding the river channel further downstream. It appears, therefore, that the concerns raised by the landowners are unfounded.

Benefit? – Potentially: ***Landowners have raised what they consider to be valid concerns, although these have not been borne out by technical appraisal. That assessment has shown that the flooding is caused by other (non-roading) obstructions further down stream.***

3. *"consultation has not been completed"*

Waikato Region, 2000: Bank stabilisation work was carried out to protect a bridge[41]. However, the work was started and completed by the contractor both before iwi consultation had been completed and before the resource consent had been formally granted. This caused considerable annoyance for the iwi representative, particularly as the site of the repair work was claimed to be on iwi land. The iwi subsequently threatened for a while to deny agreement, which would have forced a consent hearing. This was eventually resolved.

Benefit? – No: ***There was no 'benefit' from this dispute. The example does however illustrate the potential 'dis'-benefits of a failure to complete consultations.***

4. *"there was no consultation with the rununga"*

Taranaki Region, 2000: A complaint was forwarded to the Council by a member of a local rununga that the rununga had not been consulted before granting consent for a coastal protection work[42]. It appears, however that attempts *had* been made to consult, but had not been responded to. The recognised tangata whenua for the site (not the same rununga) had also been consulted and had supported the application. The complainant now wanted to overturn the consent. This was however denied by the Council and the consent remained.

Benefit? – No: ***No 'benefit' from this dispute. The example does however illustrate the potential 'dis'-benefits of a perceived failure to consult and illustrates to some extent the unique sensitivities, complexities and pit-falls of iwi consultation.***

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40 West Coast flood damage repairs (1999).
41 Waiotaka Bridge protection works (2000).
42 Tongaporutu River Estuary coastal retaining wall (2000).

5. *"we should have been warned about the noise"*

Wellington Region, 1998: A complaint was received about noise in relation to a coastal protection work[43] near a residential area. The complaint was mainly in relation to rip-rap boulders being dropped from the back of a truck in the early morning. The complainant said that residents should have been consulted and pre-warned about the noise.

Benefit? – No: ***No end 'benefit' arising from this complaint. The example does however illustrate an oversight of the AEE and the consultation process.***

[43] Brady's Bay Seawalls remedial work (1999).

7. Summary of Benefits

From the review of previous maintenance-related resource consents considered in Chapter 6, the consent process for highway maintenance works is established to be not always simple, straightforward and/or uncontentious. In some cases issues are being raised that are unique to the site and circumstances of the work. The consent process is therefore being actively used.

This was the case for 39 (20%) of the total number of resource consents reviewed. The remaining 80% of cases, however, proceeded through the consent process with no unusual issues being raised.

Of the cases where issues were raised, the process did also give rise to some benefits. Among these, about $150,000 is estimated to have been saved as a result of design advice given by regional council river engineers when reviewing the proposed river protection works, with these savings coming from improved, longer lasting, designs.

However, almost all this particular benefit ($140,000 worth) came from design advice originating from one river engineer at the Bay of Plenty Regional Council. That the same level of benefit could not be traced to other regional councils may be due to the lesser involvement of river engineers in the consent process in those councils, or that the same level of expertise is not available elsewhere, or that advice is given in a more informal manner (and therefore unrecorded). If this advice is more often given informally, then the level of economic benefit may be greater than has been calculated here.

The consent process also led to some environmental benefits. These came through design modifications to deal with issues raised through consultation with other parties. Seven such examples were found – although in only three of these examples (all relatively minor) did modifications provide indisputable environmental benefits. In the other four examples the modifications were of much less certain merit. In fact some doubt arises as to whether these modifications were actually necessary for environmental reasons or whether they were actioned mainly to satisfy submitters' concerns and thereby get on with the resource consent. This raises the question of whether in some cases the consent process may actually be distorted by pressure on the applicant (in this case Transit) to make concessions and provide mitigations that, under objective scrutiny, would be hard to justify on purely environmental grounds. But if they are not provided, the maintenance works would eventually cost more to Transit in terms of delays and damage to future working relationships.

In other cases, issues were raised by council staff or other parties but did not result in any change to the original design, either because the issue was settled through further assessment or because the designers considered but rejected the issues raised. Examples include (from the cases discussed in Chapter 6) the potential for poor culvert design to cause an over-draining of Lake Hayes in Otago (2001); concerns from the Fish & Game Council over perceived unnecessary river training on the

Hollyford River (1998); and questions raised by Department of Conservation in respect of alternative methods for clearing gravel from the Kurinui Creek (2001). Likewise, questions were raised by Bay of Plenty Regional Council engineers over the appropriateness of a 'falling apron' gabion mattress on the Waioeka River (2001); by Gisborne District Council with concerns about the true extent of a landslide at Hospital Hill (1999); and the possibility of fresh erosion caused by new groyne structures in the Waiapu River (2000).

Many of these were potentially significant issues, even though they eventually had no impact on the final design. The 'benefit' in raising these issues is hard to assess because they provided no measurable outcome in terms of environmental improvement to the finished work. Their value lies instead in what problems they might have 'potentially' revealed. It also lies in the value of added certainty and accountability in the design process, and in the pressure for innovation and alternative thinking that external review provides. Without this external scrutiny (through the consent process), the applicant can more easily be complacent in matters of assessment and design.

Finally, in the construction and monitoring phase of the consent process, benefits were gained in improvements to the on-site management of environmental effects. These benefits were usually minor (short-term reductions in suspended sediment, reductions in litter, a check on potential scour problems), but were mostly relevant and worth pursuing.

8. Costs of the Resource Consent Process

The two main areas of direct cost associated with resource consents are:

1. The cost of initially preparing the consent application and accompanying AEE. For Transit applications this is a task usually undertaken by consultants.
2. The cost of council processing and monitoring fees. These are normally charged on an hourly basis by the relevant council to cover staff costs and disbursements associated with reviewing the application, preparing a staff report, making a decision on the application, issuing the consent, and later monitoring the compliance of the contractor with the consent conditions.

All these costs can vary significantly. In particular, with some of the earlier (1997, 1998) resource consent applications, the application and assessment of effects prepared for the maintenance work was little more than a filled-in standard two-page form. An estimate for this kind of application would have a cost of around $200 to prepare. At the other end of the scale are applications and AEEs of around 30 pages long containing detailed impact assessments, often with in-depth policy and planning assessments (discussing the application in the context of regional policies and rules) and feedback from consultation. A few of these larger AEEs were also accompanied by separate, specialist, impact assessment reports. Examples include separate 'cultural impact' assessments, various ecological studies, a fish survey, macroinvertebrate study, marine study and archaeological survey. The total cost of the larger, more detailed AEEs, along with the costs of consultation with affected or interested parties, would be estimated at between $4,000 and $6,000 each.

Council processing and consent monitoring fees can also vary depending on the amount of assessment work required of each application, the individual council's charging policy, and whether or not follow-up compliance monitoring is actually carried out. Not all regional councils will do compliance monitoring in situations where the activity is relatively minor. If not, there is no additional monitoring charge.

The cost of council processing and monitoring fees can usually be found out from the original council consent file (which will often contain fee invoicing details) or the accounts database of the council. From these two sources a reasonably accurate picture has been established of the overall costs of the consent process in terms of regional council charges.

The costs associated with preparation of the AEE and consent application are more difficult to determine. Consultancy costs charged on to Transit New Zealand for this work are usually tied in with other professional services fees for design and supervision of the work, so in most cases can not be traced. However, from the finished application and assessment report, a reasonable estimate of the amount of work involved in each application can be worked out, and from this to estimate what the likely costs would have been (Table 8.1). This has been done for each of the 195 AEEs and consent applications reviewed in the present study.

Table 8.1 Highway maintenance resource consents: summary of costs.

	Northland	Total Costs	AEE Costs	Council fees	Auckland	Total; Costs	AEE Costs	Council fees
1997								
1998	1	$1,002	$80	$202				
1999	1	$4,045	$3,300	$745	3	$14,984	$8,300	$6,684
2000	2	$11,606	$10,900	$706	2	$11,696	$6,600	$5,096
2001	1	$2,700	$2,400	$300				
Total Consents	5				5			
Total Cost		$19,353	$17,400	$1,953		$26,680	$14,900	$11,780

	Waikato	Total Costs	AEE Costs	Council fees	BOP	Total Costs	AEE Costs	Council fees
1997	4	$23,031	$16,800	$6,231	3	$2,728	$500	$2,228
1998	3	$11,921	$9,100	$2,821	4	$12,761	$8,300	$4,461
1999	3	$11,416	$9,800	$1,616	1	$2,293	$1,000	$1,293
2000	3	$10,355	$7,300	$3,055	1	$4,772	$3,400	$1,372
2001					5	$25,740	$16,550	$9,190
Total Consents	13				14			
Total Cost		$56,723	$43,000	$13,723.		$48,294	$29,750	$18,544

	Gisborne	Total Costs	AEE Costs	Council fees	Hawke's Bay	Total Costs	AEE Costs	Council fees
1997	6	$600	$600	$-				
1998	3	$1,400	$1,400					
1999	5	$7,775	$7,500	$275	1	$905	$300	$605
2000	6	$15,336	$14,200	$1,136	2	$3,015	$2,100	$915
2001	8	$16,205	$15,200	$1,005				
Total Consents	28				3			
Total Cost		$41,316	$38,900	$2,416		$3,920	$2,400	$1,520

	Taranaki	Total Costs	AEE Costs	Council fees	Man-Wang	Total Costs	AEE Costs	Council fees
1997	8	$7,544	$1,800	$5,744	8	$18,491	$16,800	$1,691
1998	1	$704	$400	$304	1	$1,991	$1,800	$191
1999	1	$2,112	$1,700	$412	7	$16,360	$12,500	$3,860
2000	2	$6,568	$5,600	$968	1	$6,113	$5,500	$613
2001					6	$19,737	$16,600	$3,137
Total Consents	12				23			
Total Cost		$16,928	$9,500	$7,428		$62,692.	$53,200	$9,492

	Welling -ton	Total Costs	AEE Costs	Council fees	Nelson City	Total Costs	AEE Costs	Council fees
1997	2	$4,991	$4,400	$591				
1998	4	$11,972	$7,300	$4,672				
1999	4	$9,995	$8,700	$1,295				
2000	2	$1,070	$800	$270				
2001	2	$7,776	$7,000	$776				
Total Consents	14							
Total Cost		$35,804	$28,200	$7,604		$-	$-	$-

Table 8.1 *continued:*

	Tasman	Total Costs	AEE Costs	Council fees	Marlborough	Total Costs	AEE Costs	Council fees
1997								
1998	1	$3,517	$3,200	$317				
1999								
2000								
2001	1	$3,046	$2,900	$146				
Total Consents	2							
Total Cost		$6,563	$6,100	$463		$-	$-	$-

	Canter -bury	Total Costs	AEE Costs	Council fees	West Coast	Total Costs	AEE Costs	Council fees
1997	4	$10,931	$8,900	$2,031	7	$15,684	$14,200	$1,484
1998	3	$9,858	$6,500	$3,358	6	$16,642	$15,600	$1,042
1999	2	$4,191	$3,000	$1,191	7	$18,058	$16,500	$1,558
2000	4	$15,134.	$12,600	$2,534	12	$37,964	$34,600	$3,364
2001	1	$3,300	$3,000	$300	9	$28,124	$25,900	$2,224
Total Consents	14				41			
Total Cost		$43,414	$34,000	$9,414		$116,472	$106,800	$9,672

	Otago	Total Costs	AEE Costs	Council fees	Southland	Total Costs	AEE Costs	Council fees
1997								
1998	2	$8,192	$7,600	$592	2	$7,856	$7,200	$656
1999					2	$7,752	$7,200	$552
2000					8	$31,831	$27,800	$4,031
2001	5	$16,682	$14,100	$6,482	2	$8,938	$8,300	$638
Total Consents	7				14			
Total Cost		$24,874	$21,700	$7,074		$56,377	$50,500	$5,877

Overall Cost Summary:

	Consents per year	Total Cost	Total AEE Costs	Total Council fees	Average Total Cost per Project	Average AEE Cost per Project	Average Council fees per Project	% Council fees
1997	42	$84,000	$64,000	$20,000	$2,000	$1,523	$476	24%
1998	31	$87,816	$69,200	$18,616	$2,832	$2,232	$600	21%
1999	37	$99,886	$79,800	$20,086	$2,699	$2,156	$542	20%
2000	45	$155,460	$131,400	$24,060	$3,454	$2,920	$534	15%
2001	43	$132,248	$111,950	$24,198	$3,306	$2,798	$604	18%
Total Consents	195							
Total Cost		**$559,410**						

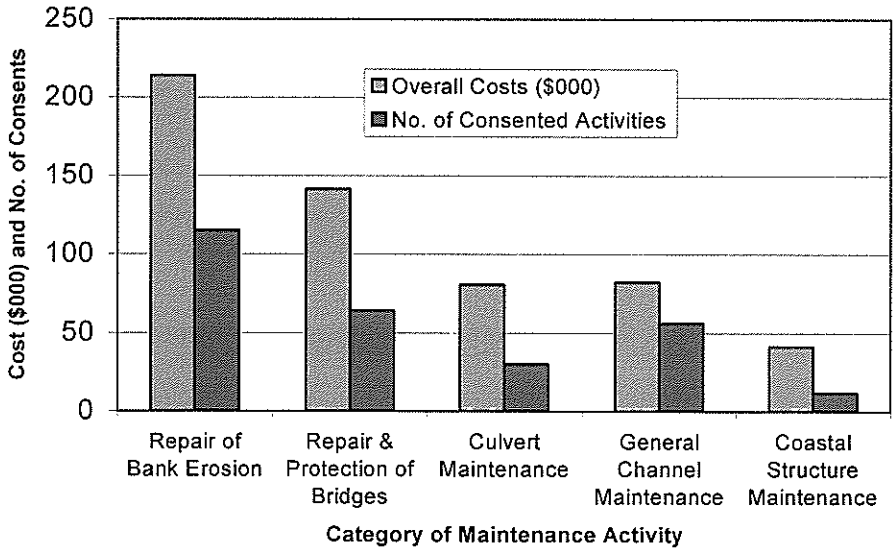
Estimates have been calculated by working out the likely number of days or hours of work associated with the preparation of each AEE, including time for a site visit, background research, consultation (with these costs depending on the nature and extent of the consultation process as stated in the AEE), costs associated any additional specialist studies, plus time taken to actually draft, review and finalise the written report. The overall costs have been prepared in spreadsheet form, broken down by region, by type of maintenance activity, by year and cost component. These results are in Table 8.1.

8.1 Total Cost of the Resource Consent Process

A calculation of the combined cost of all highway maintenance-related resource consents for the five-year period 1997 to 2001 is shown in Table 8.1. The table shows that the overall estimated cost of resource consents for road maintenance activities in this five-year period was about $560,000. Across a total of 195 resource consents this equates to an average of about $2,900 per consent (inclusive of costs for preparing the AEE and consent application plus council processing and monitoring fees).

Council processing and monitoring fees are estimated to make up about 20% of the total cost on average. The remaining 80% of costs are associated with the preparation of the AEE for each of the consent applications.

Figure 8.1 Costs (NZ$000) relative to the number of consents per category of maintenance activity.



8.2 Costs by Maintenance Activity

As would be expected, the largest expenditure on resource consents for road maintenance activities (Figure 8.1) lies in those maintenance activities where the greatest number of consentable activities occur.

These works are for the repair and prevention of river bank erosion where this threatens to undermine a road. Altogether, about $213,000 was spent on obtaining resource consents for this kind of activity in the period 1997 to 2001. After this, about $141,000 was spent on resource consents for bridge repair and protection, $80,000 on consents for culverts, $82,000 on general channel maintenance, and $41,000 on resource consents for the maintenance of coastal protection structures.

8.3 Cost by Region

Costs vary from region to region. The following graphs (Figures 8.2, 8.3) provide a picture of both the overall cost and average cost per consent.

Figures 8.2 and 8.3 show that in two of the regions (Marlborough District and Nelson City) no costs were incurred at all. This reflects that no consents were actually issued for road maintenance works in either of these areas over the five-year period covered by the study.

In the case of Nelson City, the area of the regional authority is small and therefore does not include large amounts of state highway. The council also takes a *de minimis* approach when considering whether to initiate a consent process for certain consentable activities, and will waive the requirement in situations where clearly a negligible impact will occur from the activity proposed.

A different situation exists in Marlborough District. Here practically all road maintenance works are regarded as permitted activities and consents are therefore not required. Marlborough is the only one of the 16 regions where this kind of permitted activity status has been specifically developed for road maintenance works.

Northland and Auckland also have reasonably permissive rules relating to maintenance works. Hence the low number of consents issued in these regions.

Tasman Region also has a very low number. This is remarkable, given the very restrictive nature of the Tasman Transitional Regional Plan (in which practically any activity in a waterway requires council consent). The fact that so few consents have been issued is because the council, like Nelson City, has historically taken a *de minimis* approach where highway maintenance activities are concerned.

The region where the greatest number of consent applications were granted for road maintenance activities was on the West Coast (41 consents, with 11 of these being for work on multiple sites). This is in part a reflection of the relatively restrictive nature of the current Regional Plan for this area, through which most road

maintenance activities in or near a waterway have been required to obtain consent. Added to this is the sheer size of the region and the frequency and scale of flooding. Each major flood event on the West Coast is likely to bring with it a need for repair work to be carried out on various river banks and bridges in the region.

Gisborne District also had a high number of resource consents issued for maintenance-related activities. The Gisborne plan requires consent to be sought for any earthworks greater than 50 m^3 in volume. This affects any slip repair work carried out in the region, even where this work is away from a watercourse.

Figure 8.2 Total cost (NZ$) of processing resource consents by region.

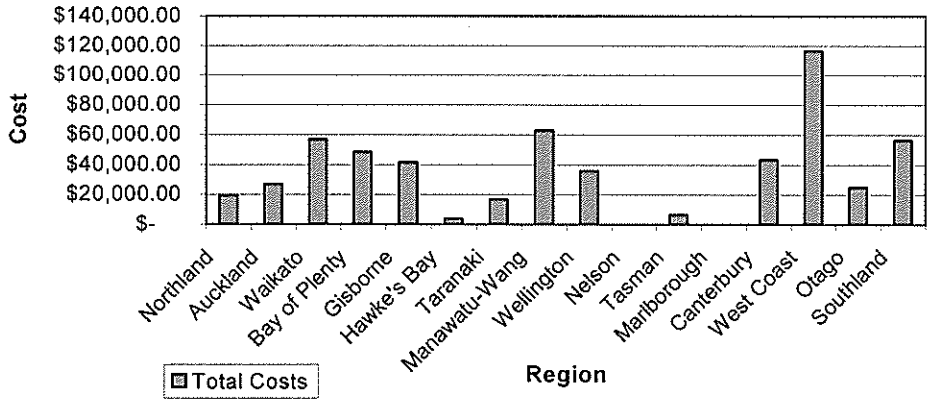
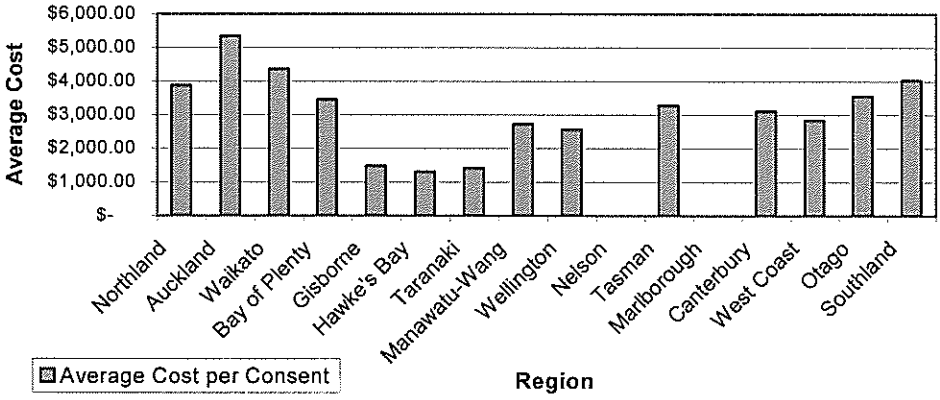


Figure 8.3 Average cost (NZ$) per resource consent by region.



However, a reasonably simple and inexpensive consent process usually applies to these particular types of application – with minimal details required from the applicant, little or no council charge, and a normal turn-around of about 5 working days. The average cost of a resource consent for maintenance work in the Gisborne Region is therefore relatively low (about $1,500 on average across all consents).

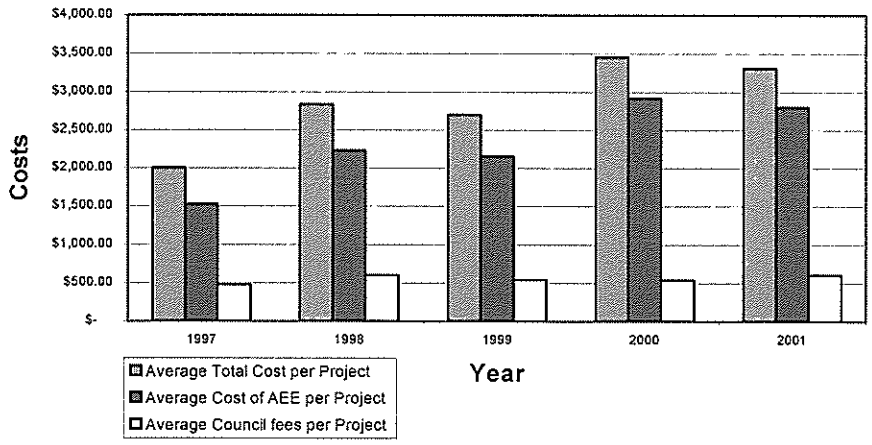
The regions with the highest average total cost per resource consent, inclusive of both application preparation costs and council fees, were Auckland, Waikato, Southland and Northland.

8.4 Costs over Time

An interesting result of the cost analysis is the change in the average cost of resource consents over the five-year period covered by the study. These findings are presented in Figure 8.4 below. The graph shows the average total estimated cost of a resource consent for each year from 1997 to 2001. This total is made up of two main components:

1. the average estimated cost of preparation of an AEE and consent application, and
2. the average cost of associated council processing and monitoring fees.

Figure 8.4 Average cost (NZ$) per resource consent by year (1997–2001).



The graph shows an overall upward trend. According to these figures the average cost of a resource consent for road maintenance activities increased by about $1,000 (approximately 30%) in the five-year study period.

These increasing costs are directly related to increases in the average estimated cost of preparing AEEs (based on individual cost estimates for the preparation of each of the AEEs examined in this study). The estimates reflect the amount of work put in to, and therefore cost of production of, these assessments and accompanying applications for resource consent.

These results suggest that over the last five years (if not longer) the size, complexity and subsequent cost of an average AEE has increased and that this has, in turn, resulted in a net increase in the cost of obtaining resource consents for road maintenance-related work.

The increase can not be attributed to inflation since the cost estimates for the AEEs in this study have all been worked out on present-day costs. Nor is it due to increasing council charges. Council processing and monitoring fees (which in any case make up only about 20% of the overall cost per average resource consent) have not moved significantly during this time.

The results appear to confirm what has often been suspected: that the scale of work and scale of cost put in to the preparation of consent applications has been steadily increasing over time. This is thought to reflect rising expectations (among councils and among consultants) of what constitutes an adequate AEE. As expectations increase, so does the size and complexity of the AEEs that are submitted. Correspondingly, as the average size and complexity of an AEE increases, expectations will tend to follow.

This trend is probably not restricted only to AEEs prepared for road maintenance work. It most likely applies to all kinds of activities for which consents have historically been required. Only because there is such a commonality between road maintenance activities can the trend can actually be observed.

The finding throws up a number of questions. It would be interesting to know, for example, whether the increasing size and complexity of AEEs is translating into 'better' environmental assessments over time. Our overall impression (from having read all of the consent applications and AEEs) is that only a marginal improvement has occurred in the overall standard of assessment for the amount of extra work going in to them. The need for this additional work is questioned. It is not uncommon, for example, for AEEs to include detailed reviews of regional plan policy and descriptions of the "environmental setting". For minor maintenance work it must be asked whether this kind of detail in an AEE is really required.

9. Summary of Costs

The estimated costs of the consent process over the five-year (1997–2001) review period were:

- Approximately $560,000 for 195 consent applications (an average of about $2,900 per consent).

- $213,000 of this was associated with consents for works involving the repair and prevention of river bank erosion;
  $141,000 with bridge repair and protection;
  $80,000 with culvert work;
  $82,000 with general channel maintenance; and
  $41,000 with consents for the maintenance of coastal protection structures.

- Costs have increased over time. In the five-year period, the estimated average cost of obtaining a resource consent increased by about $1,000 (or 30%). This relates to the increasing size and complexity of the accompanying assessments of environmental effect.

10. Alternative Methods for the Resource Consent Process

In this chapter some of the alternative methods for dealing with the environmental management of highway maintenance works are examined. The assessment is based on a review of methods that have been previously used or attempted in various parts of the country, and experiences with the success or otherwise of those methods by different regional authorities. The alternatives considered are:

- Status quo, but with a rationalisation of regional plan rules.
- For maintenance to be carried out as 'emergency work' under the RMA.
- For maintenance to be carried out under 'multi-project' consents.
- For maintenance to be carried out under 'region-wide' consents.

10.1 Status quo, with Rationalisation of Rules

The simplest alternative is to work with the existing system of regional rules, but to rationalise these rules to be more permissive of highway maintenance activity.

As discussed in Chapter 4 of this report, the process of rationalisation appears to be already happening to a significant extent as regional councils progressively replace their older transitional plans with new plans that are designed to work better within the context of the processes of the RMA. The sweeping restrictions of the transitional plans are tending to be replaced by rules that are much more targeted and more permissive.

The Proposed Northland Regional Plan for example allows (subject to environmental standards) up to 20 lineal metres of bank protection work as a permitted activity, whereas this kind of activity would have required a resource consent under the previous plan. The Proposed Auckland Regional Plan (Air, Land & Water) has likewise freed up on many maintenance activities in waterways. The maintenance, repair, removal or demolition of existing structures is now generally a permitted activity (again, subject to conditions). In the Waikato Region, whereas existing transitional rules require consent for earthworks within 5 m of a waterway or earthworks exceeding 250 m^3, the Proposed Plan will largely remove these restrictions and allow a wider range of maintenance activities to be permitted.

The same has happened also, to different degrees, with Proposed Plans in the Bay of Plenty, Taranaki, Hawke's Bay, Manawatu-Wanganui, Marlborough and Southland Regions. In all these regions there is, or is planned to be, a move toward a less restrictive regime in relation to rules governing maintenance works in rivers and streams. Maintenance is largely being regarded as permitted or (if one or more conditions can not be complied with) as controlled activities in these proposed regional plans. Most of these, if they are not operative plans already, are expected to become operative within the next one to two years (2002–2004).

Most of the regional councils are already aware of the need to rationalise many of the older rules that have historically governed maintenance works, and are taking action to apply what they consider to be a more appropriate (generally more lenient) level of control.

This would appear to be a sensible development. The reality is that the potential environmental impact of a highway maintenance activity, when compared with the benefit of that activity (the maintenance of the road), is rarely likely to be such that a refusal of consent would be justified. The researchers are certainly unaware of any cases in the past where a consent application for a highway maintenance work has ever been declined. It has never been a question of 'whether' a consent should be granted, but rather a matter of deciding what types of conditions and mitigation measures should be imposed. There is, therefore, little justification in practice for a maintenance activity to be anything more than a permitted or controlled activity. Discretionary and non-complying activity status are relevant only where there is doubt that a consent should ultimately be granted.

A shift toward 'permitted' status for highway maintenance activities brings with it the advantage that work can proceed more quickly without the costs and delays of the consent process, and without the risk that the work will be held up by unreasonable objections. However, the disadvantage is that the mechanisms do not then exist for independent review of the design and the assessment of environmental effects for this work. Indeed, without the consent process an impact assessment is not likely to be required at all. By taking the process away, therefore, the likelihood that impacts will be overlooked is greater.

History suggests that some issues will indeed be 'missed' if the assessment process is completely absent. The matters listed in Chapter 6 of this report illustrate the kinds of issues that can and do arise. These are usually minor, but the process will occasionally give rise to more significant issues and challenges to the design, mainly through consultation with affected parties and through the review role of regional council technical staff.

Therefore, while maintenance works may be regarded as permitted (or controlled) activities in regional plans, maintaining the consultative function of the RMA process in some form would be desirable. This discipline of consultation is, we believe, the most useful aspect of the process as a whole, whether it is carried out as part of a formal resource consent process or as a standard Transit New Zealand procedure for the design and implementation of maintenance works.

The other aspect to the development of permitted (or controlled) activity rules for highway maintenance work that we believe is important is to recognise that 'road maintenance' is not just *one* activity but rather a whole range of activities. To come up with a single set of performance standards or standard conditions that apply to 'road maintenance' as a whole is therefore very difficult, if not impossible. For this approach to work, individual types of maintenance activity should be specified, with

standard conditions developed for each. This is the approach that has been taken, most notably, by the Marlborough District Council in the preparation of their plan.

Individually specifying each of the maintenance works that are covered as permitted activities means that the rules and standard conditions that apply to these works can be narrowed down to more accurately cover (and therefore better manage) these specific activities. This also overcomes the potential risk of activities that are already permitted, like mowing, seal repair, drain clearing, weed spraying etc., being inadvertently brought in under a general 'road maintenance' rule and therefore subject to the same all-inclusive performance standards.

Dealing individually with each of the categories of maintenance activity in the plan also has the advantage that other types of road work that are not strictly maintenance, but which have a very similar effect on the environment (culvert extensions and bridge widenings, for example), can potentially be brought in under the same permitted activity rules, giving a more consistent management of essentially very similar activities.

If highway maintenance work is to be regarded as a permitted activity, the recommendation is that this should be on an activity-by-activity basis in the regional plan.

10.2 Emergency Works under the RMA

The Emergency Works provisions of section 330 of the RMA provide a mechanism for maintenance works to be carried out at very short notice and without the need for prior resource consent. Section 330 effectively over-rides all of the normal consent requirements of sections 9, 12, 13, 14 and 15 of the RMA.

Thirteen of the 195 maintenance-related road works reviewed in the present study were carried out under section 330 of the RMA (8 from the West Coast, 2 each in Canterbury and Southland, and 1 in Otago).

However, for day-to-day maintenance purposes, the use of emergency provisions has obvious limitations. Most importantly, they can only be used in genuine emergency situations. They are intended as an 'ambulance at the bottom of the cliff' for dealing with structures that are almost at the point of failure. They are unsuitable for dealing with consent requirements for normal programmed or foreseeable maintenance works.

Furthermore, although section 330 allows work to be carried out without first obtaining consent, this does not overcome consent requirements altogether. Once the emergency work has been actioned, the network utility operator (Transit, in the case of state highways) is still required to apply for retrospective consents (within 20 working days) for any aspect of the work that contravened the regional plan. The costs of preparing a consent application and AEE for the work therefore do not go away.

Nor is the retrospective resource consent necessarily a *fait accompli*. Although preventing the maintenance work once it has already been completed is impossible, submitters to the consent application still have the opportunity to require that conditions be imposed. These conditions might mean that Transit has to return to the work site and either partially or totally re-do the work.

An example of this from the 1997–2001 case studies was an emergency protection work on the Mararoa Bridge in Southland (year 2000). Here two of the neighbouring landowners claimed that the emergency works (and the design of the bridge in general) had resulted in a downstream build-up of gravel in the river and that this was threatening to cause flooding on their land. The landowners used the retrospective consent process to demand that Transit take action to clear away the downstream gravel island. The dispute remains on-going (although technical investigations to date have failed to substantiate any of the landowners' claims). Nevertheless, the costs of the dispute itself, including the cost of the subsequent technical assessments, will have been significant.

A similar dispute also arose with emergency works carried out on the Blackwater Creek in the West Coast Region in 2001. In this case a neighbouring farmer was critical of the use of emergency provisions on this maintenance project since the flood event that had precipitated the need for the works had occurred some four years previously. He claimed that the works that had been carried out at the bridge had reduced the waterway and was causing flooding of surrounding property. Again, the evidence does not seem to support this claim, but the example illustrates how the emergency provisions, as used in this case, by no means spared Transit from the consent process. Indeed, in both the examples given, there is reason to believe that the use of emergency provisions, and the associated lack of prior consultation with landowners, was in part responsible for the adverse landowner reaction to the work.

10.3 Multi-project Resource Consent Applications

Another way to simplify the resource consent process for road maintenance works within a region is to lodge consent applications that are inclusive of several different maintenance jobs at the same time. These kinds of multi-project consent applications have been used a number of times in the past as a way of getting greater efficiency out of the consent process. Indeed, nineteen of the 195 maintenance-related resource consents reviewed for the present study were of this kind with up to 17 separately located maintenance works being covered by a single consent.

Significant cost savings can be made in this way. In the West Coast Region for example, where 11 of the 41 consents issued between 1997 and 2001 were for maintenance and repair work at multiple sites, the average cost of a consent per site across all of the 11 multiple-site consents was about $500 (inclusive of estimated AEE and council processing and monitoring expenses). This compares with an average estimated cost of $2,700 for consents issued for highway maintenance work in the West Coast Region over the same period where consents were issued only for work at a single site.

Resource consents that are obtained in this way can remain valid for a number of years. Therefore, although the funding may not be immediately available to carry out the work, this need not prevent the necessary consents from being applied for two, three or four years in advance.

However, the difficulty with this approach is that it requires a reasonably detailed prior knowledge of maintenance needs on the regional highway network, so that several maintenance works can be anticipated and consented at one time.

Sometimes this will be possible, as when a major regional flood occurs and causes damage to several highway structures in a single event (which was the case with most of the multiple-site consents issued in the West Coast Region). But in most regions this kind of large and outstanding back-log of maintenance works does not exist because highway maintenance planning is normally only programmed out about 12 months in advance.

Research from the present study shows that over the five-year period from 1997 to 2001 resource consents were issued for maintenance works at a total of 292 individual sites around the country. Of these, 195 consents were issued, of which 19 were 'multiple' consents covering 116 separate sites. This equates to an average of 3.6 consentable maintenance projects per year in each of the 16 territorial authority regions. Of these, perhaps only half would be maintenance works that were foreseeable more than 12 months ahead of time. If so, in most cases an insufficient number of foreseeable maintenance works would be known ahead of time to make a multiple-project consent application worthwhile.

Despite the cost savings, therefore, the use of multiple-site consents has some practical limitations. Nevertheless, this approach should continue to be used where possible, although it is unlikely to be suitable for most maintenance situations.

10.4 Region-Wide Resource Consents

The last option for managing road maintenance activities, where these activities would otherwise require consent under the regional plan, is for a resource consent to be applied for to cover all such maintenance works across the whole of the region. These are variously referred to as 'region-wide', 'global', 'blanket' or 'universal' consents.

A region-wide consent works in the same way as any other resource consent in that it will authorise certain specified activities that would not otherwise be permitted as of right by the regional plan. Such consents are usually issued subject to conditions. They are also likely to have an expiry date (say, 10 years from the date of issuing of the consent).

The main difference with region-wide consents is that, unlike normal consents, they do not apply to activities at just a single location but to activities undertaken anywhere within the region as a whole. The idea is that the specified activities should

be permitted practically anywhere as long as they are undertaken by (or under the supervision of) the authorised consent-holder, and that the conditions of consent are complied with at all times.

In effect, a region-wide consent for maintenance work is the same as having a 'permitted activity' rule in the regional plan for these same activities. In both cases the result is that the activity is permitted throughout the region, subject to conditions. The difference is that a resource consent (unlike a permitted activity rule) applies only to the holder of the consent whereas regional rules apply to everyone.

As far as we are aware, Transit New Zealand has twice applied for region-wide consents with regional authorities as a way of authorising maintenance activities on the State Highway network. One such consent application was pursued with the Waikato Regional Council in 1998/99 (but not completed). Another was lodged with the Otago Regional Council in 2001 and was successfully granted early in 2002. A third consent application has been lodged with Tasman District, but is still being processed (as at June 2002) and is therefore too early to comment on.

10.4.1 Observations on the Waikato Region-Wide Resource Consent

A preliminary application for a region-wide consent for highway maintenance work was submitted to the Waikato Regional Council in early 1998. The matter was pursued through until November 1999, but has since been more or less abandoned. The reasons for this abandonment are discussed below.

The approach that was taken in this case was to try and secure a resource consent for all 'routine maintenance works' in the region, with the effects of these activities being managed through a separate *Code of Practice* and *Environmental Management System.*

This was an ambitious application, intending to cover a wide range of activities including "repairs and maintenance of pavements, drainage systems, bridges, culverts and tunnels, retaining walls, traffic signs, vegetation and batters [involving] ... resealing, shape corrections, seal widening, access and intersection improvements, removal of slips, debris, washouts and their repair, and realignments within the existing road reserve".

However, a number of issues with the proposed consent application ultimately prevented it from proceeding. Foremost among these was a concern of the Council that a region-wide consent would circumvent the requirements of the RMA, notably section 88(4). This section of the Act requires an application for consent to include a description of the location(s) at which the activity will occur, a description of the activity, and an assessment of effects. The position of the Council (supported by three separate legal opinions) was that a region-wide consent application would be unable to provide anything other than a vague and superficial assessment of effects on the environment if the assessment was to try and encompass all possible sites and all forms of maintenance activity region-wide. Such an assessment would be unable

to adequately satisfy the requirements of section 88(4) of the Act and therefore could not to be granted.

The Council was also concerned that a region-wide consent, once issued, would effectively remove the ability of the interested or affected parties to make submissions on individual maintenance proposals. This raised doubts with the Council as to whether a region-wide consent could actually be issued if those potentially affected by the works did not have the opportunity to be adequately informed.

The Council also questioned whether, fundamentally, a resource consent was really the most appropriate vehicle for implementing a region-wide approval for these kinds of activity. The Council suggested that if indeed a convincing case could be made for maintenance activities to be permitted throughout the region (subject to certain performance conditions) then this ought to be translated in to a regional rule, not a one-off region-wide consent.

As the Resource Officer for the Council wrote:

> *There is already a mechanism whereby the effects of minor activities for each region are assessed, and general provisions (standards and terms) put in place so that certain activities can occur without the need for specific consents being sought (i.e. the Regional Plan). The Regional Council is charged with making such assessments for Permitted Activities and a political decision is made on behalf of the region with respect to such activities. If Transit disagrees with the decisions represented by the regional plan, the appropriate way of voicing this disagreement is to seek a plan change via the RMA process defined for this circumstance.*[44]

It may also be questioned whether the benefit to Transit in securing such a consent likely to be sufficient. The Regional Council estimated that the cost of processing this consent would be in the order of $45,000[45]. In return, a guess was that the consent might be used for maintenance works about 10 times per year. (In fact, from the findings of this study, we find this would be little more than twice a year.)

Furthermore, and most importantly, the Council observed that many of the activities that were proposed to be covered by the region-wide consent either were already permitted or were likely to become permitted on completion of the new Waikato Regional Plan. These included:

- Maintenance of existing structures in waterways.
- Construction of small bridges and culverts.
- Installation of minor discharge and maintenance structures in waterways.
- Installation of erosion control structures.
- Removal of structures (given certain conditions).
- Minor removal of bed material (e.g. around lawfully established structures).

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[44] From a file note from U. Trebilco, Resource Officer (Utilities) Environment Waikato (30/7/1999).
[45] From an Environment Waikato letter to Opus International (24/3/1999).

- Minor soil disturbance, roading and tracking, vegetation disturbance in high erosion areas (given certain conditions).
- Minor stormwater discharges.

This considered, the Council questioned whether the benefits of proceeding with the blanket consent process (even if it were possible to surmount the difficulties of satisfying the RMA requirements) would actually be worth it.

Added to this must be the issue that Transit, as holder of the consent, would also be liable for on-going consent monitoring costs. If on the other hand an activity is permitted by a regional plan rule, then these costs and monitoring requirements would not apply.

Additionally, by adopting a region-wide consent for a whole range of activities, Transit could possibly become locked in to adhering to performance standards for some activities (like road surfacing for example) that would not have otherwise required a consent at all. This would introduce more rather than less cost and bureaucracy to certain maintenance works than if such a consent did not actually exist.

10.4.2 Observations on the Otago Region-Wide Consent

The region-wide consent for highway maintenance work in Otago is still relatively new (issued in 2002) and therefore largely untested.

Nevertheless, what the consent allows is for Transit New Zealand to carry out culvert and bridge maintenance activities on state highways throughout the region. This includes the reconstruction, placement, alteration, extension, removal or demolition of any such culvert, or the reconstruction, replacement, alteration, widening, removal or demolition of any such bridge, and the removal of gravel from around bridge piers, or sand-blasting (all subject to standard conditions).

These are all useful activities to permit. However, to get the consent in perspective, what it actually allows is little more than what many of the existing regional plans around the country already permit as of right. Proposed or operative regional plans in Northland, Auckland, Waikato, Bay of Plenty, Hawke's Bay, Taranaki, Marlborough and Southland all provide a similar (in some cases greater) range of permitted activities associated with the maintenance of state highway roading structures than this consent would allow.

The consent does not, for example, cover bank protection works or the construction of groynes, which (as we have seen) account for over half of all highway maintenance-related works around the country.

Recent problems have also arisen with some of the specific wording of conditions contained in the consent. In particular, where bridge widening is concerned, the consent has been found not to apply to any work that results in a finished bridge

width of greater than 10 m. Work is therefore currently under way to try and amend the consent to deal with this anomaly.

The consent is nevertheless an improvement on what would otherwise be permitted in the context of the existing Otago Regional Plan. It should allow a greater speed and efficiency in carrying out culvert and bridge maintenance works in the region.

However, although the consent in this case has been approved by the Otago Regional Council, the same issues as were raised with the Waikato experience also potentially apply here. In particular, would not a plan change, rather than a resource consent, be more appropriate, given that the effect of the consent is practically the same as a regional rule? If a region-wide consent can be justified, then an equivalent regional rule should be able to be justified for the same reasons.

We recognise, however, that regional rules are usually thought of as expensive things to change. The Otago region-wide consent nevertheless had an overall cost of about $27,000 (inclusive of public notification and hearings) and will have further on-going costs in terms of consent amendments and future monitoring. This is still a significant out-lay. A plan change may not, after all, have been substantially more than this.

Therefore, while the region-wide consent for Otago is currently serving a purpose (given the particular circumstances of the existing Otago Regional Plan), it should not be seen as a long-term solution or a blue-print for other regions. Most likely the problem lies ultimately with the rules in the Plan, and it is this (the Plan) that needs foremost attention. This kind of resource consent should be regarded as largely an interim measure until such time as more permanent, fundamental changes are able to be made to the Regional Plan (either through a plan change or through the next Regional Plan review).

11. Summary of Alternative Methods

From the analysis undertaken in this study we conclude that there are no significant practical alternatives to the existing system of management of highway maintenance works through rules in regional plans. What is required is a fine tuning of this system so that highway maintenance works can be more pragmatically handled, as either permitted or (in some situations) as controlled activities.

Many of the problems of the past with highly restrictive rules have, until now, been a legacy of the era of transitional regional plans where often any activity in a waterway has required resource consent. We are now moving out of that era as the new generation of regional plans comes in to existence. Through this process regional councils are already moving to rationalise their control of waterway activities.

We are therefore likely to see an increasingly permissive regime. Transit must however become involved in this process and assist the councils toward the development of suitable rules. Much can be borrowed here from the example of councils such as Marlborough District, and Northland and Auckland Regions, that have already been moving in this direction.

With *appropriate standard conditions* we believe it is feasible for all highway maintenance works to be either permitted or controlled activities. We recommend, however, that the consultative function of the consent process needs to be retained in some form (whether as a requirement of rules in the regional plan, or as a standard Transit New Zealand procedure). It is through consultation that most of the benefits of the consent process are derived.

Also proposed is that where maintenance works are to be a permitted or controlled activity in a regional plan, then the rules need to differentiate between the different types of activities and provide standard conditions accordingly. 'Maintenance' is not a single activity, but rather a range of activities. Suitable performance standards therefore need to be developed for each.

Multiple-site resource consents are an option, and are likely to continue to be used in some situations as they have in the past. But in most cases, in most regions, the back-log of known maintenance works is not large enough to allow this approach to be taken.

Region-wide consents are ultimately, in our opinion, a poor substitute for comprehensive regional rules. If a case can be made for maintenance activities to be permitted across the whole of a region under a resource consent, then the same case should equally apply to such activities being permitted by a regional rule.

We agree also with the Waikato Regional Council (and their supporting legal opinions) that there are issues with the granting of a consent if the consent application can not accurately identify the activity, the place of the activity and the people who may be affected, particularly as those people will not then have the opportunity to submit on the application.

These people could alternatively be consulted later, once specific maintenance works are being planned. But in doing so, the process begins to look increasingly like that undertaken for a conventional resource consent.

We question that the cost of obtaining these kinds of region-wide consents is really worth the benefit derived from them in the longer term. The same effort, we believe, would be better focused on the development of more pragmatic regional rules.

12. Conclusions & Recommendations

12.1 Conclusions

The study finds that, overall, and in the context of highway maintenance works, the resource consent process is capable of delivering some benefits. The environmental benefits are usually minor, but the process has other benefits in terms of the discipline of consultation that it involves; the identification of potential issues, and the accountability and drive for innovation that comes with wider external scrutiny.

However, a fine margin exists between the scale of benefit and the scale of cost. Furthermore, this margin appears to be diminishing as AEEs become more complicated and more costly over time. There is scope for a reduction in these costs by rationalising the amount of information required for consent applications for maintenance-related work and by further limiting the circumstances under which consents are required.

This rationalisation of planning rules is already happening to a large extent as the new generation of regional plans become operative and replace long-standing but often out-dated rules governing activities in waterways. Many of these older rules were inherited from pre-1991 catchment board bylaws and carried over in to transitional regional plans. These rules have not worked well in the more structured RMA consent environment.

The problem of over-regulation is therefore gradually being corrected by the Councils themselves. The Councils are largely aware of the deficiency of the older transitional rules and are already endeavouring to replace these with more targeted, less onerous, resource consent requirements.

12.2 Recommendations

Future effort by Transit would be best directed at assisting councils in the development of these more maintenance-friendly rules. This should be done in the context of the conventional regional plan review process. The solution is to fine-tune the existing system rather than attempt to develop a completely new system of regulatory control. The pursuit of other alternative regulatory methods (such as region-wide or global resource consents) is not recommended.

Regional rules governing road maintenance work should be structured to address individually the different types of maintenance activity to which the rules apply. 'Maintenance' can not be practically treated as a single generic activity. For effective and efficient management of the effects of road maintenance work it is necessary for each type of maintenance activity to be separately considered. A good example of this approach can be found in the Marlborough Regional Plan.

Appendix 1

Road Maintenance-Related Resource Consents Investigated for this Study (listed north to south and by year).

Regional Authority & Year	Name of Maintenance Project & Consent No.	Reason Consent was required
Northland 1998	**Thompson's Underslip streambank protection. Consent 8472**	Trans Regl Plan requires consent for earthworks exceeding 2000 m^3. A non-complying activity. A consent for a discretionary activity is also reqd for the diversion of surface water.
Northland 1999	**Opononi sea wall repair. Consent NLD99 8763**	Maintenance & repair of 'authorised' shoreline protection structures is a permitted activity in Regl Coastal Plan. However, it was uncertain if the existing structure was authorised. Coastal permit reqd.
Northland 2000	**Victoria River bank protection. Consent 00 8912 (01 – 03)**	Resource consents reqd for Land Use and Diversion of Water. Consent is reqd under the Proposed Plan for bank protection or reinstatement works of more than 20 m in length. A discretionary activity. The Plan sets out a number of environmental standards that have to be complied with.
Northland 2000	**Pukenui coastal protection. Consent NLD 00 8974**	Coastal permit reqd as a discretionary activity under s.26.3.4(i) of revised Proposed Regl Coastal Plan.
Northland 2001	**Coopers Beach Bridge Underslip. Consent NLD 01 9110**	Minor river bank protection work is permitted under the revised Proposed Regl Plan as long as protections do not extend "beyond the original bank position". The proposed repairs would do this, so a consent is reqd (as a discretionary activity).
Auckland RC 1999	**Wainui Stream No.1 Bridge, Bridge protection. Consent 22566**	s.13 RMA (streamwork). AEE p4 claims that this is a permitted activity in the Plan. RC Officer's report says that the works are innominate in that no plan applied to them. Resource consent is necessary under s.13.
Auckland RC 1999	**Tauhoa Creek Bridge protection. Consent 22567**	Land use consent under s.13 RMA.
Auckland RC 1999	**Dome Valley slip reparation. Consent Lu11756**	Land use consent under s.13 RMA.
Auckland RC 2000	**Warkworth slip repair. Consent 24464**	Land use consent for work in a watercourse under s.13 RMA.
Auckland RC 2000	**Barr Road slip repair. Consent 23431**	Land use consent under s.13 RMA.
Waikato RC 1997	**Mangahanene Stream culvert repair. Consent 970058**	Works within 5 m of a waterway require consent under the Trans Regl Plan.
Waikato RC 1997	**Ohinemuri River bank protection. Consent 970602**	Consent reqd on account of Bylaw 27 in the Trans Regl Plan (due to possibility of waste matter entering the river). Also Bylaw 31 requiring consent for constructing any defence against water. Proposed Changes to the Plan require consent for any earthworks within 5 m of a river.

Waikato RC 1997	**Coastal protection. Consent 970529**	Work within the coastal marine area.
Waikato RC 1997	**Awakino Slumping. Consent 961563**	Consent reqd under proposed changes to Trans Regl Plan for earthmoving within 5 m of a waterway.
Waikato RC 1998	**Mokau River bank protection. Consent 100674**	Consent reqd for structures in the coastal marine area, and removal of sand.
Waikato RC 1998	**Komata Drain culvert upgrade. Consent 970690**	No specifics given on why consent was reqd.
Waikato RC 1998	**McAnulty's Bridge, Te Kauri Stream Bridge & Puti Culverts maintenance works. Consents 101178, (plus 101179 & 101180?)**	Consent reqd for earthwork within 5 m of a waterway.
Waikato RC 1999	**Awakino River North dropout. Consent 102231**	Consent is required in Trans Regl Plan for any earthworks within 5 m of a waterway (as a discretionary activity). Consent is also reqd by Proposed Regl Plan for >250 m^3 of earthwork (as a controlled activity).
Waikato RC 1999	**Awakino Rd South dropout. Consent 102229**	Controlled activity consent reqd for soil disturbance of >250 m^3 according to Proposed Regl Plan.
Waikato RC 1999	**Bodley Rd Dropout. Consent 102230**	Controlled activity consent reqd for soil disturbance of >250 m^3 according to Proposed Regl Plan.
Waikato RC 2000	**Coastal protection. Consent 103154**	Some of these works were outside the coastal marine area & did not require consent. Other works were urgent & could proceed with minimal consultation. Other works required a change of consent from the original (1997) consent. Other works reqd normal consultation and a new consent.
Waikato RC 2000	**Mapiu Stream Culvert flood repair. Consent**	Discretionary land use consent (for work in the bed of a stream under s.13 RMA). The activity is not covered by Trans Regl Plan, and Proposed Regl Plan is not past submissions.
Waikato RC 2000	**Waiotaka Bridge protection works. Consent 103734**	Discretionary land use consent for 'use' of a structure (which was built without contractor realising that no consent had been applied for). The activity is not covered by the Trans Regl Plan so s.13 RMA applied. (Would have been a permitted activity under the Proposed Plan, which was not then past the submission stage.)
BOP 1997	**Hauone, Nukuhou & Waikawa Streams erosion repair. Consent 05 0951 (for the Hauone Bridge consent). Also 05 0953 & 05 0954**	Consent required "under the RMA" and, through the Proposed Regl Land Plan, for any earthwork within 10 m of a river.
BOP 1997	**Wilson Creek Bridge Protection. Consent 05 0952**	Consent required "under the RMA" and, through the Proposed Regl Land Plan, for any earthwork within 10 m of a river.
BOP 1997	**Taupiro Stream bridge & erosion repairs. Consent 05 0968**	Land use consent reqd. Bridge is on the boundary of the coastal marine area, but RC decided to assume that coastal permit is not reqd.
BOP 1998	**Waioeka River Dropouts. Consent 60145**	

BOP 1998	**Waioeka River Flood Repairs. Consent 60114**	
BOP 1998	**Waiotahi Beach protection works. Consent 05 1090**	Regional Land Mangt Plan makes this a discretionary activity. BOP advised TNZ of risk of further erosion and that repair work would not permitted as an emergency work because the problem was foreseeable.
BOP 1998	**Maungatapu & Hawai Bridges Repair & Protection Consents 60068 & 60069**	TNZ was granted consent in 1996 for work on 11 bridges. That consent has expired, but with work still to be done on 2 of the bridges. These works required a coastal permit and land use consent for work in a river bed. Consent was reqd under s.12 and 13 of the RMA and under Regl Coastal Plan rules 10.2.4(a)(i) & 16.2.4(a)(ix).
BOP 1999	**Torere Stream Bridge Protection. Consent 60358**	Rule 10.5.6.1 of the Proposed Regl Land Mangt Plan (1998). Requires discretionary consent for the maintenance or alteration of a structure over a stream with a catchment area >100 ha.
BOP 2000	**Waioeka River Dropouts. Consent 60600**	
BOP 2001	**Opape Stream Dropout. Consent 61115**	No relevant rule in the Plan, so consent reqd under s.13 RMA.
BOP 2001	**Tributary of the Hauone Stream Culvert upgrade and erosion protection. Consent 61079**	Consent reqd under s.13(1)(a) and (b) of the RMA. Discretionary under rule 10.5.6.1 of Regl Land Plan.
BOP 2001	**Ohinekoao Stream Culvert Replacements. Consent 61071**	Culverts are >900 mm dia and therefore classified as discretionary activities under Rule 10.5.6.1 of Regl Land Plan.
BOP 2001	**Waioeka River Dropouts. Consent 61072**	Consent reqd under s.13 (1)(a) & (b) RMA.
BOP 2001	**Ohinekoao Stream Erosion Protection & Debris Retention. Consent 60944**	Consent reqd under s.13(1)(a) & (b) of RMA.
Gisborne DC 1997	**Managahauini River bank protection works. Consent RW97003**	s.105 & 108 RMA.
Gisborne DC 1997	**Waiotu Stream bank protection. Consent RW97004**	s.105 & 108 RMA.
Gisborne DC 1997	**Kopuaroa Stream bank protection**	s.105 & 108 RMA.
Gisborne DC 1997	**Lottin Point Rd slump reinstatement. Consent RC97187**	s.105 & 108 RMA.
Gisborne DC 1997	**Waipiro-Kopuaro Rd turnoff slump. Consent RC97189**	s.105 & 108 RMA.
Gisborne DC 1997	**Rotokautuku slump repair. Consent RC97188**	s.105 & 108 RMA.
Gisborne DC 1998	**Gladstone Rd Bridge footpath repairs. Consent PD198024**	s.104 & 105 RMA.
Gisborne DC 1998	**Karakatuwhero River protection works. Consent RW98001**	s.105 & 108 RMA.

Gisborne DC 1998	**Mangowira Stream bridge protection. Consent RW98014**	s.105 & 108 RMA.
Gisborne DC 1999 (& variation of consent in 2000)	**Waiapu River erosion protection. Consent RW199008 & RW199008**	s.104 & 105 RMA.
Gisborne DC 1999	**Mangahaini Stream erosion repair. Consent RW199016**	s.104 & 105 RMA.
Gisborne DC 1999	**Smiths Hill dropout reinstatement. Consent RC199020**	s.105 & 108 RMA.
Gisborne DC 1999	**Hospital Hill dropout reinstatement. Consent RC199017**	s.105 & 108 RMA.
Gisborne DC 1999	**Managatutu Bridge protection. Consent RW199017**	s.104 & 105 RMA.
Gisborne DC 2000	**Waiapu River erosion protection. Consent RW 199021**	s.104 & 105 RMA.
Gisborne DC 2000	**Traffords Hill culvert replacement. Consent RW200005**	s.104 & 105 RMA.
Gisborne DC 2000	**Tatapouri coastal protection. Consent CP1990022A**	Proposed protection works were of sufficient length to require a coastal permit.
Gisborne DC 2000	**Waiapu River Bank Protection. Consent RW200017**	s.104 & 105 RMA.
Gisborne DC 2000	**Kopuaroa Hill dropout. Consent RC200020**	s.104 & 105 RMA. A controlled activity under Rule 6.8.2.1 for earthworks >50 m^3.
Gisborne DC 2000	**Oweka Bridge abutment repair. Consent RW200012**	s.104 & 105 RMA.
Gisborne DC 2001	**Rotokautuku groyne repairs. Consent RW200013A**	Not stated.
Gisborne DC 2001	**Tologa Bay Gorge bank repair. Consent RW201002**	s.104 & 105 RMA.
Gisborne DC 2001	**Maraetaha No.2 Bridge repairs. Consent RW201021**	s.104 & 105 RMA.
Gisborne DC 2001	**Otoko Hill culvert outlet stilling basin replacement RW201022**	s.104 & 105 RMA & Rule 7.9.3 of the Regl Plan. The work was regarded as an extension to an existing structure rather than as 'maintenance' per se. The Plan otherwise allows an increase of up to 10% (Rule 7.7.2).
Gisborne DC 2001	**Mangahauini No.2 Bridge protection. Consent RW201023**	s.104 & 105 RMA. & Rule 7.9.3 of Regl Plan.
Gisborne DC 2001	**Mangahauini Gorge sheetpile repair. Consent RW201026**	s.104 & 105 RMA.
Gisborne DC 2001	**Whangara Road dropout. Consent RC201086**	s.104 & 105 RMA.
Gisborne DC 2001	**Kemps descent, Busby's Hill, Tolaga Gorge North, Kopua Hill, Kopuaroa Hill, preventative maintenance (at 5 separate sites). Rule 6.9.3.2. / 6.8.2.1 Consent RC200145**	s.104 & 105 RMA.

Hawke's Bay 1999	**Mangapapa Stream Dropout**	Proposed Water Regl Plan Rule 9-5, defaults to discretionary because can't comply with permitted activity rules (presumably Permitted applies only to work in a catchment of <50 ha, & structure 4 m high). Also defaults to discretionary under Water Plan because only cables under a waterway are permitted (not other utility network structures such as roads).
Hawke's Bay 2000	**Piripaua Dropout**	Proposed Water Regl Plan Rule 9-5, defaults to discretionary because can't comply with permitted activity rules (presumably Permitted applies only to work in a catchment of <50 ha, & structure 4 m high). Also defaults to discretionary under Water Plan because only cables under a waterway are permitted (not other utility network structures such as roads).
Hawke's Bay 2000	**Clarkson's Hill Dropout**	Proposed RRM Plan Rule 62 & Water Plan Rule 9-1. (AEE says Rule 5.8 in Proposed RRM Plan). *Note that the RRMPlan will replace all other plans in the region once it is finalised. It was amended by decisions in June 2001.*
Taranaki 1997	**Waipukuiti Bridge strengthening. Consent TRK975152**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Waitepuke Bridge strengthening. Consent TRK975154**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Maketehinu Bridge strengthening. Consent TRK5155**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Maketawa Bridge strengthening. Consent TRK975156**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Piakau North Stream Bridge protection. Consent TRK5157**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Ngatoroiti Bridge strengthening. Consent TRK975158**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Managawhete Bridge strengthening. Consent TRK975153**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required.
Taranaki 1997	**Waerea River erosion protection. Consent TRK975171**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required. s.94(3)(a) & (b) of RMA applied as a non-notified application.
Taranaki 1998	**Mangamaio Stream Bridge protection. Consent TRK985296**	No regional plan or proposed plan, and not covered by general authorisations. Therefore consent required. s.94(3)(a) & (b) of RMA applied as a non-notified application.
Taranaki 1999	**Mangahia Stream Bridge protection. Consent TRK995465**	Rule 58 of proposed Water Plan (as a discretionary activity). AEE refers to Rule 66. s.94(2)(a) of RMA applied as a non-notified application.

Taranaki 2000	**Tongaporutu River Estuary coastal retaining wall. Consent 5582-1**	Rule A1.11 of Regional Coastal Plan: discretionary. The area is zoned an area of outstanding coastal value. Regarded as a non-notified application under s.94(2)(a) of RMA.
Taranaki 2000	**Katiara Stream abutment stabilisation. Consent 5644-1**	Proposed Freshwater Plan Rule 49 (controlled activity, non-notified).
Manawatu-Wanganui 1997	**Papamanuka Bridge protection. Consent 7380**	Disturbance of land resulting in exposure of soil to erosion is a non-complying activity in Trans Plan. Placement of a structure in a waterway is a discretionary activity in Proposed Plan.
Manawatu-Wanganui 1997	**Te Maire Dropout repair. Consent 7209**	A non-complying activity for earthworks under Clause 4 of the 1991 Bylaw of the Proposed Trans Plan.
Manawatu-Wanganui 1997	**Pongahura Stream Bridge erosion repair. Consent 7210**	s.13 consent reqd.
Manawatu-Wanganui 1997	**Waikawa River Weir reconstruction. Consents 7276 & 7277**	s.13 & 15 RMA land use activity and discharge permit.
Manawatu-Wanganui 1997	**Waikawa Stream Bridge, underpinning of piers. Consents 7382 & 7384**	BRL rule 30 of Proposed Regl Plan makes this a discretionary activity.
Manawatu-Wanganui 1997	**Tokomaru Bridge protection. Consents 7262 & 7263**	Clause 6 of Trans Regl Plan and Rule 30 of Proposed Regl Plan for Beds of Rivers & Lakes. Discharges of sediment likely to breach Rule 4.3(d) of Proposed Regl Water Quality Plan requiring a discharge permit.
Manawatu-Wanganui 1997	**Makirikiri Stream Bridge protection. Consents 6996, 6997 & 6008**	Land use, discharge and water diversion permits reqd under s.13, 14 & 15 RMA and Clause 8 of the 1991 RC Bylaw (under the Trans Regl Plan).
Manawatu-Wanganui 1997	**Norsewood Creek culvert repair. Consents 7375, 7376 & 7377**	A discretionary activity under Clause 6 of 1991 Bylaw in Trans Regl Plan.
Manawatu-Wanganui 1998	**Te Maire Culvert rust repair. Consent 100105**	A controlled activity under Rule BRL of the Proposed Regl Plan.
Manawatu-Wanganui 1999	**Waikawa Stream Bridge, underpinning of piers. Consent 100508, 100509 & 100510**	A discretionary activity under Clauses 7 & 8 of the 1991 Bylaw (in Trans Plan) & Rule 30 in Proposed Regl Plan for Beds of River & Lakes. Also for likely excedence of sediment limits.
Manawatu-Wanganui 1999	**Kuku Stream bank protection. Consents 100573 & 100574**	Bank protection is a discretionary activity under Clauses 7 & 8 of 1991 Bylaw in Trans Plan and Rule 30 of Proposed Regl Plan.
Manawatu-Wanganui 1999	**Mangaore Stream Bridge, underpinning of piers. Consents 100929, 100931 & 100932**	A discretionary activity under Clauses 7 & 8 of 1991 Bylaw (concerning excavation of gravel & alteration of watercourses) in Trans Plan and Rule 30 of Proposed Regl Plan (relating to new structures for flood protection).
Manawatu-Wanganui 1999	**Makakahi River Bridge protection. Consents 101665 & 101666**	A discretionary activity under Trans Regl Plan. Proposed Regl Plan is still subject to appeals.

Manawatu-Wanganui 1999	**Nguturoa Stream bridge protection. Consents 100499 & 100500**	Land use consent reqd for river control works and a discharge permit reqd for sediment loss during work. Under Rule 30 of Proposed Regl Rivers Plan. Also for extraction of gravel & sediment build-up under Clause 5 of Trans Plan.
Manawatu-Wanganui 1999	**Mangaone Stream Bridge protection. Consents 100497 & 100498**	Rule 30 of Proposed Regl Plan and Clause 5 of Trans Plan (for gravel/sediment extraction build-up).
Manawatu-Wanganui 1999	**Benefields dropout repair. Consents 100470 & 100551**	A land use permit & water permit reqd under Clause 7 of the 1991 Bylaw in Trans Regl Plan, and under Rule 30 of Proposed Regl Rivers & Lakes Plan.
Manawatu-Wanganui 2000	**Anzac Parade flood repairs. Consents 101516, 101517 &101518**	Resource consents reqd under Trans Regl Plan under Clauses 7 & 8, for defences against water and alteration of watercourses. Consent also reqd under Rule 7 of Proposed Plan for the discharge of sediment during work.
Manawatu-Wanganui 2001	**Haynes Bridge repair & protection. Consents 101661 & 101662**	A discretionary activity under Trans Plan for 'defence against water' and 'alteration of a watercourse (Clauses 7 & 8).
Manawatu-Wanganui 2001	**Cheltenham Stream culvert repair & protection. Consents 101689 & 101690**	A discretionary activity under Trans Plan for 'defence against water' and 'alteration of a watercourse' (Clauses 7 & 8).
Manawatu-Wanganui 2001	**Tamaki River bridge protection. Consents 101663 & 101664**	Consents reqd under Trans Regl Plan (Clauses 5, 6, 7 & 8 of a 1991 Bylaw controlling gravel extraction, alteration of watercourses, defence against water & clearing obstructions from watercourses). Discretionary activities.
Manawatu-Wanganui 2001	**Tankersleys Culvert repair. Consents 101691, 101692 & 101693**	A discretionary activity under BRL Rules 24 & 11 because the activity will breach performance standards.
Manawatu-Wanganui 2001	**Okahukara Stream Bridge erosion protection. Consent 101650**	s.13 & 15 RMA applies via Trans Regl Plan (1991 Bylaw) which does not permit erection of any "defence against water". The activity was therefore discretionary.
Manawatu-Wanganui 2001	**Tohora-Poroa culvert remedial works. Consents 101694, 101695 & 101696**	A discretionary activity under Trans Regl Plan (under 1991 Bylaws) where no-one may construct a culvert without consent (although this appears to be more a maintenance activity). Proposed Regl Plan at this time was subject to appeals.
Wellington 1997	**Ngauranga Interchange, improvement to various culverts. Consent WGN970158**	A variation of consent for existing consents for the Ngauranga Interchange project. Unclear why consent was originally required for this work in a waterway.
Wellington 1997	**Otaki Bridge Protection Works. Consent WGN980148**	A discretionary activity because no rules in Trans Regl Plan that permit the activity. Rule 43 in the Proposed Freshwater Plan allows placement of rock rip-rap as a controlled activity if part of Flood Plain Mangt Plan, but it is not in this case, so becomes discretionary.

Wellington 1998	**Maintenance on 8 bridges & 5 culverts. Consent WGN990117**	Rule 4.22 of Trans Regl Plan requires consent for depositing any material on the banks or in the bed of a river. Proposed Plan: groynes extending more than 10% across the bed are controlled activities. Coastal Plan requires consent for disturbance of sand, shingle etc. on the seabed. Consent also reqd for possible discharges of contaminants, incl. oil, to waterways. Consent reqd under Air Plan for cleaning by hyperbaric blasting.
Wellington 1998	**Coastal protection repairs. Consent WGN990113**	A controlled activity in Proposed Regl Coastal Plan, but a discretionary activity under Trans Coastal Plan.
Wellington 1998	**Pauatahanui SH58 Coastal Protection Works Maintenance. Consent WGN990007**	No rules in Trans Regl Plan, so the activity is in-nominate. Under Rules 5.4.1.1 & .2 of the Proposed Regl Coastal Plan, alteration of existing structures is either permitted or controlled (depending on whether the works will be added to by >20%). This part of the Proposed Plan is subject to appeal.
Wellington 1998	**Waitohu Bridge Protection Work. Consent WGN990114 (1) & (2)**	A discretionary activity under Rule 4.22 of Trans Regl Plan Bylaws & discretionary activity under Rule 45 of Proposed Freshwater Plan.
Wellington 1999	**Brady's Bay Seawalls Remedial Work. Consent 000074 [20212]**	The development and use of structures in this area is a non-complying activity in Proposed Regl Coastal Plan.
Wellington 1999	**Te Marua Washout repair. Consent WGN990178**	A discretionary activity under Rule 4.22 of Trans Regl Plan Bylaws & discretionary activity under Rule 45 of Proposed Freshwater Plan.
Wellington 1999	**Drainage Works on SH2 South of Petone. Consent WGN990192**	A discretionary activity in Trans Regl Plan (Rule 4.22). Would be a permitted activity under the Proposed Regl Freshwater Plan, but this Plan is not yet operative (so Trans Regl Plan applies).
Wellington 1999	**Paremata Bridge maintenance. Consent WGN000049 [20123 & 20141]**	Trans Regl Coastal Plan is the Porirua District Scheme, which has nothing covering the activity, so requires consent under RMA. A non-complying activity in Proposed Regl Coastal Plan because in a Area of Significant Conservation Value (for both discharges to air & water).
Wellington 2000	**SH58 Culvert for flood protection. Consent WGN000150**	Unspecified.
Wellington 2000	**Paraparaumu culvert replacement. Consent WGN000146**	A controlled activity under Rule 47 of Regl Freshwater Plan (culverts, weirs, fords & bridges).
Wellington 2001	**SH1 Culvert Upgrade. Consent WGN010185 [21123 & 21124]**	Rule 16 of Regl Freshwater Plan requires consent as a discretionary activity for any activity that is not otherwise permitted or controlled. Consent reqd for work in the bed of a stream and for stream diversion.
Wellington 2001	**Mangaroa Bridge (Hutt River) Maintenance of River Works. Consent WGN010152 [21013]**	Consent reqd for a controlled activity under Rule 48 of Regl Freshwater Plan.

Tasman 1998	**Bridge cleaning, preparation & painting. Consent NN980288**	A non-complying activity in the Rural zones. Tasman District has been operating under old Catchment Board bylaws. This is in the process of being changed with a new Plan.
Tasman 2001	**Upper Takaka Culvert maintenance. Consent NN010048**	Rules & policies on lakes and rivers were absent from the Regl Plan at time of this application, so the default rule of s.13 of RMA applied.
Canterbury 1997	**Hurunui River Flood Protection. Consent CRC971653**	Trans Regl Plan requires consent for any works to widen, deepen, alter or divert a watercourse.
Canterbury 1997	**Sawdon Stream Flood Damage repair. Consent CRC972232**	Consent reqd for placement of rock and diversion of the stream.
Canterbury 1997	**Penticotico Stream Flood Protection Work. Consent CRC972016**	No Rgnl Plans cover this area so consent is reqd under s.13 RMA.
Canterbury 1997	**Cave Creek Culvert Repairs. Consent CRC972193**	Consent reqd under Trans Regl Plan for work in the bed of a river.
Canterbury 1998	**Stewarts Fan channel clearance. Emergency works. Consent CRC980955**	Emergency works under s.330 RMA with consent later applied for. Consent reqd under Trans Plan rules carried over from the former Catchment Board.
Canterbury 1998	**River Protection works on the Hurunui, Hope & Boyle Rivers. Consents CRC981551, CRC981552, CRC981553**	Consents reqd under Trans Regl Plan (ex Catchment Board Bylaw).
Canterbury 1998	**Glyn Wye Stream Culvert Repairs. Consent CRC981423.**	Consent reqd under s.13 RMA for works in the bed of a stream. Consent also reqd for removal of gravel.
Canterbury 1999	**Waitaki River Bridge pier reconstruction. Consent CRC980414**	Regl Plan rule unspecified. Consent issued under s.13 & 15 RMA.
Canterbury 1999	**Stewarts Fan channel improvements. Consent CRC991115.**	Consent reqd under s.13 RMA. Also the Trans Regl Plan (carried over from Catchment Board bylaws) which requires written consent for any widening, depending or diversion of a watercourse.
Canterbury 2000	**Hurunui River Bridge emergency repairs. Consents CRC011318 CRC011178**	Retrospective consent reqd under Trans Regl Plan for removal of shingle and for erection of structures in a river bed.
Canterbury 2000	**Bridge Repairs (5 bridges). Consent CRC990597 CRC9900796**	Consent reqd under s.13 RMA for activities in the river bed. No Regl Plans exist for this part of the region, so all such activities require consent under s.13.
Canterbury 2000	**Ahuriri River Flood Protection Works. Consent CRC001851**	Retrospective consent reqd for emergency works. Consent reqd as no regl plan exists for such activities in this area. s.13 RMA therefore applies.
Canterbury 2000	**Greyneys Creek Improvements. Consent CRC002009**	Consent reqd under Trans Regl Plan for works in the bed of a river.
Canterbury 2001	**Boyle River Dropout Repairs. Consent CRC020081**	The Trans. Regl Plan does not expressly allow works in a river bed, so consent is reqd under s.13 RMA. However, general authorisations permit the temporary damming & diversion.

West Coast 1997	**Flood Damage Repair (six rivers & streams). Consent N97/39**	No pre-existing consents for many of the existing structures (weirs etc.), so this was repair work to unauthorised structures. Consents reqd under s.13 RMA
West Coast 1997	**Culvert Repairs & Stream Training (seven different streams) Consent N97/60**	Regl Plan rule not specified.
West Coast 1997	**Thomas Bluff Dropout Repair. Consent N97/209**	Consents reqd under s.9, 13, 14 & 15 RMA.
West Coast 1997	**Inangahua River Protection Works. Consent N97/272**	Consent reqd under Rule 3 of the Trans Regl Plan which makes it a discretionary activity to undertake "any work within a watercourse, incl river protection works, road embankments & any other operation that involved erection or repair of structures within a water course". Under the Proposed Soil Cons & Erosion Control Plan, earthworks within 20 m of a waterbody are also discretionary.
West Coast 1997	**Bridge Protection south of Ikamatua. Consent N97/287**	Regl Plan rule not specified.
West Coast 1997	**Punakaiki Coastal Erosion Protection. Consent N97/360**	Coastal Permit reqd. Regl Plan rule not specified.
West Coast 1997	**Ngakawau River Bridge Protection. Consent N97/398**	Regl Plan rule not specified.
West Coast 1998	**Mellets Corner Bank Protection. Consent N973111(1)**	Consents reqd under s.9 & 13 RMA.
West Coast 1998	**Emergency Flood Damage Repair. 7 sites. Retrospective consent. Consent N98/087**	Regl Plan rule not specified.
West Coast 1998	**Waikukupa River Protection Works. Consent N98/140**	Consents under s.13 & 14 RMA. A discretionary activity under Trans Regl Coastal Plan ("to carry our any work within a watercourse incl. river protection works, channel works, road embankments ...").
West Coast 1998	**Haast River Protection Works. Consent N98/185**	Consents reqd for land use (in the river bed), consent to remove gravel, and retrosp consent for construction of vehicle accessway.
West Coast 1998	**Paringa River Protection Work. Consent N98/186**	Land use consents reqd.
West Coast 1998	**Repair of Flood Damage at Various Sites. Consent N98/227**	Retrosp consent for emergency works under s.330 RMA. Retrosp consent required under s.9, 13 & 14 RMA. Trans Regl Plan makes emergency repair of river channels & protection works a controlled activity. Discharge of slip material from roads, arising from flood events, also a controlled activity. Proposed Soil Cons & Erosion Control Plan is unclear on status of this work.

West Coast 1999	**Northern, Central & Southern West Coast Flood Damage repair. Various sites. Consent N98/334**	Retrosp consent for emergency works. Consent requirements are same as for N98/227. For repair of dropouts in the coastal marine area, these are also a controlled activity in Proposed Coastal Regl Plan.
West Coast 1999	**Bridge Repairs (seven bridges). Consent N99/066**	Trans Regl Plan does not specifically cover this activity so requires consent under s.15 RMA. Regl Coastal Plan allows the activity as long as pollution of water does not occur. Pollution is not defined & could include concrete fragments. Proposed Regl Coastal Plan Rule 8.5.2.2 lists this kind of maint activity as a permitted activity, but again requires no discharge of contaminants. Would be a permitted activity under the Air Plan.
West Coast 1999	**West Coast Flood Damage Repairs. Consent N99/018**	Retrosp consent for emergency works. A controlled activity under the Trans Regl Plan (as an emergency work), unclear in the Proposed Regl Plan, and a controlled activity under Regl Coastal Plan.
West Coast 1999	**Blake Creek Channel Clearing. Consent N99/027**	Consents reqd under s.13 & 14 RMA.
West Coast 1999	**Ikamatua Stream culvert replacement & stream realignment. Consent N99/047**	Retrosp consent for emergency work, plus consent for a proposed flume. Emergency diversion or discharge of water is a controlled activity under the Trans Regl Plan. Also "any work within a watercourse incl. river protection ..." is a discretionary activity.
West Coast 1999	**Haast River rock spur groynes. Consent N99/056**	Unspecified.
West Coast 1999	**Stoney Creek Culvert Repair. Also Rangiriri Creek Bridge Erosion Protn. Consent N99/064 & N99/065**	Unspecified.
West Coast 2000	**Deep Gully Erosion Repairs. Consent N99/222**	Diversion & discharge of water is a controlled activity under the Trans Regl Plan. Activities in bed of streams (incl. river protection work) are discretionary. Also discretionary under Proposed Regl Plan as affecting an area >100 m^2 (Regl Rule 2.4).
West Coast 2000	**Upper Buller Gorge bank reinstatement. Consent N99/263**	Land use consent for earthworks & discharge permit for run-off of suspended sediment during work.
West Coast 2000	**Mokihinui River Protection Works. Consent RC00017**	Controlled and discretionary activity under Trans Regl Plan (for diversion of water and for activity in bed of river). Also discretionary activity under Proposed Regl Plan as an earthwork >100 m^2 in area, >100 m^3 in volume and within 20 m of a waterway.
West Coast 2000	**Culvert Repairs (seven culverts). Consent RC00045/(1 to 4)**	Controlled and discretionary activity under Trans Regl Plan (for diversion of water and for activity in the bed of a river).

West Coast 2000	**Bridge Repairs (four bridges). Consent RC00061/(1 to 8)**	Maintenance, alteration, replacement of a structure is a permitted activity in Proposed Regl Plan as long as it does not involve discharge of contaminants. (Contaminant is not defined & could incl concrete fragments.) So a discretionary activity. Also non-complying in the Coastal Plan.
West Coast 2000	**Little Grey & Inangahua River Bridges Repair (two bridges). Consent RC00/107 (1 to 6)**	Discretionary activity under Trans Regl Plan, being work within a watercourse involving "... erection or repair of structures ..."
West Coast 2000	**Mahitahi Bridge Erosion Protn. Consent RC00203**	Discretionary activity under Trans Regl Plan, being work within a watercourse involving "... erection or repair of structures ..."
West Coast 2000	**17 Mile Bluff Dropout Repairs. Consent RC00220/(1 to 4)**	"Dropout repairs of the state highway" are controlled activity in Proposed Coastal Plan. But is a discretionary activity where deposition of material is in the coastal area.
West Coast 2000	**Deadman Creek Emergency Bridge Protn Work. Consent RC00291**	Retrosp consent for emergency repairs. Work requires retrosp consent for work in a watercourse (a discretionary activity under Trans Regl Plan).
West Coast 2000	**Candy's Bend to Starvation Point Erosion Protection Consent RC00362/(1 to 3)**	Discretionary activity (as "any work within a watercourse ...") under Trans Regl Plan.
West Coast 2000	**13 Mile Creek Rock Weir. Consent RC00365**	Discretionary activity (as "any work within a watercourse ...") under Trans Regl Plan.
West Coast 2000	**13 Mile Creek Coastal Protn Works. Consent RC00366**	Trans Regl Coastal Plan does not expressly permit this activity, so it is non-complying. Under Proposed Regl Coastal Plan it is also a discretionary activity.
West Coast 2001	**Orowaiti River Bridge Rock Protection work. Consent RC00367/(1 to 3)**	Trans Regl Coastal Plan does not expressly permit this activity, so it is non-complying. Under Proposed Regl Coastal Plan it is also a discretionary activity as a structure in the coastal marine area.
West Coast 2001	**Inangahua River Emergency Works. Consent RC00392**	A retrosp consent for emergency works. A discretionary activity under Trans Regl Plan as a "work within a water course incl. river protection, channel works ...".
West Coast 2001	**Shines Hill Dropout Repair. Consent RC00393/(1 to 3)**	Discretionary activity under Trans Regl Plan as a "work within a watercourse incl. ... river protection works, ... road embankments, gravel removal...". Also discretionary under Proposed Regl Plan because it involves land disturbance on a slope >12 degrees, >100 m^2 area and <20 m from a waterbody.
West Coast 2001	**Kapitea Creek Bridge Protn. Consent RC01003/(1 to 3)**	Discretionary activity under Trans Regl Plan (being "work within a watercourse").
West Coast 2001	**Mill Creek Channel Clearance. Consent RC01004/(1 & 2)**	Discretionary activity under Trans Regl Plan (being "work within a watercourse including ... gravel removal").
West Coast 2001	**Donnelly Creek Channel Realignment. Consent RC01005/ (1 & 2)**	A discretionary activity under Trans Regl Plan (being "work within a watercourse including ... gravel removal").

West Coast 2001	**McDonalds Culvert Replacement. Consent RC01091**	A discretionary activity under Trans Regl Plan (being "work within a watercourse including ... channel works, ... gravel removal ...").
West Coast 2001	**Ahaura River Bridge Pile Inspections. Consent RC01220**	A discretionary activity under Trans Regl Plan (being "work within a watercourse including ... channel works, ... gravel removal ...").
West Coast 2001	**Ahaura River Rock Protn Works. Consent RC01221**	A discretionary activity under Trans Regl Plan (being "work within a watercourse including river protection works ...").
Otago 1998	**Township Creek culvert installation & minor channel realignment. Consents 98123 & 98124**	Consent reqd as a "crossing" under Catchment Board bylaws (carried over to the Trans Plan). Same rule is carried over to Proposed Plan, with consent reqd as a discretionary activity.
Otago 1998	**Amisfield Burn culvert & channel realignment. Consent 98545**	Consent required under the old Catchment Board bylaw on "crossings", which are a discretionary activity. Proposed Water Plan makes this a restricted discretionary activity.
Otago 2001	**Kurinui Creek flood alleviation. Consents 2000.659 & 2000.660**	Extraction of bed alluvium is a restricted discretionary activity in Proposed Water Plan.
Otago 2001	**Waitati Bridge trial pit investigations. Consent 2001.078**	A discretionary activity under Proposed Plan where "... the alteration of the bed of any lake or river is a discretionary activity"). Trans Plan requires a resource consent to "dig, excavate or quarry in the vicinity of any watercourse".
Otago 2001	**Pigeon Rock Landslide drainage & discharge of water Consent 2000.640**	A retrosp consent. Consent reqd as restricted discretionary activity in the Proposed Regl Plan.
Otago 2001	**Arrow River geotechnical investigations Consent 2001.664**	
Otago 2001	**Hayes Creek culvert replacement. Consents 2001.984 & 2001.985**	Consent reqd as a discretionary activity under Proposed Plan for removing a structure, placing a structure, extending & replacing a culvert and for altering a creek.
Southland 1998	**Cleddau River stop bank repairs. Consent 97405**	A non-complying activity under Trans Regl Plan.
Southland 1998	**Raspberry Patch Area river training & bank protection works. Consent 97371**	A non-complying activity under Trans Regl Plan.
Southland 1999	**Dunsdale Stream Bridge scour protection works. Consent 99054**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws).
Southland 1999	**Princhester Creek channel clearing & protection works. Consents 98159 & 98219**	A discretionary activity under Trans Regl Plan.
Southland 2000	**Bog Burn Bridge scour protection. Consent 200101**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws).
Southland 2000	**McInernys Creek Bridge scour protection. Consents 200093 & 200108**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws).
Southland 2000	**Princhester Creek channel clearance. Consent 200073**	A non-complying activity under Trans Regl Plan (being carried over from Catchment Board bylaws).

Southland 2000	**Fiery Creek channel clearance. Consent 99327**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws).
Southland 2000	**Mararoa River emergency works. Consent 99234**	A retrospective consent for emergency works under s.330 RMA. Works were a discretionary activity under the Trans Regl Plan.
Southland 2000	**Marian Hill Creek scour protection works. Consent 99229**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws).
Southland 2000	**Eglington River emergency scour protection works. Consent 99226 & 99227 & 99228**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws). "The diversion of any stream or river within the watercourse of that stream or river is a discretionary activity." Consent issued retrospectively.
Southland 2000	**Duthies Creek channel clearance. Consent 99052**	A discretionary activity under Trans Regl Plan.
Southland 2001	**Blackmores Creek culvert gravel clearance and scour protection. Consent 99329**	A discretionary activity under Trans Regl Plan (being carried over from Catchment Board bylaws).
Southland 2001	**Hollyford River Stopbank repairs. Consent 200480**	Two Plans: Trans Regl Plan & Proposed Freshwater Plan. Under Proposed Plan the maintenance & reconstruction of structures is permitted, but other parts of the work are discretionary. All activities are discretionary under the Trans Regl Plan.

Abbreviations

Trans – Transitional
Regl – Regional
retrosp – retrospective
reqd – required
incl. – including
RMA – Resource Management Act