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Report to Environment Committee  
from Rob Robson, Senior Resource Advisor

**State Highway 1 Upgrade Rural Section (Pukerua Bay to Plimmerton):  
Compliance with Resource Consents**

**1. Purpose**

To report to the Environment Committee about compliance with regional resource consents issued to authorise construction and operation of the Rural Section Upgrade of State Highway 1 (SH1).

**2. Background**

This report summaries the compliance monitoring carried out by the Consents Management Department since Transit NZ commenced construction of the Rural Section Upgrade in February 2000. The Environment Committee requested this report during their 15 May 2001 meeting.

Transit NZ is upgrading the Rural Section of SH1, north of Wellington, because it is currently unacceptable in terms of accident levels and safety requirements. The new road alignment is being constructed partly over existing road and partly to the east of it. The Taupo Swamp is a significant landscape feature extending along about two thirds of the section's western flank. Although the swamp has been channelled in parts it is recognised as being a site of significant natural value. The new road does not extend westward into the main body of the Taupo Swamp, although outlet rock riprap protection to avoid erosion is installed on several culverts.

**3. The Resource Consents**

On 27 November 1997, Commissioners for WRC granted Transit NZ seven resource consents to authorise activities associated with the construction, operation,

maintenance and repair of the Rural section. These activities covered the management of ground and surface waters, air quality management, works in watercourses (and floodways), soil disturbances and disposition of excess material at dump sites on farmland.

Given the volume of the earthworks, there is a potential for significant sediment generation from the site to adversely effect water quality and function of ecosystems in Taupo Stream and Swamp. The Commissioners realised that potential and accordingly placed conditions on the resource consents to address those effects. The broad approach was to allow the discharges of sediment-laden stormwater, groundwater, and washwater but only once all practicable steps had been undertaken to minimise the suspended solids content of the discharge.

#### 4. **Compliance Overview**

Since the works commenced in February 2000, we have undertaken a large number of compliance inspections. How often we have scheduled a full compliance inspection has depended on the prevailing weather conditions and the stage and scale at which the works are developed, and therefore the risk of adverse effects. To date we have undertaken full compliance inspections at least monthly and have also made many short visits to make visual checks on water quality in Taupo Stream above and below the discharge points, and specific sections of the works. We have also undertaken our own monitoring of suspended solids and turbidity at selected sites in the area.

As a general comment, Transit's compliance with its regional consents for the project was poor during the 2000 year but has significantly improved in 2001 to be mainly compliant with the terms of those consents.

##### ***Good Compliance***

We are particularly pleased with a number of initiatives Transit's contractor, Hayes Earthmoving Services Ltd, has implemented to ensure discharges of silt to the stream and swamp are minimised. A good initiative was a *super-silt fence* which was installed for about 100 metres along the base of soft clay-rich batters to a new diversion of Taupo Stream (CH 3450 to 3250m) and that those batters were immediately hydroseeded. The Contractor has also been prepared to trial new (and more costly) products to minimise erosion, as exemplified by the use of the hydroseed product *soil guard* on batters adjacent to Airlie Road. That product appeared to bind loose cover soil on the batters most effectively to stabilise the batters during rain, and also produced rapid grass strike.

The Contractor also ensured that the temporary diversions deployed when large culvert extensions were constructed into swamp remnants on the east side of the highway passed clean water at all times. Furthermore, permanent fish friendly steps were constructed in those culverts to ensure fish passage between the swamp remnants and the main body of Taupo Swamp.

Full credit must also be given to Transit NZ and its Engineering Consultant for holding regular environmental co-ordination meetings, which we have participated in and in which we have been able to address some of our compliance concerns and collectively achieve better environmental performance.

### ***Poor Compliance***

There have been several areas of poor compliance to date:

- The methods implemented to minimise suspended solids contents in discharges have not always been adequate and the quality of discharges during moderate storm events has at times been poor. For example, during an annual rainfall event (2 October 2000) water sampling indicated the sediment retention ponds that serviced the dump site for 500,000m<sup>3</sup> of surplus fill (Site A) achieved only 50% reduction in total suspended solids. At that same time silt-laden stormwater containing up to 10,000 g/m<sup>3</sup> suspended solids was discharged to Taupo Stream and swamp in many places along the alignment and via undersized ponds and inappropriately installed silt fences.
- The failure to optimise water treatment efficiency lies in design deficiencies of silt retention ponds and other improperly installed treatment devices, and has continued into the current year. There can be no doubt that the record dry weather over the last year has significantly helped the contractor minimise discharges of sediment-contaminated stormwater.
- A monitoring program addressing water quality and water treatment systems was required to have been prepared and implemented within three months of the date of commencement of the consent. Despite our many approaches to Transit through their Engineering Consultant, the consent holder was unable to provide and implement a satisfactory monitoring programme. This continued non-compliance placed us in the position where we had no choice but to secure compliance by issuing an abatement notice. On 21 June 2000 an abatement notice was issued to Transit to require the monitoring programme. That notice was fully complied with within its timeframe.
- A Water Discharge Management Statement (WDMS) was required at least 15 working days prior to any discharge activity. The WDMS – in actuality an “Erosion and Sediment Control Plan” - is a fundamental element of any earthworks and the key to minimising adverse effects from earthworks. Submission of the WDMS was to ensure that controls required were documented and formed a condition of consent making compliance and enforcement an easier task. Transit was reminded of its obligation to submit a WDMS during a 22 February 2000 Environmental Co-ordination meeting but a complete WDMS was not received until 27 March 2000, well after works had commenced.
- 48 hours notice of commencement of works was never provided.

### ***Compliance with the Porirua City Council Designation***

The Monitoring Enforcement Officer for PCC has informed us that Transit NZ has generally complied with the conditions of the designation. Some dust problems were experienced during the summer dry period but those have now abated with the onset of winter.

## **5. Future Consents**

The upgrade of the Rural Section of SH1 is amongst the first of our consented major roading projects in the region. The Commissioners chose to rely on “best practice” conditions, which are very difficult to enforce. Problems have arisen because while the works (on occasions) have been less than desirable, but the nature of the conditions meant no breach of the consent had occurred.

All future resource consent applications in connection with major roading projects in the Wellington Region, if granted, should as a minimum require:

- Early submission of detailed Erosion and Sediment Control Plans.
- All erosion and control measures to be installed and operated in accordance with a standard equivalent to or higher than the Auckland Regional Council’s (1999) *Erosion and sediment Control Guidelines – TP90*. The ARC guidelines are more applicable than the now redundant WRC “Guidelines for Silt Control Associated with Mass Earthworks (1988)”.
- Investigation of the use of additional sediment controls, namely chemical flocculation to lift retention pond efficiencies where required (sampling results from chemically treated sediment retention ponds on Auckland’s North Shore motorway projects show pond efficiencies ranging from 78% through to 99%, compared with 50% in this case).
- Education - all contractors staff involved in erosion and sediment control, including site supervisors should undertake a WRC co-ordinated field exercise in practical application of the relevant Erosion and Silt Control Guidelines.

## **6. Communications**

No further communication is necessary at this stage. Compliance with the resource consents will be formally reported to the Environment Committee after the end of the financial year.

**7. Recommendations**

*That the Committee receives the report and notes its contents.*

Report prepared by:

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