



Celebrating new ideas

2009 New Zealand Post Group
Local Government Excellence Awards

Project Submission Template

IMPROVED LOCAL REGULATION

Name of Project

A new approach to erosion and sediment control on small development sites.

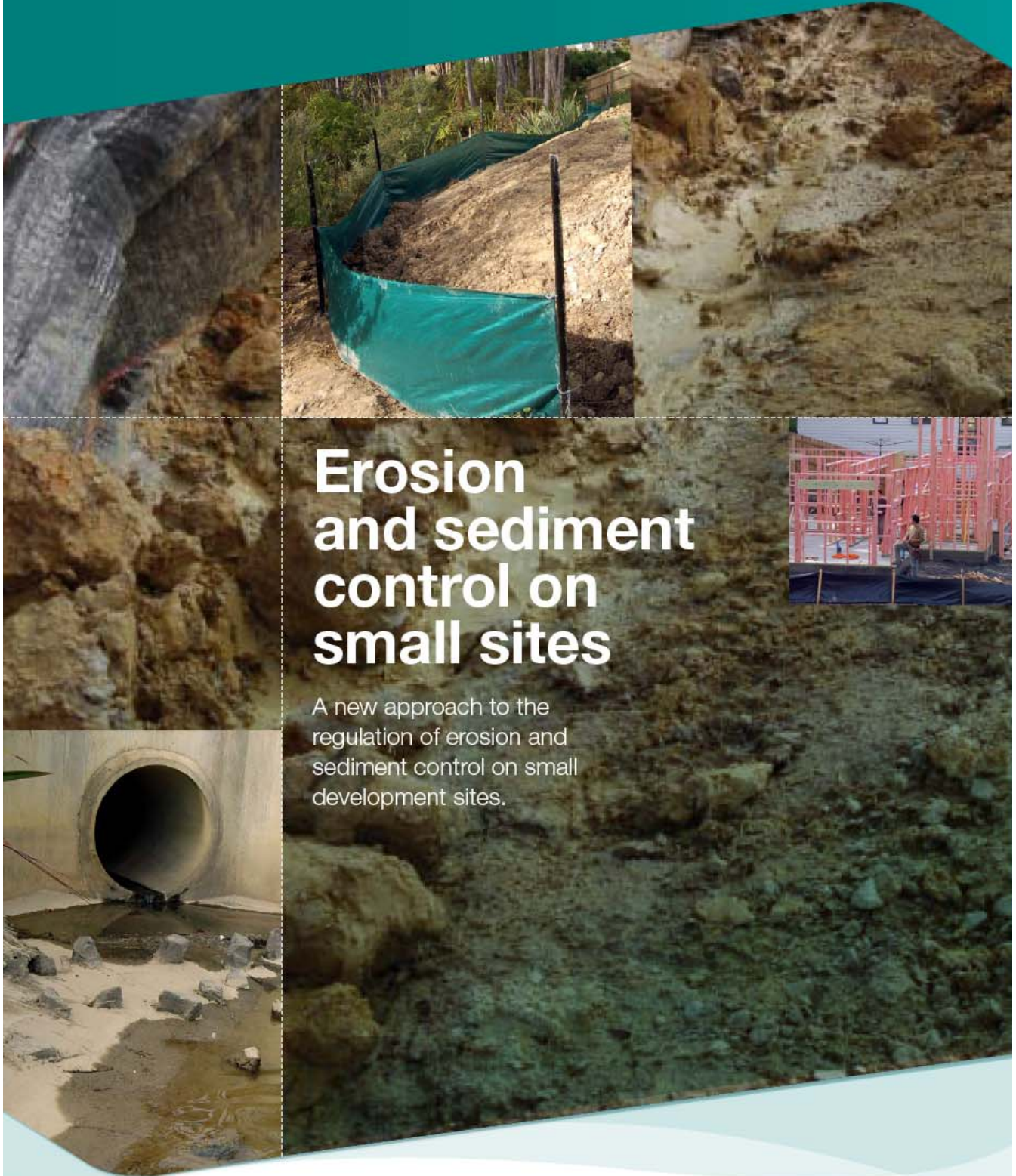
Submitted by

North Shore City Council





Find out more: visit www.northshorcouncil.govt.nz or call Auckland on 02 485 8600



Erosion and sediment control on small sites

A new approach to the regulation of erosion and sediment control on small development sites.



1. Brief Description of the Project

Background – The problem

The pollutant effect of sediment from earthworked development sites is a major concern across the Auckland Region, causing serious long term harm to streams, beaches and the marine environment.

Sediment from building sites reduces stream flow, blocks and damages stormwater infrastructure, pollutes beaches and smothers marine life.



The problem - Sediment discharge from just three uncontrolled building sites into a once clean stream.

Large (over 2.5 Ha) development sites have Regional Council earthworks resource consent and are monitored by the ARC. Smaller sites with land use consent are monitored by the North Shore City Council's monitoring staff.

Many smaller development sites across the city do not require resource consent and escape monitoring scrutiny.

Although the sites are individually relatively small, the cumulative tonnage of sediment escaping from small earthwork sites is considerable. The ongoing damage to the environment is significant and cumulative.

The ongoing, accumulated discharge of sediment from hundreds of building sites across the city was recognised as significantly serious and requiring comprehensive intervention.

The project

The project introduced a system to monitor the management of Erosion and Sediment control on small sites not subject to resource consent monitoring, using the building consent process.

Applicants for building consent are required to submit an Erosion and Sediment Control Plan with their building consent application to demonstrate how sediment control will be managed.

The Erosion and Sediment Control Plan is checked by an engineer during processing of the building consent.

Once approved and site works begin, sediment controls are installed. The builder/applicant then provides self-certification that the sediment controls are in place.

Only once the self-certification form is received by Council, are bookings accepted for building inspections.

Building inspectors, on initial visit to the site, check the installation against the approved Erosion and Sediment Control Plan to confirm compliance. If so, inspections proceed.

If not, a field memo is issued, the Compliance and Monitoring Team follow up on the non-compliance. Further booking of inspections is halted.

The project integrates support and enforcement of erosion and sediment controls into the building consent processing and inspections regime administered by Council.

Significant environmental benefit is obtained with minimal extra expenditure or staff resource.



Getting the solution in place - Sediment controls installed on building site to retain sediment and prevent entry to stormwater drains or streams

2. Organisations Involved

North Shore City Council –

- Infrastructure Services – Stormwater Division
- Building Consents Group
- Resource Management Group
- Environmental Programmes Group

3. Rationale for the Project and Expected Benefits

The project was devised as a means of dealing with a number of related problems and responsibilities;

1) **Statutory responsibilities under RMA and Building Act**

Council is required to comply with and enforce the Resource Management Act 1991, and its District Plan. Both restrict discharge of contaminants into the environment. Sediment washed from building sites is regarded as a contaminant when it enters streams or other natural waters.

Council is also required to enforce the Building Act 2004, along with the New Zealand Building Code.

Clause E.1 of the Building Code requires that stormwater collected or concentrated on building sites should not damage or cause a nuisance to other property.

This provided the basis for integration of sediment control into the building consent process

2) **Environmental Concerns**

The cumulative discharge from small development sites, which are not covered by resource consent monitoring activity, was identified as a significant contributor to stream degradation, siltation and damage to the coastal marine environment.

3) **Resource consent application to the Regional Council for the NSCC stormwater network.**

North Shore City Council incorporated this initiative within the Council's application for network consent, allowing the Council to discharge stormwater into the environment from its stormwater reticulation system.

4) **Costs of remedial work**

Modern stormwater treatment systems can involve stormwater ponds and treatment

devices. Uncontrolled sediment flows from building sites frequently cause fouling or damage to these devices. The cost of remedial work is often significant and all too often falls to the Council, and thus the ratepayers.

Expected benefits

- 1) Fulfilment of Council's responsibilities regarding discharge of sediment from small development sites.
- 2) Reduction in damage to the environment from sediment discharges into the stormwater system, streams and the coastal marine area.
- 3) Compliance with the requirements of the network consent with regard to the management of sediment discharges from the NSCC stormwater system.
- 4) Obtaining the stormwater network consent allows the ongoing operation of the stormwater network with a much reduced requirement for further consent applications with attendant cost and delay implications for future development of the system.
- 5) Reduction in the costs of remedial works to stormwater treatment devices. (One large sand filter system cost \$45,000 to remedy after being fouled with sediment in 2008)
- 6) Improved habitat and water quality means cleaner beaches and improved fishing off the North Shore beaches, making the area more attractive both for residents and tourists, providing both amenity and economic benefits.



The native Kokopu, a little known resident in many of the City's streams, is often the victim of sediment and pollutant discharges,

4. Linkage to Council's Strategic Direction

The North Shore City Council in its 2009-24 City plan, recognises 16 specific Community Outcomes. "The Natural Environment" is the second outcome in the City Plan.

That; ***"Our natural environment is protected, enhanced and promoted"***

Within the community outcomes, is a desired outcome for Maori;

"The aspiration of Maori is for all people of Te Raki Pae Whenua to protect, preserve and treasure te taiao (natural environment) for future generations."

(Section 11 NSCC City Plan 2009-24, Community outcomes)

Also in the City plan are expressed the City Principles. (NSCC City Plan 2009-24 Section 7 P 21) These are principles that guide our thinking and planning. Environmental sustainability is the second listed principle;

*Promoting and working with the community towards improving the city's environmental sustainability will help safeguard the choices and welfare of the future, **protect biological diversity, reduce damage to essential resources and ecosystems, and help maintain systems essential to support life. The impact of development and activity in the city on the environment needs to be carefully managed, particularly by adopting more sustainable building and infrastructure forms, approaches, materials and practices. Energy and water conservation should be advanced and resources used wisely to minimise waste. Stewardship of the environment requires responsibility being taken for how we use the resources that the environment provides, to protect them and not use them at rates or in ways that lead to their exhaustion or depletion.***

The Erosion and Sediment Control project is entirely consistent with these desired community outcomes and the Environmental sustainability principle, directly contributing to the water quality of streams and reducing siltation which smothers marine life and reduces biodiversity.

Proposed Plan Change 25 to the NSCC District plan seeks to address the effects of erosion and sediment discharge from site works, and is complemented by this initiative.

The business plans for each Council division involved, directly supports the Erosion and Sediment Control project, and the community outcomes, and are expressed in the individual performance objectives of relevant staff members.

5. Project Planning

During a review of the management of stormwater contaminants, carried out within Council's network consent project, it was identified that Environmental Services had a pivotal role in the delivery of sediment control on small sites.

Environmental Services undertook two internal reviews to determine the existing controls available and procedures in place to manage sediment control on small development sites.

The project was managed by the Resource Management Group Manager, Environmental Services, with full support of the Building Group Manager, the General Managers of Environmental Services, and Infrastructure Division.

The high level, cross organisation support was needed to ensure that best practice was in place to support the new stormwater discharge consent application for NSCC, and to deliver the programme in the field, with support across the organisation.

The following process was undertaken;

- Review of legal responsibilities relating to sediment control
- Identification of recent studies undertaken by Council
- Review of current sediment control procedures and consent conditions
- Meetings with various stakeholders to confirm current processes.
- Undertake random site visits to determine current compliance level and scale of problem
- Identify options for improving sediment control from small sites
- Consider benefits from focussing resources into priority catchments
- Identify potential resource requirements to implement controls.
- Meet with key staff and discuss options and issues identified
- Review options
- Recommended framework for integrated procedures for sediment control procedures through Environmental Services.

Project planning commenced in late 2005. The project was implemented to support the network consent application for the Council's stormwater system which was heard by the ARC in July 2007.

As there was no provision for additional permanent staff, an external consultant was engaged to provide support and training to Council staff during the implementation period, and to carry out audit checks to determine the effectiveness of the new procedures.

6. Project Management

Implementation was managed by a senior manager, using an external consultant with a high level of practical, theoretical and local authority experience to work across the organisation.

Clear timelines were set, and communicated to all participants to ensure the integrated approach was maintained.

Timelines were monitored and ongoing progress confirmed by regular meetings involving participants across Environmental Services.

The importance of the project, and the overall high level support was made known to all participants and reinforced by attendance of senior managers at staff meetings and training sessions.

The process was implemented within the anticipated timeframe without engagement of additional staff and without cost over-runs.

With the project implemented, the consultant is no longer in use by Council. The project is now fully integrated within the Building Consents, Inspections and Compliance regime within Environmental Services.

7. Relationship / Stakeholder Management

The relationship with stakeholders of the project has had to be carefully managed both internally and externally.

Internal management

While compliance and monitoring staff and drainage engineers involved in regulation of development regard sediment control as core business, this is not so with all disciplines.

Introductory sessions were held to assist building inspectors with their role in the project. Some immediately identified the issue as important and assisted brilliantly. Resistance to a new, unfamiliar duty was experienced with others.

As with delivery of any message, repeated discussion and follow-up training is needed to gain understanding and acceptance. Careful tailoring was carried out to make the process as straightforward as possible for the building inspectors and to avoid the imposition of additional workload.

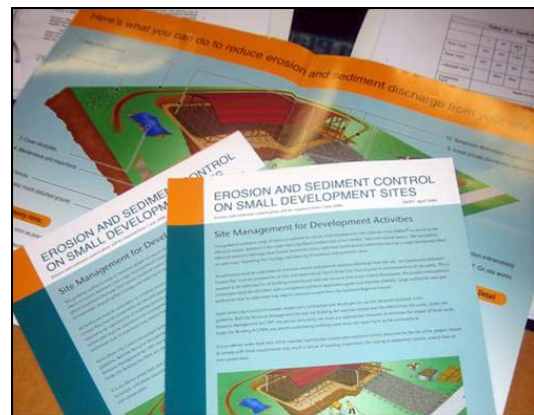
The building inspectors' role is clearly defined as a simple audit to determine whether the sediment control measures are in place or not. The check is simple and does not prolong the inspection.

Once non-compliance is detected, the job is passed to trained staff within the Compliance and Monitoring team for resolution.

External communication

The project has been phased in over a three year period, initially focussed on education, with compulsory sediment control management plans and inspections implemented, only after good notice and an introductory period.

Communications started with initial publicity material being made available to developers and builders to inform and prepare them for the new expectations.



Clear, easily read information is provided in Building Consent application packs.

From July 2006 the requirement for a sediment control plan was imposed. Gradual implementation and education proceeded first, with enforcement following later. Full enforcement of the self certification requirements commenced from April 2007.

10. Contribution to Regulatory Outcomes

This project has allowed Council to enforce requirements under E.1 of the building code, as well as the RMA and District Plan rules to a higher level than before. It has “raised the bar” with respect to the implementation of sediment control on small sites, at minimal additional cost through a self certification process.

The project has allowed NSCC to apply an improved level of control upon small development sites and to reduce the amount of sediment flowing into our streams and harbours.

The project has supported the application for network consent for Council’s stormwater discharges to the environment, and is having a direct, positive effect upon the streams and marine environment in the North Shore area.

11. Avoidance of Unnecessary Costs

The use of self certification, followed by a confirmatory check by building inspections staff on their initial visit, has allowed a high level of oversight of “permitted activity” development sites with minimal cost, and without additional personnel.

If not for the introduction of this process, many sites would not have received any monitoring of their sediment control systems.

Forms for stormwater sediment control plan and self certification are provided in all Council supplied building consent information packs, along with an explanatory brochure.

With the simple “do it yourself” form, there is generally minimal cost or delay involved in preparation of the plan, minimising overheads for the applicant.

Self certification places responsibility onto the project manager to confirm to Council that the sediment controls have been installed.

Making the supply of building inspections dependant on compliance provides a powerful incentive to the project manager to co-operate and comply, while not adding cost or delay to compliant sites.

The self certification process ensures that current contact details of the person responsible are available to staff, aiding communication between Council and the developer/builder.

Response to non-compliance by the Compliance and Monitoring Team is able to be directed quickly to the proper person without waste of officer time and effort.

12. Results

The results of the process are becoming clearly visible in the field, evidenced by most small sites installing and maintaining their silt control fences and other control measures.



The desired result of the project – Streams flowing with clean water, not fouled or choked with sediment.

A graph of the audit results over the period of the project shows that both awareness and implementation of sediment controls has increased dramatically.

The increased awareness of sediment control and the inclusion of proper details on submitted plans is an immensely pleasing result, as is the increased rate of installation of sediment control.

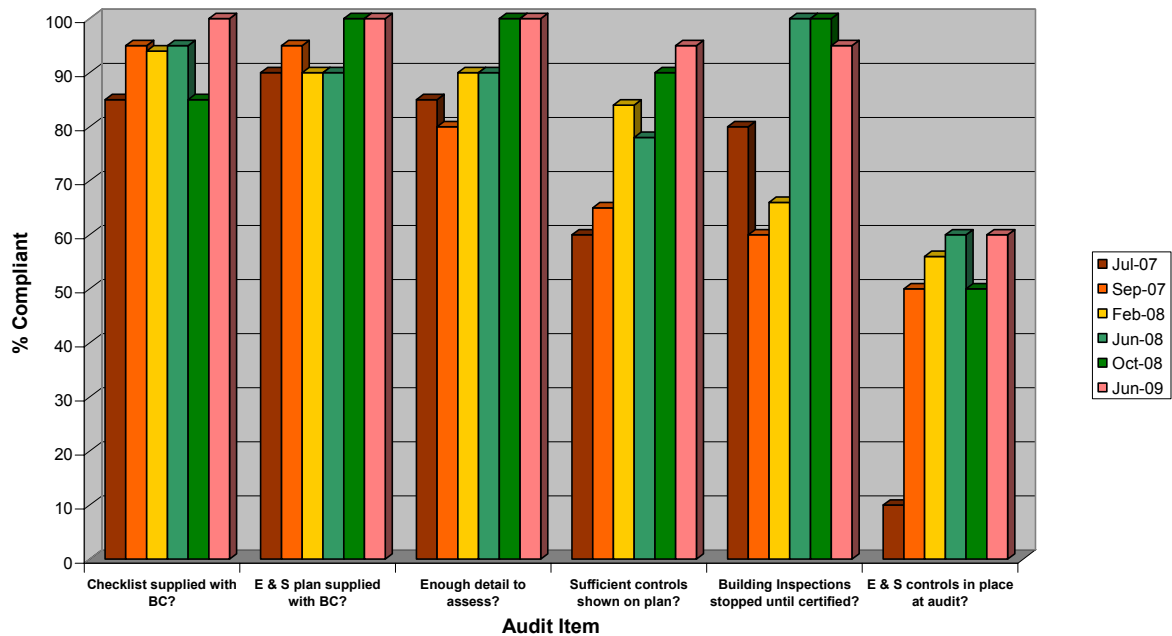
Although the current 60% compliance level is not as desired, many non-complying sites do have some sediment controls installed which provide significant additional environmental benefit.

Educational and publicity initiatives to improve uptake with both with builders and with our inspections staff continue.

Enforcement activity on non-compliers will also be applied to obtain the necessary behaviour changes.

The project has provided the city with a more uniform and effective approach to erosion and sediment control, and has provided significant gains in compliance and environmental benefit, with minimal additional cost.

Erosion and Sediment Control Audit Results



13. Supporting Material

1. Checklist and guide for Erosion and Sediment control
2. Self certification form
3. Brochure
4. Building Inspector's memo
5. Audit questions and assessment sheet

Contact/s for further information

North Shore City Council
Private Bag 93500
Takapuna
North Shore City

Telephone (09) 486-8600
Fax (09) 486-8453

Stefan Naude – Resource Management Group
Manager

David Frith - Team Leader Compliance and
Monitoring

Ken Schmidt – Senior Advisor Engineering