



codewords

Submissions and community views on the Building Code Review

Safe, healthy and sustainable houses were some of the consistent themes when the Department sought community views and submissions on the future of the New Zealand Building Code.

COMMUNITY VIEWS

In August this year, the Department of Building and Housing's Building Code review team held 13 focus groups around New Zealand.

The purpose of the focus groups was to gather community feedback on the discussion document, *Building for the 21st Century: Review of the Building Code*. The Department sought an understanding of what ordinary people want from their homes and buildings and the Building Code. The focus groups helped us understand what priorities people set for

the Building Code when balancing conflicting aims, such as energy efficiency features against affordability. Participants were encouraged to use their networks to promote feedback on the discussion document.

The focus groups reflected the diverse cultural, economic and social needs of building occupants. Participants from a range of local and national community groups and varying ethnicities were invited, and the focus groups were held in metro, provincial and rural locations.

Discussions centred on the sustainable development and well-being aspects of buildings, being considerations required under the Building Act 2004. Helping us gain an appreciation of societal expectations in these areas, participants were asked to list sustainable development and energy efficiency initiatives.

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Submissions and community views on the Building Code Review

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They were asked to consider whether these were matters that should be regulated under the Code or left up to personal choice. Participants also discussed a comprehensive list of building wellbeing features and were asked to prioritise them.

The Department was delighted at the quality of dialogue and feedback that was achieved at the focus groups. The comments are in the process of being analysed but some of the consistent themes are already clear.

- Government taking a leadership role to encourage the wider use of sustainable development building practices.
- Ensuring that New Zealand buildings, and in particular homes, are safe and healthy for occupants.
- Improving the sustainability of homes by installing energy-efficient appliances, more efficient use of water systems, and recycling household and building waste.
- Making better use of sustainable energy sources at the domestic level, such as solar water-heating systems.
- Using universal design practices where possible to enable the physical independence of users.

- Maintaining performance-based standards so that building owners may exercise personal choice to achieve Building Code requirements.
- Considering region-specific climates and not taking a 'one size fits all' approach.
- Increasing the lifetime of buildings from the current standard of not less than 50 years.

SUBMISSIONS

Wider public submissions on *Building for the 21st Century* closed at the end of August.

We received over 300 submissions; two-thirds of these were made online. Submitters ranged from individuals to industry groups and associations, and from councils to design professionals. The Department is now analysing the submissions and the findings will be published in a future edition of *Codewords*.

The comments made in these submissions and focus groups will guide the direction for a second discussion document, which will focus on specific performance criteria. The second discussion document is expected to be available for public comment in the first half of 2007.

Reader feedback

The Department has received several readers' comments about recent *Codewords* issues asking for clarification to articles titled 'The importance of fire doors' (June 2006), 'Fire alarm installations must be certified' (July 2006), and 'Building consent applications to be sent to the New Zealand Fire Service' (August 2006).

Thank you for your comments, and keep them coming. Here are the points of clarification.

June article:

Q: Should a fire door be shut at the time of the fire?

A: Yes. A fire door forms part of the passive fire protection of a building. The door must close correctly if a fire is detected.

July article:

Q: Do fire alarms need a building consent before installation?

A: Yes, unless the alarm is entirely within a household unit and serves only that unit.

August article

Q: Do all alternative solutions, regardless of the Building Code clause, have to be sent to the New Zealand Fire Service?

A: No. Only alternative solutions to Building Code Clauses C1-4, D1, F6 or F8 need to be sent to the Fire Service for review.

Reader feedback to the Department is always important and helps improve the clarity of our communications.

Please send your written *Codewords* comments to

✉ colin.rowsell@dbh.govt.nz

☎ 0800 242 243.

Amendment 7 to the Compliance Document for Building Code Clause B1 Structure

The Department of Building and Housing has cited two important amendments to New Zealand Standards 3603 and 3604 about framing timber.

Amended timber Standards

The B1 Compliance Document now cites Amendment 4 to NZS 3603: 1993 Timber Structures Standard and Amendment 2 to NZS 3604: 1999 Timber Framed Buildings.

Amendment 4 to NZS 3603 introduces and provides the engineering properties for new verified timber, namely VSG and MSG grades. It also down-rates the properties of unverified visually graded timber (no. 1 framing). Further, Amendment 4 requires that VSG and MSG timber be verified in accordance with the provisions of NZS 3622: 2004 Verification of Timber Properties.

Amendment 2 to NZS 3604 is a direct consequence of Amendment 4 to NZS 3603. It amends the tables and design information in NZS 3604 to account for the new VSG and MSG grades, and the revised properties of no. 1 framing.

The Department's citing of Amendment 4 to NZS 3604 is subject to a modification to clarify that the initial grading for MSG timber is based on joint Standard AS/NZS 1748: 1997, not on the 2006 version of the joint Standard released in February this year.

The differences between the two versions of the Standard are significant. The Department considers the 1997 version of the Standard must be retained, pending a full review of the differences.

Amendment 4 to NZS 3603 and Amendment 2 to NZS 3604 were published by Standards New Zealand in March 2005 and June 2006 respectively. The Department's role is to ensure any changes to a Standard fit the performance requirements of the Building Code, and to ensure no unintended consequences. The Department has worked through a number of issues associated with the revised Standard, and engaged with industry in making its decision.

Citing the amended timber Standards in the B1 Compliance Document is subject to a transition period, and does not become effective until 1 April 2007. This introductory period gives further time for timber millers to put in place the necessary systems should they wish to produce verified timber. During this time, the building industry at large can familiarise itself with the new provisions. Building consent applicants can choose to use them as an alternative solution proposal.

It is important during this transition period that designers specify clearly which version of the Standard their design is based

on (NZS 3604: 1999 incorporating Amendment 1, or NZS 3604: 1999 incorporating Amendments 1 and 2), so that building consent authorities, suppliers, builders and owners understand what is required or what they are getting.

Amended concrete Standard

The amended B1 Compliance Document also updates the reference to NZS 3109: 1997 Concrete Construction to include citing Amendment 1 to the Standard. Amendment 1 relates to the supply and acceptance testing of concrete and was subject to public consultation during late 2004/early 2005.

The amended Compliance Document is available on the Department's website at www.dbh.govt.nz

Technical reviews of territorial authorities

Summary of findings 2005-2006

Since 2004, the Department of Building and Housing has conducted technical reviews of the building control units in 12 territorial authorities. Technical reviews are undertaken to monitor and help territorial authorities and building consent authorities to fulfil their obligations under the Building Act 2004.

They are a tool to help these organisations:

- enhance the performance of their building control activities
- implement appropriate systems and processes and obtain resources, so they can carry out their building control operations effectively and efficiently
- fulfil effectively their obligations under the Building Act and Building Regulations.

Technical reviews are one of the mechanisms the Department uses to fulfil its responsibility for monitoring and reviewing the performance of territorial authorities' and building consent authorities' functions, duties and powers under the Act.¹

The organisations reviewed since 2004 reflect a mix of small, medium and large territorial authorities, and the findings of these reviews have been collated in a summary report. The report provides a snapshot of the key findings of the technical reviews undertaken during 2005 and 2006.

The report is based on technical reviews of the building control services of each organisation.

The purpose of the report is to inform the sector of the overall results of the technical reviews. Many of the key findings reflect challenges common to almost all councils' building control units. The report is intended to be used as a tool that enables all councils to share lessons derived from the technical reviews completed to date.

By November 2007, territorial authorities will have to be registered as building consent authorities in order to undertake certain building control functions. Broadly, those functions cover processing building consent applications, carrying out inspections of building work, and approving building work. The report should help territorial authorities meet that November 2007 timeframe.

The report identifies recurring themes, such as:

- the challenges around ensuring all building work complies with all aspects of our building law
- limitations in the collective technical skills and experience of building control units
- resourcing issues
- operational policy and quality control issues.

The technical reviews have identified some improvements in building control processes within some territorial authorities.

These include:

- a range of good practice initiatives, such as better consent vetting
- good policies and procedures in the area of consent processing
- increased use of external peer review in specialist consent-processing areas
- improvements in processes for assessing weathertightness
- improved processes for inspections
- improved implementation of the system for compliance schedules and building warrants of fitness.

As well as these good practice initiatives, the reviews conducted over the past 2 years have identified room for improvement in a range of performance areas. In particular, the reviews indicate a general need for building consent authorities to address four key areas.

1. Resourcing building control functions to ensure sufficient capacity in all operational areas to meet the demand for building control services.
2. Ensuring they have adequate formal policies and procedures to underpin all aspects of their building control operations.
3. Improving considerably the skill levels in the technical and procedural areas of building control.
4. Introducing and enhancing formal quality control processes, such as peer review.

¹ Sections 11(h), 204 and 276 of the Building Act 2004 are the key sections.

ities:

Where these issues have not been addressed by building consent authorities, a number of performance shortcomings have often emerged, including:

- councils approving building work that does not meet all the clauses of the Building Code (and other legislative requirements)
- councils failing to process building consents within the legal timeframe for doing so
- building consent applications with poor-quality or incomplete supporting documentation being lodged with the council (eg, missing the necessary weathertightness detailing).

The four themes identified in the report and listed above have informed the building consent authority accreditation standards and criteria being developed for the new building consent authority accreditation scheme introduced by the Building Act 2004. All organisations that will be applying for accreditation as building consent authorities should consider the issues raised in this report. They should gauge how applicable they are to their organisation and what performance improvements they could be putting into action now.

The report also contains contextual information that reveals some of the major trends in the broader building control environment, including trends

in number, type and geographical spread of building consents processed, and other broad-ranging building performance issues. Interestingly, the report found that, although New Zealand is still experiencing high levels of building activity, the number of building consents being issued has declined by 6 percent from 2004 to 2005. The decline can mainly be attributed to a significant fall in building consents issued for new apartment construction (with building consents issued having declined from a peak of 6586 units in 2004 to 3849 units in 2005).

On publication, a copy of the technical review summary report will be made available on the Department's website www.dbh.govt.nz. Hard copies will also be available and can be requested from the Department's Performance Monitoring and Review Team by phoning **0800 242 243** or emailing malcolm.macmilian@dbh.govt.nz

Safety glass needs a mark

The Department of Building and Housing is concerned about reports that some glass installed in buildings, and purporting to be safety glass, does not carry an appropriate mark.

Acceptable Solution F2/AS1 specifies the use of safety glass in certain building locations, such as doors, balustrades and bathrooms. The Acceptable Solution references NZS 4223: 1999 Glazing in Buildings – Human Impact Safety Requirements (Part 3).

The Standard requires all safety glass to be permanently marked. Each panel must carry:

- the identity of the manufacturer
- the type of glazing material
- the Standard to which the material has been tested
- the impact test classification
- any additional markings required by the test Standard.

The marking is traditionally found at the corner of the panel, with an inscription about 25 mm across.

A further Standard, AS/NZS 2208: 1996, specifies procedures for the verification of glass markings. Safety glass is normally tested by controlled breaking of a sample panel.

The Department encourages glass users to ensure all building glass products meet the marking requirements of NZS 4223: 1999, and that the verification of such markings can be established under AS/NZS 2208: 1996.

Are your high-strength structural steels and correctly installed?

International concern

A recent article in the *Australian Regulation Bulletin* highlights international concern about bolt failures due to defective and counterfeit bolts. The article discusses a specific structural failure in Australia associated with Property Class 8.8 structural bolts, where 20 and 24 mm diameter bolts did not meet relevant tensile strength requirements. In 1999 the US government enacted the Fastener Quality Act after defective and counterfeit fasteners caused the death of nearly 400 US citizens over 15 years.

New Zealand experience

Dr Charles Clifton of the Heavy Engineering Research Association (HERA) advises that he knows of two cases since June 1983 where correctly specified and marked bolts failed due to the bolt material not meeting the specification. In both instances the bolt shank fractured while the bolts were being fully tensioned.

Given that wider instances of problems with defective and counterfeit bolts have been reported in Australia, it is important that specifiers and construction reviewers follow the quality assurance procedures described in this article to minimise the likelihood of these problems arising in New Zealand.

Why these bolts are special

High-strength Property Class 8.8 structural bolts, nuts and washers are designed to be dependably tightened on installation to the extent that the bolt shank is plastically elongated. This generates a very large clamping force across the steel components gripped by the bolts (over 25 tonnes of clamping force per bolt for an M24 bolt). This 'full tensioning' allows the bolts to be used in a wide range of structural connections that provide the same rigidity as a welded connection under normal operating conditions. It also provides a very high resistance to fatigue fracture of bolts in connections subject to high cycle reversing loads.

The Building Code

Using bolts in buildings and structures is covered by Clause B1 Structure, Clause B2 Durability and Clause F2 Hazardous Building Materials. The manufacture and supply of high-strength steel bolts with associated nuts and washers for structural engineering are specified by the Australian/New Zealand joint Standard AS/NZS 1252. Building Code Verification Method B1/VM1 references NZS 3404 Steel Structures Standard, which in turn references AS/NZS 1252.

Identifying Property Class 8.8 bolts, nuts and washers

It is vitally important that all components in these bolt sets (bolt, nut and washer) carry the special identification given in Clause 1.5 of AS/NZS 1252.

NZS 3404 recognises that property classes of bolts other than Property Class 8.8 may be used provided they are compatible with the relevant material supply standards listed. These bolts are not covered by AS/NZS 1252. Some of these can be used for fully tensioned applications. Advice on their identification and proper use can be obtained from HERA.

Correct installation and on-site checking

High-strength structural bolts can be either snug tightened or fully tensioned. Procedures for both these methods of installation are specified in NZS 3404 (Clauses 15.2.3 to 15.2.5) and it is important that these procedures are followed. It is equally important that the required level of bolt tensioning is specified for each application.

Inspection of bolted connections on site is in accordance with the Steel Structures Standard (NZS 3404). On-site inspection is typically the task of the construction reviewer.

Quality assurance

The bolt supplier needs to be asked to provide written certification from the manufacturer that the bolts have been manufactured to AS/NZS 1252. AS/NZS 1252 specifies not only the mechanical properties and dimensions of the bolts, nuts and hardened washer but also requirements for their manufacture including testing and quality control.

1 bolts up to spec

This written certification, together with confirming that the bolt, nut and washer set carry the correct markings, will provide a high degree of quality assurance.

Unmarked bolts must not be used. If there is no certification that the bolts have been manufactured to AS/NZS 1252, a testing programme for these bolts, as specified by Appendix A of AS/NZS 1252, will be necessary.

Bolt source

High-strength structural bolts, nuts and washers of the type covered by AS/NZS 1252 are no longer manufactured in New Zealand. The most common source of supply is through Australia. Regardless of the source of supply, the bolts must be correctly marked, and written certification from the manufacturer that the bolts have been manufactured to AS/NZS 1252 needs to be obtained.

Performance of high-strength structural bolts in practice

HERA advises that there have been up to 10 reported instances since 1983 where the bolt method called for full tensioning but the bolts were installed snug tight. This led to problems with bolt failure or the nut loosening some time after installation.

A greater number of problems have been encountered where the bolt supplied is not the bolt specified, or where there has been insufficient thread engagement by the nut. NZS 3404 Clause 14.3.6.1.2

specifies that at least one clear thread must protrude above the nut after tightening. Almost all the latter type of problems are construction errors related to hold-down bolts being set too low.

Other types of structural bolts

Other types of high-strength structural bolt include the TC (torque controlled) bolt and the DC (direct tensioned) bolt. These are installed on site in a different manner from those manufactured to AS/NZS 1252. The manufacture of TC and DC bolts is covered by different Standards, which include the correct marking to identify these types of bolt. Quality assurance practices should still be followed, such as written certification by the manufacturer that their product is to the relevant standard, and identification of the correct markings.

Defective and counterfeit bolts in New Zealand

Most problems with bolts in New Zealand relate to incorrect specification, supply or installation. The international concern about the supply of defective and counterfeit high-strength bolts resulting in failures does not appear to be such a concern here. Specifiers and construction reviewers must remain vigilant and continue to follow quality-assurance procedures to minimise the likelihood of such a problem arising in New Zealand.

Estimated building costs 2006 update

Here is the latest 6-monthly overview of estimated building costs, to July 2006. A full version will shortly be available at www.dbh.govt.nz/bofficials-estimated-building-costs.

Applying for a building consent requires that the estimated value, including GST, be provided for the building work for which the consent is being sought.

Estimated values are used by territorial authorities as a basis for the assessment of the Building Levy. Statistics New Zealand, Quotable Value New Zealand and Building Research also use them.

The estimated values are therefore an important indicator of the level of economic activity.

USING THE ESTIMATED COSTS

The Department provides building costs to help territorial authorities arrive at realistic estimated values when they have questioned the job value provided with a consent application.

The application of a realistic cost per square metre for a range of common building types appears to be the soundest method.

This approach can be used to establish the estimated cost where there is no better basis, as is likely to occur where no quantity surveyor or similar consultant has been employed.

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Estimated building costs 2006 update Continued

Obviously, if a list or contract price is available, this should be used as the cost of the proposed work.

COSTING INFORMATION

Maltby and Partners Ltd, a firm of construction cost consultants, has provided costing information for a series of building types. Maltby has priced from a set of authentic construction documents in order to establish a unit cost that is as accurate as possible.

The costs for houses are provided for one-off speculative houses. These costs do not reflect the economies that may be gained by builders of group houses, or reflect the additional

costs normally associated with architecturally designed houses.

To differentiate, group houses have been assessed as being on average 21 percent cheaper than speculative houses, while architecturally designed houses are assessed as being 20 percent more expensive.

For all buildings described here, costs include all necessary internal and external finishes to achieve compliance with the Building Code, all services and provision of standard appliances, and site works.

Disclaimer: The unit construction costs are built up from current commercial prices of materials and labour along with current allowances

for contractors' overheads and margins. Pricing is based on a model building for the region and consequently allowances will need to be made where recognition is deemed necessary for particular and specific conditions. The rates per square metre of gross floor area for each building type include an allowance for GST that is applied as a percentage to the final calculated total. Unit construction costs are provided as a guide to territorial authorities in assessing building consent fees. They are not intended as a definitive cost for actual buildings and are not to be used for such a purpose.

COSTS AND INDICES OF BUILDING CONSTRUCTION

REGION 1 – AUCKLAND

Date	SMALL HOUSE		LARGE HOUSE		INDUSTRIAL BUILDING		BULK RETAIL		RETIREMENT HOME	
	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index
Jul-04	\$1,308	1236	\$1,174	1216	\$967	1273	\$981	1276	\$1,595	1193
Jan-05	\$1,359	1284	\$1,204	1247	\$1,004	1322	\$1,014	1319	\$1,632	1221
Jul-05	\$1,449	1369	\$1,274	1319	\$1,074	1414	\$1,087	1414	\$1,717	1284
Jan-06	\$1,493	1411	\$1,305	1352	\$1,085	1428	\$1,095	1425	\$1,738	1300
Jul-06	\$1,601	1513	\$1,388	1438	\$1,149	1513	\$1,179	1534	\$1,874	1402

REGION 2 – WAIKATO BOP

Date	SMALL HOUSE		LARGE HOUSE		INDUSTRIAL BUILDING		BULK RETAIL		RETIREMENT HOME	
	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index
Jul-04	\$1,288	1231	\$1,157	1214	\$924	1230	\$962	1271	\$1,570	1200
Jan-05	\$1,332	1273	\$1,186	1244	\$951	1266	\$982	1297	\$1,607	1229
Jul-05	\$1,426	1363	\$1,257	1319	\$1,007	1341	\$1,050	1387	\$1,697	1297
Jan-06	\$1,476	1411	\$1,292	1356	\$1,032	1374	\$1,073	1417	\$1,718	1313
Jul-06	\$1,577	1508	\$1,372	1440	\$1,107	1474	\$1,147	1515	\$1,846	1411

COSTS AND INDICES OF BUILDING CONSTRUCTION



REGION 3 – WELLINGTON

Date	SMALL HOUSE		LARGE HOUSE		INDUSTRIAL BUILDING		BULK RETAIL		RETIREMENT HOME	
	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index
Jul-04	\$1,291	1240	\$1,164	1224	\$937	1258	\$967	1302	\$1,577	1208
Jan-05	\$1,342	1289	\$1,197	1259	\$980	1316	\$1,004	1352	\$1,618	1240
Jul-05	\$1,432	1375	\$1,264	1330	\$1,037	1393	\$1,068	1438	\$1,702	1304
Jan-06	\$1,486	1427	\$1,300	1368	\$1,043	1401	\$1,082	1457	\$1,733	1328
Jul-06	\$1,595	1532	\$1,386	1458	\$1,121	1505	\$1,162	1564	\$1,863	1427

REGION 4 – REMAINDER OF NORTH ISLAND

Date	SMALL HOUSE		LARGE HOUSE		INDUSTRIAL BUILDING		BULK RETAIL		RETIREMENT HOME	
	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index
Jul-04	\$1,278	1241	\$1,153	1218	\$902	1234	\$940	1284	\$1,562	1200
Jan-05	\$1,327	1288	\$1,183	1249	\$945	1293	\$966	1320	\$1,603	1231
Jul-05	\$1,427	1385	\$1,261	1332	\$1,005	1375	\$1,046	1429	\$1,696	1303
Jan-06	\$1,489	1446	\$1,299	1372	\$1,021	1397	\$1,056	1443	\$1,722	1323
Jul-06	\$1,595	1549	\$1,384	1461	\$1,099	1503	\$1,147	1567	\$1,858	1427

REGION 5 – CANTERBURY

Date	SMALL HOUSE		LARGE HOUSE		INDUSTRIAL BUILDING		BULK RETAIL		RETIREMENT HOME	
	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index
Jul-04	\$1,287	1255	\$1,154	1234	\$932	1282	\$958	1317	\$1,569	1211
Jan-05	\$1,344	1310	\$1,187	1269	\$972	1337	\$995	1368	\$1,612	1244
Jul-05	\$1,449	1412	\$1,269	1357	\$1,030	1416	\$1,068	1468	\$1,716	1324
Jan-06	\$1,483	1446	\$1,300	1390	\$1,043	1434	\$1,080	1485	\$1,732	1336
Jul-06	\$1,581	1541	\$1,383	1479	\$1,110	1526	\$1,160	1595	\$1,846	1424

REGION 6 – REMAINDER OF SOUTH ISLAND

Date	SMALL HOUSE		LARGE HOUSE		INDUSTRIAL BUILDING		BULK RETAIL		RETIREMENT HOME	
	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index	\$/m ²	Index
Jul-04	\$1,286	1231	\$1,162	1216	\$926	1243	\$950	1272	\$1,568	1198
Jan-05	\$1,335	1277	\$1,191	1246	\$960	1289	\$982	1315	\$1,605	1226
Jul-05	\$1,425	1364	\$1,262	1320	\$1,027	1379	\$1,048	1404	\$1,691	1292
Jan-06	\$1,481	1417	\$1,293	1353	\$1,040	1396	\$1,066	1428	\$1,719	1313
Jul-06	\$1,577	1509	\$1,376	1440	\$1,106	1485	\$1,152	1543	\$1,842	1407

Australasian Building Certification Fo

Australia's building control industry is facing many of the same performance issues as New Zealand's. Australian state and territory governments are responding to such issues via a range of strategies, some of which are similar to those recently introduced in New Zealand by the Building Act 2004. Such strategies include:

- new regulatory accreditation schemes for regulatory building control providers
- professional indemnity insurance requirements
- complaint and investigation processes
- new education and competency requirements.

The Australasian Building Certification Forum is a group of regulatory building control managers from each of the state and territory governments in Australia and from New Zealand's Department of Building and Housing. It meets to exchange ideas on good practice in regulatory building control management and reform from a state/federal regulator perspective. The Forum met for the first time in Sydney in February 2005. In May 2006, Malcolm MacMillan, Manager Performance Monitoring and Review from the Department's Regulatory Compliance business unit, attended the second Forum in Brisbane.

The main points of discussion at the forum included:

- accreditation and regulation of building officials
- problems being faced to recruit and retain sufficient numbers of building officials
- mutual recognition of building control qualifications across jurisdictions
- best-practice processes to manage and investigate complaints against building officials
- professional indemnity insurance requirements for building certifiers.

The Forum provided some useful insights into the building control issues faced by Australia and New Zealand, along with how each country is working to resolve these issues.

REGULATION OF BUILDING OFFICIALS

No national legislation exists to govern the building industry in Australia. Each state or territory has its own legislation to govern the industry in its jurisdiction. Consequently, there are eight different Building Acts in Australia, one for each state and territory. Furthermore, only four out of the eight jurisdictions have specifically mandated in legislation that building surveyors (the equivalent of building officials in New Zealand) must achieve Australian Institute of Building Surveyors (AIBS) accreditation before applying for registration with their state or territory government.

The AIBS is an industry-based body that accredits building officials, and provides leadership for the industry in the areas of education, quality and performance.

PROBLEMS WITH RECRUITING AND RETAINING BUILDING SURVEYORS

As is the case in New Zealand, all Australian jurisdictions are finding it difficult to ensure adequate numbers of skilled and competent building officials. Australia has in place rigorous academic requirements for becoming a registered building surveyor. This is one initiative that is helping to ensure well trained and competent building control officers enter the market. However, all Australian jurisdictions are still facing significant capacity issues, including problems with the length of time it is taking to train building control officers to a standard where they can enter the market. To counter such problems, some Australian jurisdictions are considering options such as introducing 'step-off points'. The aim is to develop career opportunities in building control that correlate with lesser qualifications than a degree to cater for less complicated building control work (for example, farm and light residential buildings). Effort is also being made to ensure people can contribute economically much earlier.

As a means of addressing human resource shortages, AIBS in Queensland facilitates a cadetship scheme. This allows organisations to employ unqualified building surveyors as cadets to help with certain regulatory building control work, as long as they are undertaking a course of study that meets AIBS standards for accreditation. AIBS has indicated that firms are increasingly adopting this cadetship option and investing in the next generation of building officials.

Work is also under way in Australia to actively raise the profile of regulatory building control as a career option for those in secondary school.

Mutual recognition of building qualifications

A long-term objective of the Forum is to work towards a system of mutual recognition of building qualifications to help the flow of human resource between jurisdictions. Currently, tertiary training and education institutions do not offer equivalent building surveying courses across Australian jurisdictions. This makes it difficult to compare qualifications being offered should a surveyor wish to move to a different state or territory.

Complaint and investigation systems

Managing complaints against building officials was one of the key topics of the Forum.

It was agreed that a rigorous complaints process should be:

- based on the principles of natural justice (for example, the subject of a complaint must have access to justice and information, the right of a hearing, and a right of reply)
- transparent and open
- efficient and timely
- technically and legally sound, and involve all necessary professional expertise
- clearly articulated to the complainant, including the process, timeframes and possible outcomes.

The forum noted the complaints process developed by New South Wales. This requires complaints to be provided in writing, to be properly identified and not anonymous, to clearly specify the alleged breach, and to be accompanied by a statutory declaration. All of these factors are a good deterrent for frivolous and vexatious complaints.

PROFESSIONAL INDEMNITY INSURANCE FOR BUILDING CERTIFIERS AND SURVEYORS

Like New Zealand, each Australia jurisdiction has had to work through issues of consumer protection and professional indemnity insurance for private building controls. 2001 and 2002 were difficult years for the professional indemnity market in Australia. Premiums increased substantially and some jurisdictions were forced to decrease their requirements as there were so few insurers in the market at the time.

However, there is now an over-supply of insurers in Australia with a relatively low level of indemnity claims at present. Premiums have decreased by 30 percent since 2002, and a further decrease of 15 percent is expected by the end of 2006.

New Zealand's building consent authority accreditation and registration scheme

Discussions with counterparts at the Australasian Building Certification Forum were extremely useful and informative. A significant amount of knowledge was gained about the regulatory building control environment, and accreditation and registration schemes operating in Australia. This is highly relevant to the Department's current work on the building consent authority accreditation and registration regime, particularly consumer protection requirements, complaints and investigation processes, and education and competency requirements for building consent authorities.

Similar institutions in Australia have had to resolve many of the issues faced by the Department. Many lessons can be learnt to improve our processes here in New Zealand.

Further information about New Zealand's building consent authority accreditation and registration scheme can be found online at www.dbh.govt.nz

Determinations issued

DETERMINATION 2006/72

Notice to fix for certain units at Oakura Beach Camp, New Plymouth

The units



Figure 1: A unit being manoeuvred into position



Figure 2: A unit in its final position

As shown in the photographs, the units concerned are simple structures with a single-ridge, gable-end roof with no eaves and having the appearance of a small house or bach. Deck framing is hinged and connected to the floor framing to allow the deck structure to be folded up against the unit wall for transportation. All decks are fitted with adjustable legs of a type typically seen on caravans. Each unit is equipped with wheels and an extending towbar.

Three units had been transported to the camp on trucks then manoeuvred into location on their own wheels and installed. As installed, the units are supported on concrete blocks and timber packers. Not all wheels remain in contact with the ground. The units were connected to the camping ground's electrical, water and sewerage systems.

The notice to fix

The territorial authority had issued a notice to fix on the basis that the installation of the units was building work for which no building consent had been obtained. The owner disputed that notice on the grounds that each unit was a 'vehicle' as defined in section 2 of the Land Transport Act 1998, being 'a contrivance equipped with wheels ... on which it moves or is moved'. Under section 8(1)(b)(iii) of the Building Act, a vehicle is not a building unless it is 'immovable and occupied by people on a permanent or long-term basis'.

Vehicle or building?

The Chief Executive took the view that the words 'moves or is moved' in the Land Transport Act were not to be read as meaning 'is capable of moving or being moved'. The phrase was to be read literally as applying to a particular time and not as applying at all times while the units were equipped with wheels.

It followed that while a building equipped with wheels was being put to a use in which it moves or is moved, it was a vehicle and came under the Land Transport Act.

However, while it was being put to a use in which it does not move, it was a building and came under the Building Act. In other words, a structure with wheels was a vehicle while it was being used as a vehicle, and a building while it was being used as a building.

The units ceased to be vehicles when they had been manoeuvred into the positions in which they were to be used as buildings. As they were not vehicles, it therefore made no difference whether or not they were 'immovable' or 'occupied by people on a permanent or long-term basis'.

The placement of a unit could not properly be called the construction of a building for which a building consent was required. However, once the unit became a building, any alteration to it would require a building consent (unless specifically exempted). Attaching the building to foundations and utilities amounted to alterations for which building consents were required.

The Chief Executive of the Department of Building and Housing determined that the notice to fix was to be modified to the effect that the owner was to apply to the territorial authority for a certificate of acceptance for each unit.

Guidance information on structures that are both vehicles and buildings

Although the decision turned on the finding that the units were not 'vehicles' at the relevant times, the determination also discussed structures used both as vehicles and as buildings, such as caravans, house-buses, and the like.

As mentioned above, under the Building Act such a vehicle is a building if it is 'immovable and occupied by people on a permanent or long-term basis'.

To help readers of the Determination to use the Determination in similar contexts, the Chief Executive took the view that:

- a vehicle such as a caravan can properly be described as 'immovable' if it is either:
 - no longer supported solely by its wheels, or
 - attached to the ground or to utility services and the like
- permanent occupancy is when there is an intention that the occupancy will be for an indefinite period, which could in the event be comparatively short
- long-term occupancy is when the occupancy will be for a definite period that can properly be described as 'long' in the particular circumstances.

To read all the Determinations in summary or in full, go to:

www.dbh.govt.nz/e/publish/determinations_issued.shtml

Earthquake-prone buildings: NZSEE Recommendations launched

The New Zealand Society for Earthquake Engineering (NZSEE) has launched its *Assessment and Improvement of the Structural Performance of Buildings in Earthquake (the Recommendations)*.

The Department of Building and Housing has supported the NZSEE Study Group in developing the Recommendations. Since the introduction of new requirements in the Building Act 2004, the Recommendations have been aligned with NZS 1170.5: 2004 and have been introduced to designers and building officials via seminars held throughout the country. Feedback from these seminars has been taken into account in developing the final publication.

The 300-page document will provide designers, building officials and owners with preliminary and detailed guidelines on how to assess the earthquake performance of existing buildings. Guidance is also given on means to improve earthquake performance.

Included in the document is a proposed grading scheme for classifying the earthquake performance of any building, whether or not it is earthquake-prone.

This is designed to be of use to owners, insurers and the general public by providing information on the relative risk of existing buildings.

EARTHQUAKE-PRONE BUILDINGS IN THE BUILDING ACT

The Building Act 2004 introduced the requirement for territorial authorities to develop policies on earthquake-prone buildings in their area by 31 May 2006. This is a long-term strategy that recognises the need to keep earthquake risk-reduction on the agenda and reduce it over time.

The relevant provisions of the Building Act 2004 are sections 122 to 132 inclusive. An earthquake-prone building is one that would have its ultimate capacity exceeded in a moderate earthquake, and be likely to collapse causing injury, death or damage (section 122).

The draft Recommendations are already being used by designers and building officials in resolving issues related to earthquake performance of existing buildings, their earthquake-proneness under the Building Act, and for insurance assessments.

A published version of the Recommendations can be purchased from the NZSEE.

Operations group work in progress

THE PUBLICATION PROCESS FOR:

BUILDING CODE CLAUSES

1. Identify need for Clause change

2. Departmental analysis of options for change

3. Prepare proposal for public consultation

4. Public consultation

5. Consider comments received from consultation

6. Prepare Cabinet paper seeking approval of proposed change including consultation with other relevant government departments

7. Prepare drafting instructions for Parliamentary Counsel to draft regulations to make the change

8. Submit draft regulations to Cabinet for approval

9. Regulations made by Governor-General

COMPLIANCE DOCUMENTS

1. Identify need for change to Compliance Document

2. Appoint project manager and/or establish working group

3. Prepare information for public consultation

4. Public consultation

5. Consider comments received from consultation

6. Prepare draft for Chief Executive's approval

7. Publication

Clause B1, Structure, Concrete Standards

Stage: prepare information for public comment

Proposed citation of revised concrete Standard NZS 3101: 2006.

Clause B1, Structure, Loadings Standards

Stage: prepare information for public comment

Proposed citation of new loading Standards (AS/NZS 1170 Parts 0, 1, 2 and 3, and NZS 1170 Part 5).

Clause C, Fire Safety – single means of escape

Stage: prepare proposal

Concerning the design requirements for multi-storey buildings with single means of escape from fire.

Clause C, Fire Safety – Type 4 and 5 alarms

Stage: prepare proposal

Concerning the design requirements in relation to alarm systems for certain buildings.

Clause C, Fire Safety – Amendment to C/AS1

Stage: analyse public comment

Joint public consultation with Standards New Zealand to reference NZS 4541: 2006 Automatic Fire Sprinkler Systems.

Clause F3, Hazardous Substances and Processes

Stage: Public consultation

Amendment to Compliance Document to comply with the HSNO Act covering the storage of hazardous liquids and gases in buildings.

Clause F4, Safety from Falling

Stage: Public consultation on implementation date

Amendments to Acceptable Solution F4/AS1 for publication including barrier heights.

Clause F6, Lighting for Emergency

Stage: Cabinet paper prepared

Amendments to the Code Clause and its Compliance Document.

Clause G6, Airborne and Impact Sound

Stage: Re-drafting the Code Clause and Compliance Document to align with the Building Code Review project 8-tiered hierarchy format

A complete review of the Code Clause and its Compliance Document.

Proposals contain new methods for measuring sound and new criteria for protection from environmental sound.

Clause G14, Industrial Liquid Waste

Stage: Cabinet paper prepared

Amendments to Code Clause and Compliance Document: G14/AS1 and G14/VM1 altered, and a new Verification Method G14/VM2 for Foul Water: On-site disposal.

Clause H1, Energy Efficiency

Stage: Public consultation

Amendments include referencing AS/NZS 4859.1 for insulation materials.

Clause E2, External Moisture

Clause G1, Personal Hygiene

Clause G4, Ventilation

Clause G9, Electricity

Clause G10, Piped Services

Clause G11, Gas as an Energy Source

Clause G12, Water Supplies

Clause G13, Foul Water

Stage: Public consultation

Amendments to the above list of Compliance Documents to update publications referenced and amend G1/AS1 for toilet numbers and line of sight provisions.

Learning curve



Wellington Institute of Technology
Te Whare Wānanga o te Awaakairangi

1 September 2006

To all interested parties

This is an opportunity to provide you with an update on the Diploma in Building Surveying which WelTec has been delivering during the past twelve months.

The Diploma in Building Surveying is a level 6 Diploma which has been specifically developed to provide professional development opportunities for Building Officials as well as people interested in obtaining a Building Surveying qualification.

Modules that have been offered to date and which are currently available for enrolment include:

- Professional Practice
- Office Practice
- Building Control A – Legislation

Modules which are available and coming online include:

- Building Control B – Consent Process, enrolment August 06
- Building Control C – Inspections, enrolment March 2007
- Residential Construction – based on the following four unit standards. Two of these can be recognised through prior learning if you already possess a national trade certificate.
 - Site Feasibility, US 9663, enrolment 20th September 06
 - Residential Construction, US 9671, enrolment November 06
 - Materials and Finishes, US 9669, enrolment January 07
 - Environmental, US 9670, enrolment March 07

Unit standards that are completed can also be counted as credits to the National Diploma in Quantity Surveying, Construction Management and Architectural Technology.

During and following the BOINZ conference this year, we canvassed industry members to see whether people were interested in an intermediary certificate on completion of the first three modules of the WelTec Diploma in Building Surveying. However, survey results indicated that this was not required and therefore will not be offered. The course will continue to be offered in the structure that was originally advised on enrolment.

The Department of Building and Housing, BOINZ, LGNZ, and SOLGM are working together on the development of the proposed National Diploma in Building Controls. They will be getting advice from a panel of experts throughout the process. There will be consultation with WelTec during the development of the qualification and we will endeavour to ensure that there are cross credits, as appropriate, from the WelTec Diploma in Building Surveying to the future NZQA National Diploma(s).

WelTec continues to be the Preferred Provider of the Department for Building and Housing and is consulting with BOINZ to seek their Training Academy endorsement of the WelTec Diploma in Building Surveying.

If you would like further information about the WelTec programme please contact the Programme Leader, Vaughan Maybury by emailing vaughan.maybury@weltec.ac.nz or phone **04 9202 419**.

Kind regards,
James Brodie
Head of Centre

BRANZ, CONSTRUCTION INDUSTRY TRAINING ENTERPRISE (CITE)

UPCOMING COURSES

Access, Egress & Barriers

This three-day course supplements of existing course on Building Compliance for Independent Qualified Persons (IQP/LBP's) by providing the necessary skills to inspect and report of access routes, means of escape, safety from falling and signage for Building Warrant of Fitness. This qualification will enable those already acting as an IQP/LBP in other areas to add these categories to their services.

This course also provides instruction in Clauses D1, F4, F7 and F8 of the NZBC for Building Officials as part of the Advanced Building Controls Qualification.

Dates	Location
24-26 October	Rotorua
1-3 November	Dunedin
28-30 November	Auckland

Cost: \$1,350.00 including GST

Weathertight Design

This 8-day course will provide students with the skills necessary to design and/or assess alternative solutions for weathertightness that comply with the NZ Building Code performance requirements for E2 External moisture. It will cover the theory behind the solutions and how this may be applied to real building situations. Students will tackle real problems and be given 'hands on' instruction on whole or parts of buildings in order to design or assess weathertight and buildable details in a way that is sympathetic with the aesthetic intent of a building design. Those qualifying will meet the requirements of a 'weathertightness specialist' as required for specific weathertightness design.

Dates	Location
Week 1: 16-18 October	
Week 2: 20-24 November	Wellington

Cost: \$3,937.50 including GST

Learning curve *continued*

Domestic Sprinkler Design

This two-day course provides the skills necessary to design and oversee the installation and testing of a combination domestic plumbing and fire sprinkler system.

Certificate holders will be qualified to design combination domestic plumbing and fire sprinkler systems. They will be able to provide Building Consent Authorities with Producer statements for the design and installation of domestic fire sprinkler systems for building consents and code compliance certificates.

Certificate holders will be listed on the BRANZ website for homeowners considering installing a combination domestic sprinkler system.

Dates	Location
10-11 October	Wellington

Cost: \$956.25 including GST

Building Compliance for IQP's/LBP's

This three-day course will provide knowledge in, and understanding of, the Building Controls regime for Building Warrant of Fitness purposes. It will also outline the duties and responsibilities of a IQP/LBP and their professional relationship with building owners.


This course will provide evidence to Territorial Authorities that an applicant requesting LBP/IQP status has the requisite knowledge in building compliance to act competently and professionally as an IQP/LBP.

If you are interested in undertaking this course, please contact Natasha Breen (Details below).

Cost: \$1,350.00 including GST.
Early Bird discounts may apply to these courses.


Further information

For further information please visit our website

 www.branz.co.nz (CITE Industry Training)

 branzcite@branz.co.nz

Natasha Breen
(CITE Administration Officer)

 (04) 238 1291

BARRIER FREE NEW ZEALAND TRUST – 2006 TRAINING SEMINARS

Reasons to attend

These 2-day seminars are designed to raise people's awareness and understanding of the issues for people with disabilities. They provide up-to-date information about building legislation in New Zealand and the access requirements for people with disabilities.

The courses are aimed at building control officers, building certifiers, IQPs, Barrier Free Advisors, architects, designers, developers, building owners or property managers, and those seeking qualifications as a Barrier Free Advisor (BFA).


Duration	Location	Date 2006
2 days	Gisborne	9-10 October
2 days	North Shore	9-10 November

Costs include copy of Barrier Free New Zealand Trust Resource Handbook for Barrier Free Environments.

	Cost (excl) GST	Cost (incl) GST
2-day course	\$300.00	\$337.50
Specialist 1- or 2-day course	Rate negotiable with any interested organisation/company	
1-day refresher course	\$150.00	\$168.75

Enquiries to:

Administrator – Barrier Free
New Zealand Trust, PO Box 25064,
Panama Street, Wellington

 (04) 915 5848 or (04) 499 0725

Fax: (04) 915 5849


 seminar@barrierfreenz.org.nz



**Barrier Free
NEW ZEALAND
TRUST**

Important changes to BIA website

The content previously available on the Building Industry Authority website (www.bia.govt.nz) is now located within the Department of Building and Housing website:

 www.dbh.govt.nz

Legality of Department of Building and Housing interpretations

Only the courts can issue binding interpretations of the Building Act 1991 and Building Act 2004 and Regulations. Indications and guidelines issued by the Department of Building and Housing, either in *Codewords* or other communications, are provided with the intention of helping people to understand the legislation. They are, however, offered on a 'no-liability' basis and, in any particular case, those concerned should consult their own legal advisers.

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