Department of
Building and Housing
Te Tari Kaupapa Whare

Building Industry Trends: July–September 2004

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Conclusions

This document is the third quarterly report into building industry performance. A number of issues have been identified, including the following.

Significant activity

- A reduction in the volume of new building consents being issued during the September quarter.
- A decline in the rapid growth that has previously been a feature of the residential sector of the market.
- A rise in commercial building activity and an expectation that this will continue to increase over the next several years.
- An expectation that residential building demand will continue to slow leading into 2005 due to reduced levels of immigration and increased interest rates. Overall, building activity is predicted not to be significantly affected because of the predicted growth in non-residential construction.
- Rising building costs, beyond the rate of underlying general inflation.
- Cost drivers of increased labour and materials costs.
- Prediction of further increases in building costs as a result of the new Building Act and recent Building Code changes and construction practices.
- A continuing tight labour market for building trades generally and in building regulatory control.

Mixed-quality outcomes

- Increasing awareness of the poor construction and design practices that cause weathertightness failures.
- Improvements being made to building control processes to reduce weathertightness problems.
- A potential long tail of weathertightness failure, still to be felt in homes built between 2000 and 2003.
- Quality improvement work under way addressing structural integrity issues arising from poor commercial construction practice.
- Amenity and safety issues in apartment design, which are being addressed through Building Code changes, Determinations and research.
- Overall, mixed-quality outcomes, although practices seem to be improving.

Improving regulatory performance

- Territorial authorities are responding to increased expectations to raise quality standards.
- Ongoing difficulties obtaining and retaining skilled building control staff.
- Mixed compliance among these frontline regulators in respect of building access provisions, weathertightness focus, Producer Statement regimes, and assessment of Alternative Solutions.
- Performance improvement issues being picked up in the design of the new accreditation systems for BCAs, which are due to be implemented during 2005.
- Problems with the building certifier insurance scheme.
- Private certifier closures, in anticipation of small private organisations facing difficulties achieving BCA accreditation requirements and as a result of disciplinary action.

Introduction

This is the third report about building industry trends. It examines trends for the period 1 July 2004 to 30 September 2004.

At the time of this report's publication, the new Department of Building and Housing (the Department) has become the central government regulator. It is overseeing the final months of the Building Act 1991 and implementing the Building Act 2004. As this new Act continues to be implemented over the coming years, it will introduce a range of measures designed to improve the overall performance of the building industry and ensure buildings are built to a high quality.

Managing New Zealand's building control regime has traditionally been achieved through maintaining the Building Code and its Approved Documents, which are non-mandatory means of complying with the Code. Whilst this system remains central, performance in the future will be addressed through a wider range of controls. In addition to the Department's core role of specifying building standards through the Building Code, the new Act places increased focus on the regulator being more proactive in ensuring the Code is applied correctly. In order to be more proactive and ensure that the building controls systems in New Zealand meets its objectives, it is necessary to maintain a good understanding of achieved building outcomes. This information can then be used to address emerging performance issues and maintain an industry-wide performance measurement system. Application of this performance framework, including ongoing measurement, will ensure building controls produce benefits for New Zealanders and meet communities' expectations for health, safety, sustainability, amenity, industry efficiency and cost-effectiveness.

This report is one tool developed to support the Department's proactive performance monitoring role. Addressing performance issues requires not only measurement, but sharing this information with industry stakeholders. A wide range of stakeholders plays a critical role in assisting the central regulator to fulfil its regulatory functions and improve industry performance. These stakeholders help other industry participants understand problems and refine practices. Through its production of quarterly trend reports, the Department hopes to raise the level of industry understanding of existing problems and risks, and to highlight performance gains already made.

This report is based on easily accessible performance information. At present, this means it draws mainly on administrative information already collected by central and local government agencies, and other organisations. New performance indicators will also be introduced over time that will help industry understand other key performance issues and outcomes.

Performance summary

The body of this report is presented in three related sections.

The first section examines general trends in building activity and develops an understanding of recent trends in building volume and type. It also examines the outlook for these trends in the near future. It reveals that the boom in building apparent in recent years has slowed during the

September 2004 quarter. Largely led by a decline in the number of consents issued in Auckland, there has been a decrease in consents for the building of new dwellings, including a sharp reduction in the number issued for new apartments. While the overall rate of dwelling consents issued remains high, the fundamental drivers of residential building demand now indicate demand for new residential building is past its peak. It seems that reduced levels of residential building activity will be seen during the next year.

The overall impact on the building sector of a drop in residential demand is expected to be relatively limited. Commercial building activity is increasing and it is expected that the levels of non-residential construction will increase significantly over the next several years.

Building costs continue to rise significantly, increasing beyond the rate of underlying inflation. These costs are being driven up by increased labour and materials costs. Further increases in costs are likely to arise from recent changes to the Building Code, which have been made to address specific weathertightness risks. The new Building Act is also predicted to result in an increased cost of building regulation in the near future, although these costs are likely to be a relatively modest contributor to overall construction costs.

The second section of this report examines building quality. The building industry has confronted systemic performance problems over the past few years. This report indicates that the quality of building outcomes appears to be improving. There is an increasing awareness of the poor building practices that can result in weathertightness failures. There has also been improvement made to building controls to reduce these types of problem. However, there is potentially a long tail to the weathertightness issue that began during the early 1990s. The bulk of problems are in buildings issued with building consents during the period from 1993 to 1999. Given the building industry's relatively recent responses to address these weathertightness problems, building work from 2000 to 2003 may also be affected.

A variety of other performance issues has been addressed during the September quarter. Quality improvement work has focused on preventing potential structural integrity problems in high-rise buildings arising from suspected poor commercial construction practice, particularly relating to the site handling of certain grades of concrete reinforcing steel and the use of hollow core pre-cast concrete slabs. Other building performance issues have also been addressed in relation to apartment design, including fire safety and accessibility. These issues have been dealt with through Building Code changes, Determinations, and other work with industry stakeholders.

The third section of this report addresses the effectiveness of building regulation. Territorial authority and building certifier regulators have been responding to an increased expectation to maintain quality standards. The focus on these issues is now shifting to the development of new requirements for accreditation as a building consent authority, which will be brought in by the Building Act 2004. These accreditation requirements will ensure improved industry performance on issues such as access provisions, weathertightness, Producer Statement regimes, and the assessment of Alternative Solutions.

During the September quarter, a review into the adequacy of the certifier insurance scheme was completed and this highlighted several problems with the current scheme. It is now proposed to make changes to insurance requirements to improve alignment with the requirements of the 1991 Act. With the upcoming requirements for BCA accreditation, which will also have risk-management requirements, several private building certifiers have decided to close their

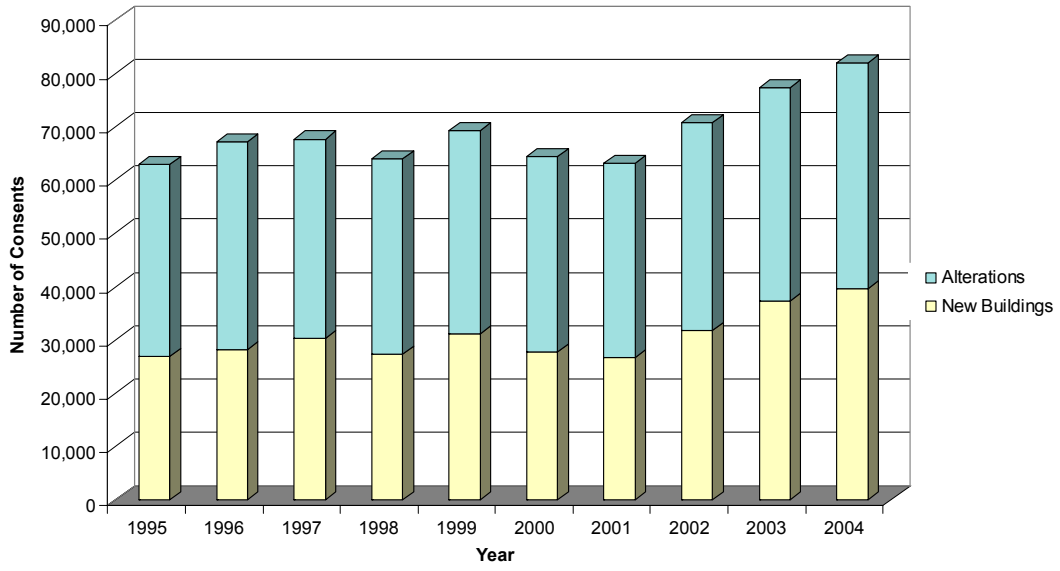
businesses. Two certifiers have also closed following disciplinary action taken against them. These changes in the private building certifier industry are being actively managed by the Department to ensure consumer and industry transition issues are resolved.

Building Activity

Decreasing building activity

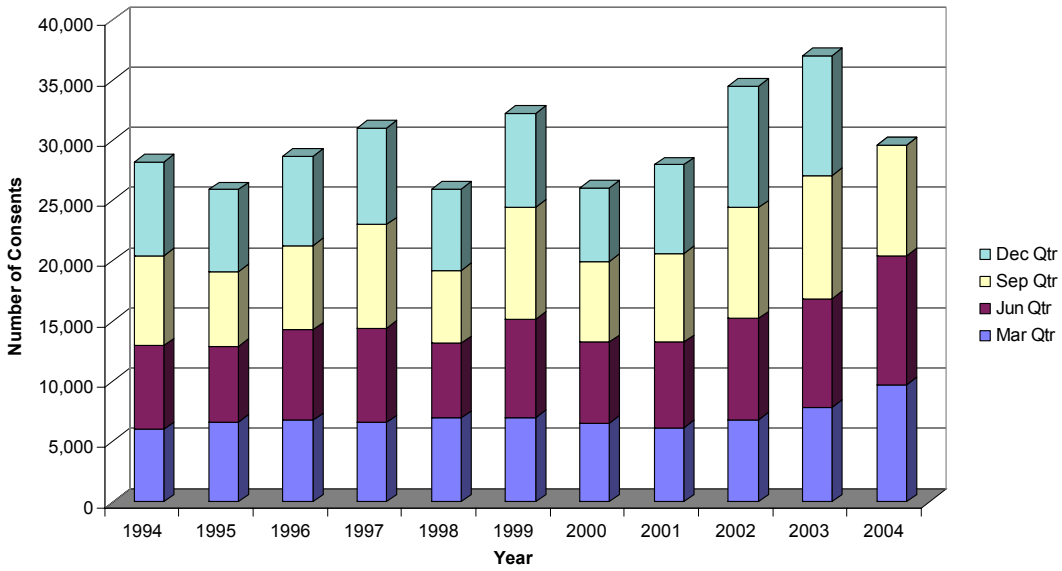
The total number of building consents issued for the year to 30 September 2004 is at an all-time high compared to previous years (Chart 1). Consents issued in the year to September 2004 are 7 percent higher than the year to September 2003 and this continues the long term trend of increasing building activity since 2001. This growth has occurred in spite of a drop in consent issues during the September quarter, and is attributable to strong activity during the period January to June 2004.

Chart 1: Total Volume of All Building Work
(period 12 Months to 30 September)



Although the year-to-date figures remain strong, the number of building consents issued for new buildings during the September quarter dropped by 10 percent compared to the September 2003 quarter, and are down 14 percent compared to the June 2004 quarter (Chart 2). This is the first time since the year 2000 that September quarter consents have dropped by such a margin. This reduction in consents issued may indicate a reduction in construction activity. A drop in new building construction activity has been predicted to follow reduced immigration and the easing of other leading indicators of building demand. The reduction may also reflect delays experienced by territorial authorities in processing consent applications.

Chart 2: Consents Issued for New Buildings



The number of consents issued over the September quarter for building alterations has remained relatively stable. Consents issued for alterations during this quarter are up 1 percent from the September 2003 quarter and 4 percent from the previous quarter in 2004. These modest gains have not been enough to compensate for the decrease in new building consents in terms of overall levels of building consent activity (Table 1).

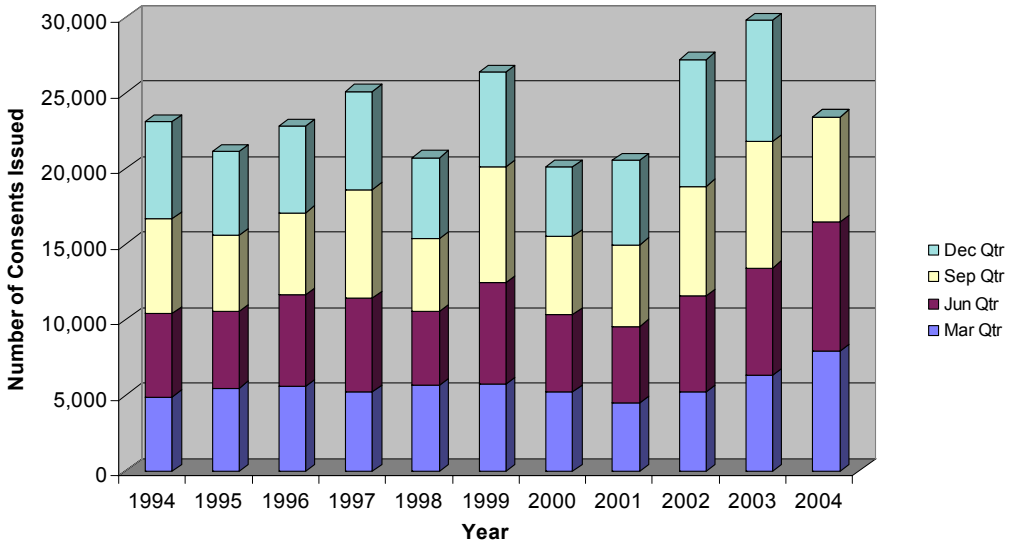
Table 1: September quarter consents

	Number of consents from 1 July to 30 September		
Year	**New**	**Alterations**	**Total**
2003	10,208	10,941	21,149
2004	9,206	11,023	20,229
Change	-10%	1%	4%

Decreased residential construction

The decrease in the overall number of consents during the September quarter has been caused by a substantial reduction in residential activity. This seems to signal that the three-year trend of significantly increasing residential construction activity is now slowing, with consents issued for residential construction during the September 2004 quarter down 17 percent compared to the same period in 2003 (Chart 3).

Chart 3: New Dwelling Construction



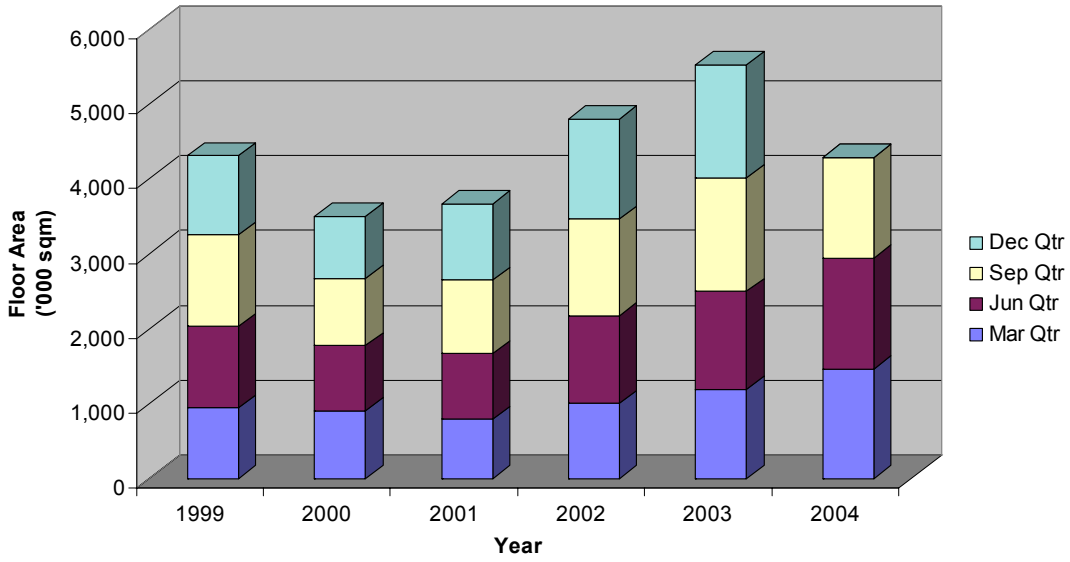
During the quarter, monthly consents issued for new dwelling units were significantly lower than each corresponding month during the 2003 year (Table 2). By comparison, up until June 2004 residential consents issued each month had been consistently higher than corresponding months during 2003. Because of the strong June and March quarters, residential consents issued for the calendar year still exceed those issued during the first three quarters of 2003.

Table 2: Consents for new dwelling units

	Number of consents – September quarter			
Year	**July**	**August**	**September**	**Quarter**
2003	2,632	2,704	3,003	8,328
2004	2,354	2,296	2,291	6,941
Change	-10%	-15%	-24%	-17%

The September quarter reduction in consents issued for residential construction is reflected in a reduction in the total floor area for new dwellings covered by these approvals (Chart 4).

Chart 4: Dwelling Floor Area - New Construction



During 2002 and 2003, significant (greater than 20 percent) increases in the numbers of new dwelling consents have been matched by similar increases in dwelling floor area. Floor area approved in the year ending September 2004 is 8 percent higher than the corresponding 2003 year. The September quarter, though, shows a sharp 12 percent decline on the corresponding period during 2003 (Table 3).

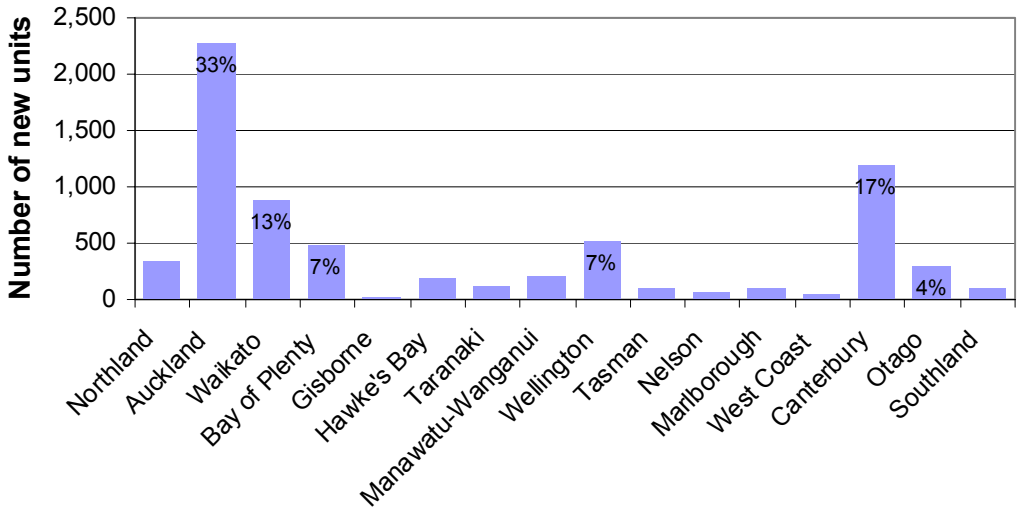
Table 3: Percentage change in levels of residential construction and floor area

	Percentage change from previous year: period 12 months to 30 September	
Year	**Number of new dwelling consents**	**Total floor area covered by consents**
2001	-10%	-7%
2002	25%	29%
2003	23%	20%
2004	4%	8%

Decline in new dwelling construction across most regions

When analysed geographically, 13 out of 16 regions showed a decrease in residential construction in the September 2004 quarter. The exceptions to this trend occurred in Canterbury (up 7 percent), Tasman (up 14 percent) and Southland (up 8 percent).

Chart 5: Number of New Dwelling Units Authorised by Region
1 July - 30 September 2004



Approximately one-third of all residential construction activity during the September 2004 quarter has occurred in the Auckland region, which contributed 2279 (33 percent) to the total number of new dwelling units during the period (Chart 5). Although the Auckland region remains dominant in terms of new residential construction, the number of new dwelling units authorised has dropped 33 percent (or 1104 consents) compared to the September quarter of 2003. Auckland has experienced the most significant decrease in residential activity of any of the 16 regions. This is a reversal of the substantial growth that has occurred in the Auckland region during the past 3 years.

Decline in apartment construction

The number of consents issued for new apartment construction has decreased by 56 percent (or 1077 consents) in the September 2004 quarter compared to the June 2004 quarter. This is also a decrease of 31 percent against the corresponding period during 2003 (Table 4). It is important to note that there have been large fluctuations in apartment consents from year to year (Chart 6) so it is difficult to assess the significance of the drop in new apartment consents at this point. The decrease in the number of apartment consents accounts for approximately a third of the reduction in the number of residential consents issued that has occurred during the September quarter.

Table 4: New apartment consents for September quarter

	Consents for new apartment units			
Year	**July**	**August**	**September**	**Quarter**
2003	273	314	647	1,234
2004	271	284	295	850
Change	-1%	-10%	-54%	-31%

Increasing non-residential construction

In contrast to the decrease in residential construction during the September quarter, the number of consents issued each month for non-residential construction has increased substantially compared to the previous year (Chart 7 and Table 5). This continues a consistent trend of increasing commercial and government building activity during the past year. Historically, non-residential construction is approximately only 20–25 percent of all construction, therefore this growth is not sufficient to fully counter the decrease in residential consents.

Chart 7: Other New Building Construction

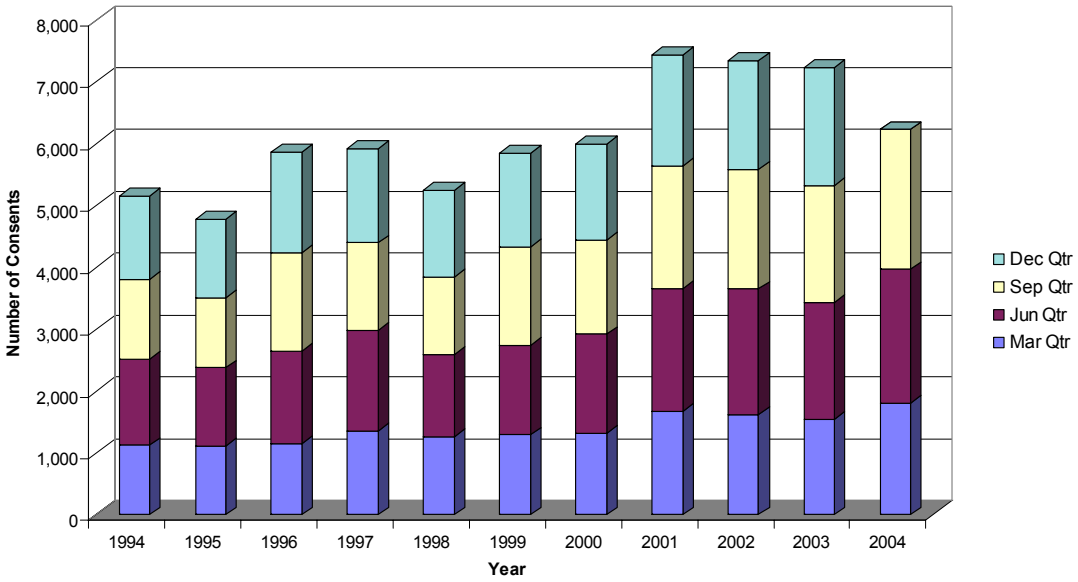


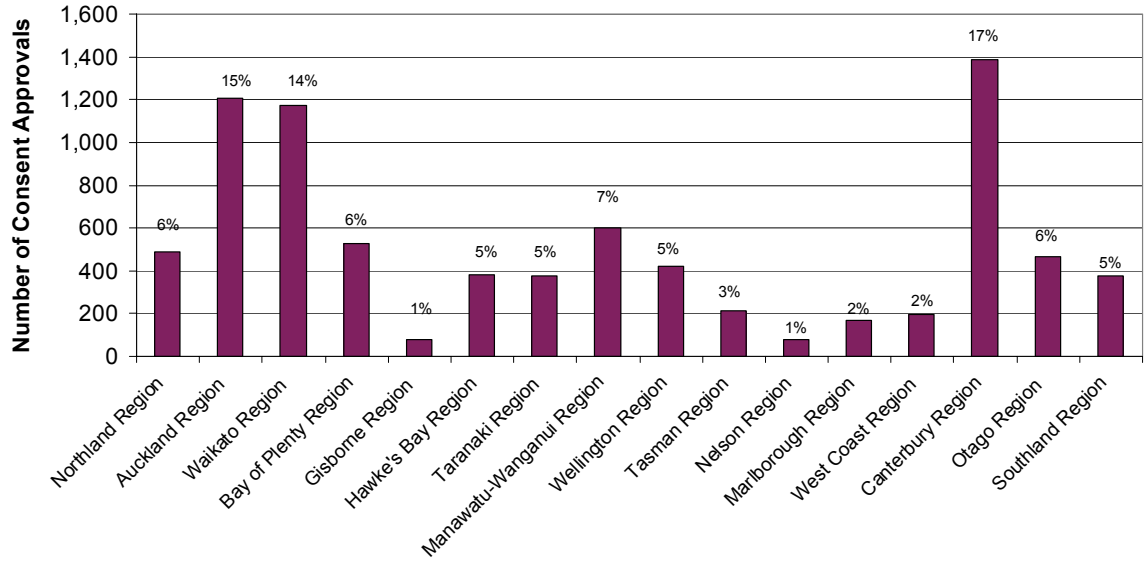
Table 5: Consents for non-dwellings

	Number of consents			
Year	**July**	**August**	**September**	**Quarter**
2003	715	591	574	1,880
2004	751	786	728	2,265
Change	5%	33%	27%	20%

Compared to residential construction, non-residential construction consents are spread more evenly throughout the 16 regions (Chart 8). During the 12 months to 30 September 2004, non-residential activity was highest in the Canterbury region, with levels of non-residential consent activity also high in Auckland and Waikato.

Chart 8: Non Residential Consent Activity

period 12 Months to 30 Sep 2004



Large consents remain subdued

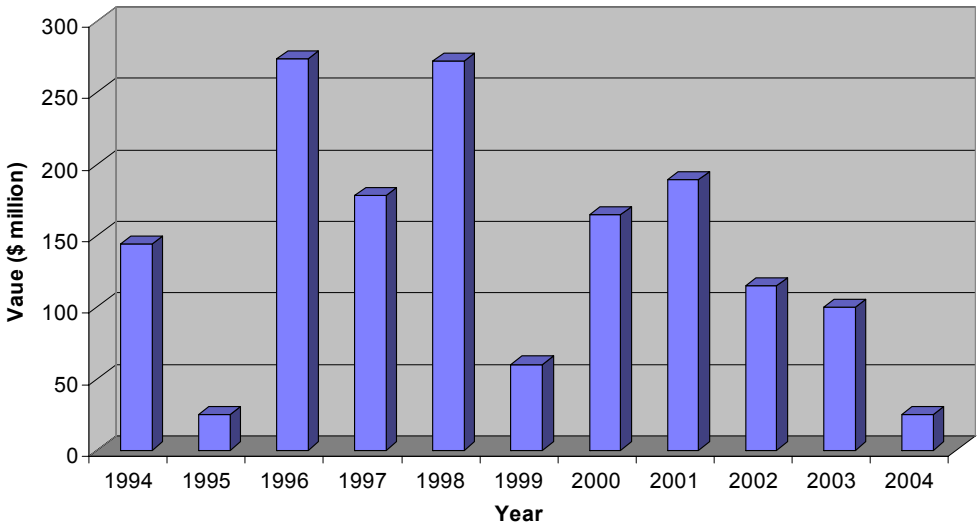
Territorial authorities are required to report the number of large consents issued to Statistics New Zealand each month. Statistics New Zealand figures indicate that despite the increased number of consents issued for non-residential construction, the reported number of large non-residential consents issued by councils is subdued compared to the levels of the past 3 years (Chart 9).[1]

[1] The Department is working to determine the accuracy of these figures.

Large non-residential consents are defined as those that exceed $3 million dollars, and are an indicator of the volume of large commercial building activity. $25 million worth of large non-residential consents were issued during July 2004. There have been no other large non-residential consents reportedly issued during the January 2004 to September 2004 period.

Chart 9: Value of large non residential consents

2004 data for period 1 Jan - 30 Sep



Economic outlook

Economic analysis undertaken by the Reserve Bank, published in its September 2004 monetary policy statement, indicates signs of a change in the housing market. Rapid population growth placed considerable pressure on existing housing during 2003.[2] This was compounded by an increase in residential investment activity. These pressures on the existing housing stock led to demands on the construction sector for new dwelling construction. Construction backlogs lengthened, and many of these backlogs still remain. However, the Reserve Bank feels that the reduction evident in the issuing of building consents over the past 3 months is an indication that the level of residential building activity will cool. There are signs that this slowdown has already begun with growth in house prices already moderating.

The Reserve Bank also reports that, according to Quotable Value New Zealand, the median number of days to sell a house has increased from 25 days during 2003, the peak of the housing boom, to about 30 days. The number of house sales has also declined with the volume of sales now 25 percent below its peak in September 2003. These trends all seem to indicate that turnover has slowed.

The Reserve Bank is predicting some construction resources currently being applied to the residential sector will likely be diverted towards commercial construction activity in the future, keeping pressure on the industry as a whole.

[2] Monetary Policy Statement, September 2004.

Statistics New Zealand reports immigration peaked in mid-2003 and has fallen to a net long-term migration gain of 17,800 for the year ended 30 September 2004. This is 56 percent lower than the net inflow of 40,400 people in the previous September year. The lower rates of net inflow are due to both fewer permanent and long-term arrivals, and a greater rate of departures. Permanent and long-term departures exceeded arrivals by 2200 people in September 2004, by 900 in August and by 1600 in July. This reduced immigration now appears to be causing abatement in housing demand.

Modelling undertaken by Westpac Bank has estimated the magnitude and timing of this reduced immigration on the residential construction market (Table 6). It suggests prices will come under downward pressure followed by a decrease in construction activity that will lag six months behind the price decrease. Westpac reports that it is seeing evidence of this price correction occurring now. Westpac's prediction is that the total value of new house construction may fall by as much as $3.6 billion over the next 2 years and that demand will bottom out in 2006.

Table 6: Predicted housing demand – Westpac residential investment model – October 2004

	2003	2004	2005	2006	2007
Net migration (000)	35	12	0	-5	0
Total population growth (000)	61	38	26	22	27
Required new houses	23,882	14,968	10,329	8,435	10,464
Total building cost ($M)	6,448	4,041	2,789	2,278	2,825

Note: the table represents housing demand and does not take account of the lag effect on construction. Thus, the fall in total building of $2.4 billion predicted in 2004 demand is likely to felt by the construction industry on the supply side in 2005.

The Westpac modelling results highlight the same trends as consensus forecasts published by NZIER, although the Institute predicts a less dramatic decrease in activity. September consensus forecasts indicate that residential investment for 2004/05 is predicted to grow by a modest 2 percent, representing a 14 percent reduction in the predictions that were made for the 2003/04 year. A 9.3 percent decline is now expected to occur in 2005/06.

The impact of the slowdown in residential demand on construction sector activity is predicted to occur in the March 2005 quarter. A factor likely to moderate the impact of weakening demand for residential construction is that the rate of issuance of non-residential building consents remains high, and that the government plans many public works projects over the next few years. Both the Reserve Bank and Westpac suggest resources will be diverted from residential to commercial construction over the remainder of 2004 and during 2005, reversing the trend of the past several years where residential capacity has increased and commercial capacity has decreased. This increase in non-residential demand and resource substitution seems likely to extend the capacity pressures already felt in the construction sector.

Overall, it appears unlikely the predicted increase in commercial and government construction will offset the anticipated reduction in residential construction. Westpac has been forecasting a net contraction of building activity of approximately $2.5 billion over the next 2 years.

Any slowing of construction may take some time to become apparent. The Reserve Bank continues to report that capacity is limited in the building sector and that builders are still experiencing backlogs causing continued delays in building new houses. These delays exist despite a significant increase in employment in the construction sector over the past 2 years. Even with residential activity beginning to slow, it appears likely that non-residential activity will now draw on resources previously involved in residential construction, maintaining pressure on the industry as a whole.

In addition to immigration, consumer confidence is another leading indicator of residential building investment. The September quarter Westpac McDermott Miller (WMM) Consumer Confidence survey showed consumer confidence has increased. Consumer confidence increased from 122 in the June 2004 quarter up to 125 in September.[3] The rise is largely due to the number of people who believe that they are better off financially than a year ago. As well as job security, wage growth, and demand for labour, the continuing rise in the value of houses is cited by Westpac as being encouraging for many consumers. Medium-term consumer expectations have also increased, with confidence about future economic conditions rising 3 percent to an index level of 124.[4,5]

In its October issue of the Quarterly Survey of Business Opinion, the NZIER indicates that the confidence of construction sector firms has slipped from being slightly positive in June to slightly negative in September. However, the Institute reports that only a small proportion of firms (6 percent) expect general business conditions to deteriorate. The survey continues to report the resource pressure on the industry, with 68 percent (up from 53 percent in June) of building construction firms reporting labour as the most limiting factor on their ability to increase turnover. Only 9 percent (down from 22 percent in June) of firms in the sector reported orders as being the most limiting factor. Interestingly, the Institute reports that architects expect the volume of work in their offices to be down in 12–24 months' time across all areas of construction (housing, commercial and government building).

Labour supply

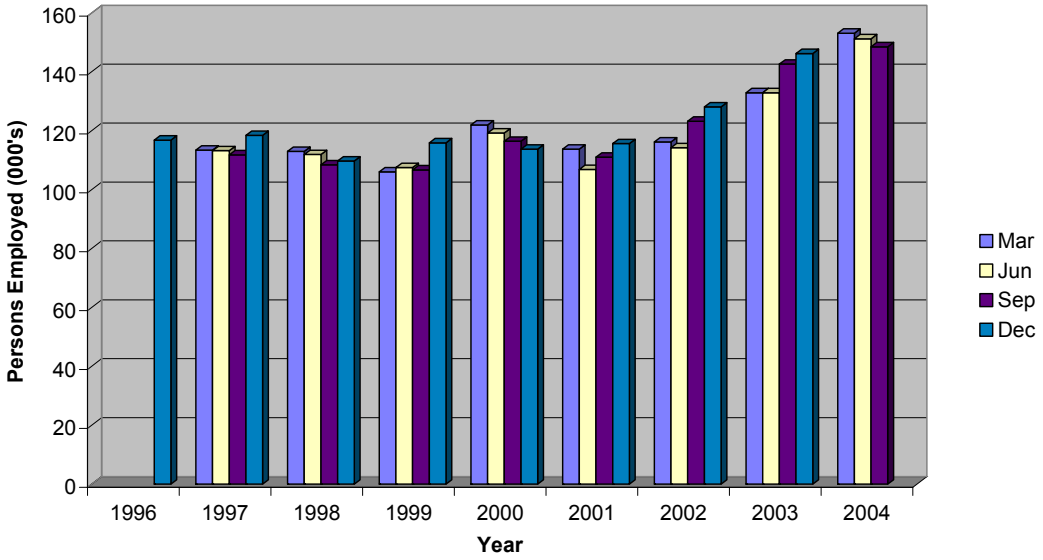
The September 2004 quarter Household Labour Force Survey results published by Statistics New Zealand reveal easing of the labour market conditions for the construction sector.[6] Employment in the construction sector has dropped 1.8 percent during the September 2004 quarter and this follows a similar drop during the June 2004 quarter of 1.2 percent (Chart 10). However, longer term, there has been an average growth rate of 2.4 percent per quarter since September 2002. Employment across the entire economy grew by 0.9 percent during the

[3] An index number over 100 indicates there are more optimists than pessimists.
[4] The WMM Consumer Confidence Survey and Index is not an official economic statistic but a recognised leading indicator of consumer intentions.
[5] From 2004Q3 Westpac McDermott Miller Consumer Confidence Index, published 29 September 2004.
[6] The construction industry classification includes both building construction activity and other types of construction activity, such as the construction of roads, bridges and other structures.

September 2004 quarter and has averaged quarterly growth of only 0.8 percent over the past 2 years.

The Department of Labour maintains a focus on the labour market performance of the construction industry because of its influence on overall economic output and jobs. The Department expects that construction industry employment will be relatively stable over the next 18 months because of the predicted expansion of non-residential construction activity which is expected to offset any retrenchment in residential construction activity.

Chart 10: Persons Employed in the Construction Industry



As a result of the tight labour market and the sustained growth in building activity over the past 2 years, a shortage of skilled staff continues to be recognised as a limitation in the building trades. The Department of Labour has recently completed an assessment of skill availability in the carpentry trade and has concluded that these skills remain in short supply.[7] There has been slow growth in the number of qualified carpenters completing qualifications. From 2001 to 2003 annual training completions were 1.8 percent of the total carpentry workforce, while demand for carpenters has been growing at approximately 10 percent per annum. Some of this skill demand in recent years has been met by immigrant carpenters, with a net immigration gain of 500 carpenters since 2002. The outlook is for continued high levels of labour demand through 2005 with the Department of Labour predicting that training outflow will still continue to be too low to cope with shortfalls and the rate of retirement from the workforce.

The Building and Construction Industry Training Organisation (BCITO), which deals specifically with the building trades (carpenters, plasterers, concreters etc), reported that it had achieved 6000 trainees by mid-2004. This represents the number of people in training at any one time. This number of trainees represents a 75 percent increase over the past 2 years. The BCITO anticipated further trainee growth during 2004 and predicted 7000 people in construction industry training by year end. The majority of these trainees (83 percent) are in the carpentry trade (Table 7).

[7] Skill Shortage Assessment, Occupation: Carpenter (NZSCO 71121). December 2004. Department of Labour.

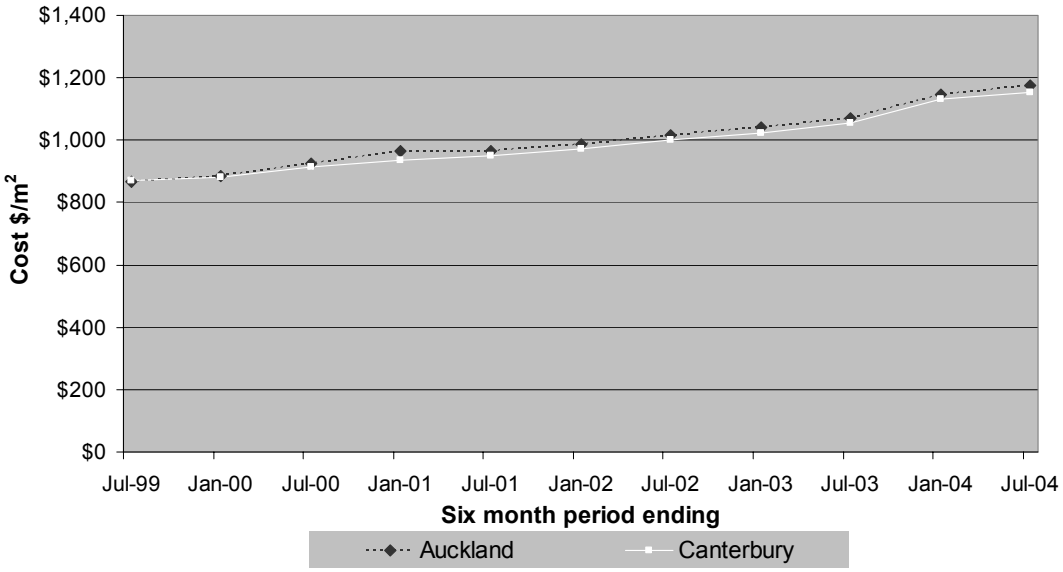
Table 7: Trainee breakdown (from BCITO, June 2004)

Trade	Number of trainees	Percentage of trainees
Carpentry	5000	83%
Cement and concrete	167	3%
Health and safety	237	4%
Interior systems	158	3%
PPCS (EIFS)	319	5%
Solid plastering	49	1%
Floor and wall tiling	72	1%
Total	**6002**	**100%**

Increased building costs

Regular estimates of building costs assist territorial authorities in estimating realistic values when they review the job value provided with a consent application. The parameter that is monitored is the 'cost per square metre' for a range of common building types including residential and commercial construction. Dwelling construction data taken from the latest costing information calculated for the six-month period ending July 2004 indicates the cost of building a typical dwelling with a floor area of 202 m^2 is now $1,160 per square metre compared to $1,135 per square metre for the six-month period ending January 2004, which is a 2 percent increase (Chart 11). These figures for the 12 months to July 2004 indicate an annual increase of 10 percent compared to the same period in 2003.

Chart 11: Estimated cost of building a 202m^2 house



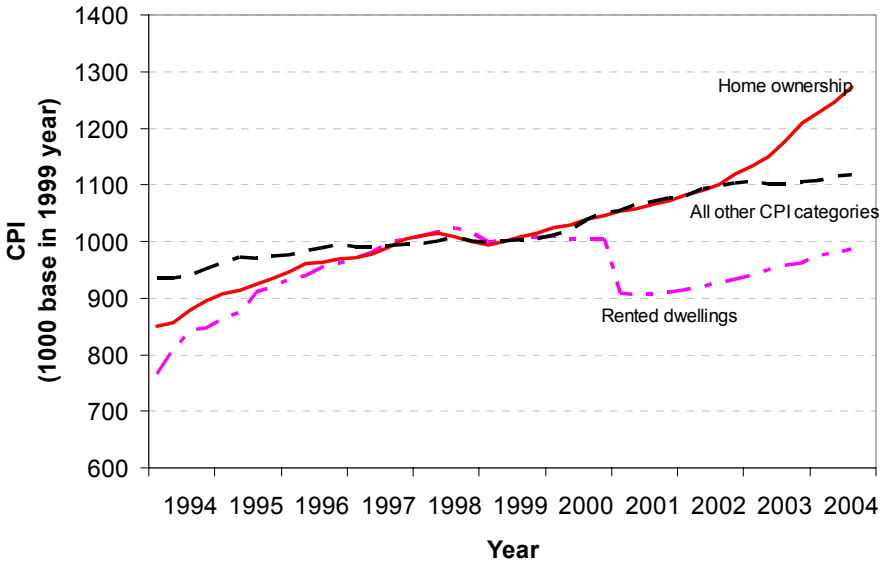
Smaller houses are more expensive to build; with a 145 m^2 home costing $1,290 per square metre (10 percent more than a 202 m^2 home).

The increase in building costs is also reflected in Statistics New Zealand Consumer Price Index data that indicates prices for the purchase and construction of new dwellings rose by 1.9 percent in the September 2004 quarter, following increases of 1.9 percent in the June 2004 quarter and 1.6 percent in the March 2004 quarter (Chart 12).

Statistics New Zealand report that construction prices have increased for 22 consecutive quarters. In the September 2004 quarter, 56 percent of surveyed construction prices rose, compared with 69 percent in the June 2004 quarter. Businesses responding to Statistics New Zealand surveys are asked to indicate one or more reasons for change in their reported construction prices. Of those respondents reporting increases in the September 2004 quarter, 90 percent cited higher prices for construction components, 71 percent cited increased subcontractors' charges, 60 percent cited rising labour costs, and 51 percent cited rises in the cost of fittings as a reason for the increase.[8]

[8] Refer to Statistics New Zealand.

Chart 12: Consumer Price Index
Rising Cost of Home Ownership

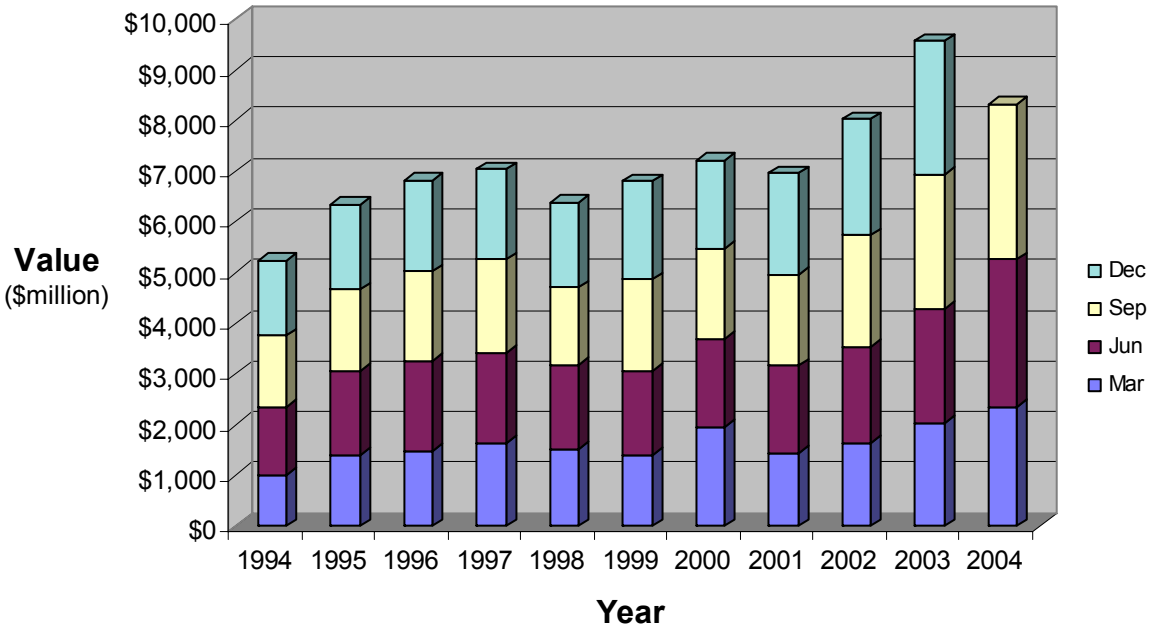


Increased value of building activity

Quarterly Building Activity Survey data shows that a high volume of building activity and increasing building costs have combined to cause a sharp increase in the total value of building work being put in place in recent years. However, the value of all building work decreased by 1 percent in the September 2004 quarter compared to the June quarter (Chart 13).[9] The value of building work for the September quarter was $3.1 billion. Despite the small drop since June, this still represents the second highest recorded value of building work for any quarter and is up 17 percent compared to the same period during 2003. Notably, residential building work put in place has decreased 4 percent from the June quarter, while non-residential building activity has increased 5 percent. This is beginning to reflect the shift that has been expected to occur from growth in residential to growth in non-residential construction. However, the recent more significant decline in the number of building consents issued is not expected to result in a major reduction in the total value of building work in the short term, because there is a lag between consents issued and the impact on actual construction activity.

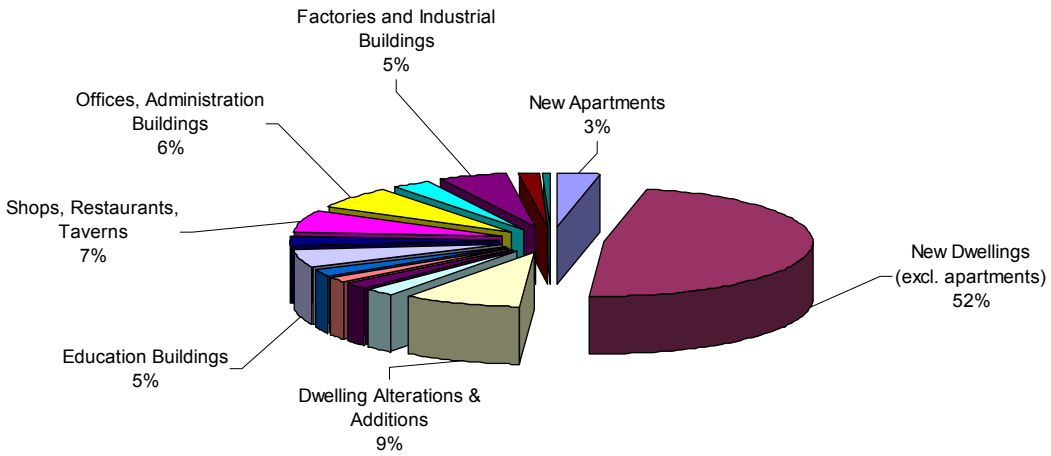
[9] September 2004 figures will be published by Statistics New Zealand on 8 December.

Chart 13: Total Value of Building Activity - All Buildings



As outlined earlier in this report, residential consent numbers decreased during the September 2004 quarter compared to preceding periods. This decline is reflected in the value of work covered by these consents, with the proportional value of residential work dropping to 62 percent compared to 69 percent in the June 2004 quarter (Chart 14). The diminished value of residential building activity appears due in large part to a reduction in apartment consent activity. In the September 2004 quarter, the value of apartment activity was 3 percent of total building work, only half the value it was in the September 2003 quarter.

Chart 14: Type of Building Activity by Value of Work
September Quarter 2004



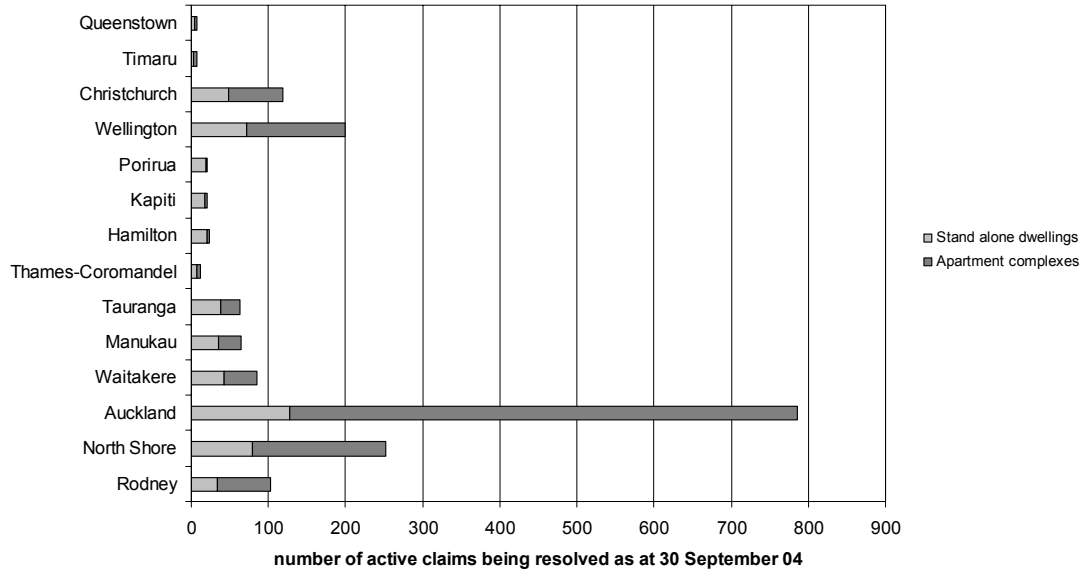
Building Quality

Weathertightness issues

The Weathertight Homes Resolution Service (WHRS) was set up by the government in November 2002 to help homeowners resolve disputes over leaky homes. This service will be moving into the new Department of Building and Housing in early 2005.

The number of claims being made to the WHRS continues to grow. The Service had 1923 active claims as at 30 September 2004, compared to 1892 active claims at 8 July 2004.[10] Claims arising in Auckland City exceed claims in any other territorial authority location by three times (Chart 15). The majority of active claims involve apartment complexes (64 percent).

Chart 15: Weathertightness claims being resolved by WHRS
(by location of territorial authority)



The WHRS uses independent assessors to inspect each affected property prior to offering to resolve claims using either mediation or adjudication. At the end of September, 1369 assessment reports had been sent to homeowners. The WHRS had completed 191 resolutions; 131 using mediation, 12 through adjudication and 48 cases were resolved by other means. An additional 459 homeowners have had their cases deemed eligible by the WHRS Evaluation Panel and have yet to decide whether to proceed to mediation or adjudication.

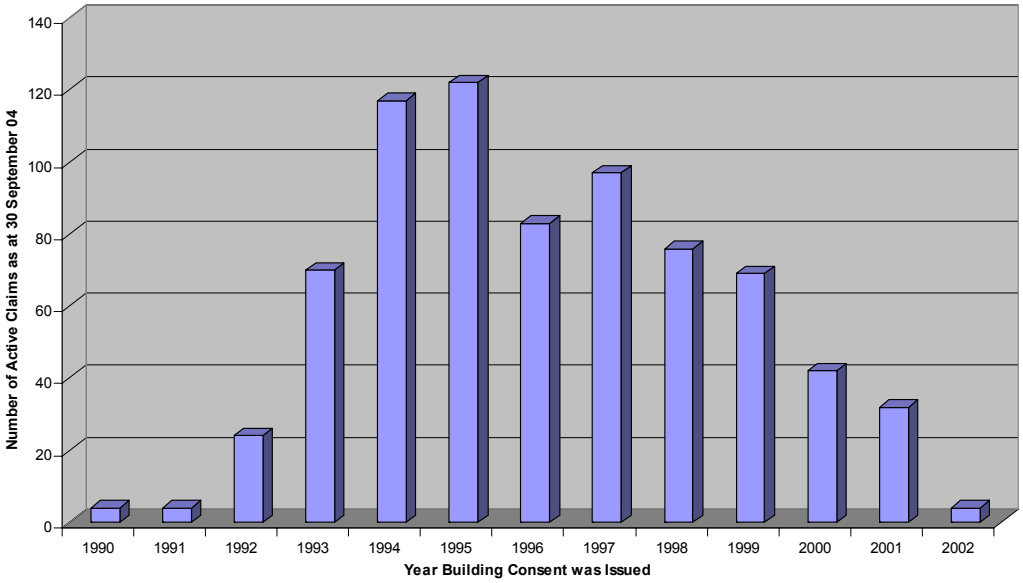
Information collected by WHRS assessors is regularly examined in an effort to understand what has caused weathertightness failures. The data shows that the leaks are most frequently associated with decks and balustrades, cap flashings, cracks in claddings, penetrations, and

[10] 16 months previously, at 29 May 2003, the WHRS had received 727 applications from homeowners covering 1616 individual dwellings. These figures, however, are not comparable with the currently monitored 'active claims' because WHRS has applied a different method of counting claims.

window flashings. Risk factors associated with building design include the use of parapets, narrow eaves, complex rooflines, tall structures in high wind zones, balconies or decks exposed in plan, no cavities behind the cladding, and untreated framing timber with low resistance to decay when it gets wet. Various publications, advice and education have alerted the building industry to these risk factors. Recent advice includes the pamphlet *New Weathertightness Solutions – Important Information for People Building or Renovating*. This provides an introduction to the new weathertightness solutions, which apply to most standard houses and low-rise apartments, and refers to the amended E2/AS1. These changes were made following an analysis of cladding systems involved in WHRS claims. This analysis clearly indicated that stucco-style cladding systems have a high failure rate; conversely brick veneer is substantially under-represented in the WHRS data.

The Department continues to track the year of building consent issue for homes exhibiting weathertightness failure. At present, the main period of failure appears to be 1993 to 1999 (Chart 16). Eighty-five percent of claims made to the WHRS relate to buildings for which consents were obtained during this period.[11,12] The time that typically passes before weathertightness defects become apparent may exceed several years, so this distribution may extend to include higher proportions of more recently issued consents as time passes. However, it is predicted that increased industry awareness of weathertightness risk factors, changes in construction practice and changes to E2 will limit the majority of these claims to buildings constructed prior to 2003/04.

Chart 16: Year of Building Consent for Active WHRS Claims



[11] The date the building consent was issued has been identified by the WHRS in 84 percent of all claims. Only this data was used to calculate the distribution.
[12] This data is obtained from WHRS assessment data, which is now available for 866 homes. This compares with the 615 claims for which assessment data was available in June and 284 in April.

Measures to reduce moisture ingress

A major amendment to the E2 (External Moisture) Acceptable Solution was issued in late June 2004 and, following industry consultation, was given an implementation date of 1 July 2005. This change is a significant technical response to the leaky building problem, introducing major change for the industry. A new verification method E2/VM1 was also introduced on 1 July 2004.

A series of seminars on the implementation of changes to E2/AS1 and E2/VM1 was completed during July and August. These seminars were conducted in 23 centres and attracted 3000 attendees. Guidance information and a separate seminar series for building officials on using the E2/AS1 risk matrix were also developed during August. A weathertightness design training course commenced in late September. The course provided training to enable building officials to better understand the principles of weathertightness and apply them in their work, particularly with regard to alternative solutions.

As a result of this publicity, the new standards already appear to be in use among territorial authorities and designers. Therefore, these changes have already proved effective at addressing weathertightness risk.

Measures to improve timber durability

In December 2003 changes to B2/AS1 were introduced, requiring higher levels of timber treatment in parts of buildings more at risk of decay caused by leaking. These changes took effect from 1 April 2004 for new building consents and allowed a one year transition period for all other building work. This transition period has now been amended to allow any building to be completed under the conditions in the original building consent, which is consistent with the principles set by the new Building Act.[13] To ensure that the industry can apply these treated timber requirements correctly, a new booklet designed specifically for builders was published in August. The booklet is called *Timber Treatment Requirements: Notes for Builders* and is designed to help builders use the right level of treated timber in the right place.

Work to improve the structure of high-rise buildings

A number of investigations have been completed into concerns that were raised in early 2003 about a broad range of potential design and construction deficiencies in high-rise buildings. This includes research into the performance of pre-cast concrete floors, slender walls, and the use of cold-worked steel.

[13] Refer to *BIA Update* 42 for further explanation and qualification.

Review of Grade 500E steel performance

A review into the performance of Grade 500E steel was completed in September. Overall, this report found no major concerns with Grade 500E steel material, though some imported product failed to meet the requirements of NZS 4671 Steel Reinforcing Materials. The review did find that construction practice needs improving, particularly the way steel reinforcement is handled, bent and welded. To aid designers, building officials and builders in their understanding and correct use of reinforcing steel, a bar bend measuring device and a wallchart are being produced. Standards New Zealand has also been provided with a report that advises action on bend tests and identification markings to allow easier distinction between various grades and between imported and local product. These recommendations affect NZS 4671 Steel Reinforcing Materials.

In April 2004 Standards New Zealand published amendments to NZS 3101 Part 1 The Design of Concrete Structures and NZS 3109 Concrete Construction to address concerns on hollow-core pre-cast floors and use of reinforcing steel. These amendments have now been cited in Verification Method B1/VM1, which addresses alignment with these standards for the bending and welding of reinforcing steel.

Other building performance issues

High-density housing

The Department is moving to address recommendations made in a report commissioned to examine high-density housing. This includes reviewing aspects of the Building Code and Acceptable Solutions in relation to areas such as hygiene, laundering, food preparation, ventilation, interior environment, airborne and impact sound, balcony sizes, and lifts. These issues are being addressed through the current Building Code review and by a review of G6 Airborne and Impact Sound. The Department response includes consultation with parties associated with apartment development as part of the Building Code review. Enforcement of the current Building Code requirements is also being addressed through territorial authority monitoring.

Fire

A number of recent applications for building consents for high-rise apartment buildings have included proposed Alternative Solutions that involve a single means of escape in buildings beyond the scope of the approved solution. The approved solution currently allows a single means of escape in buildings up to four storeys tall that extends to up to 10 storeys if the building is sprinkler protected.[14] Expert advice is being prepared on a determination involving one of the affected apartment buildings.

For some time now, new international fire engineering guidelines (IFEG) have been under development. This work represents collaboration between Australian, United States, New

[14] Actual building heights are expressed in metres in the Building Code.

Zealand and Canadian Building Code regulators. These proposals have now been released for public comment and, once finalised, are intended for use as a guidance document to assist in the development of Alternative Solutions using fire engineering principles. The IFEG will provide methodologies, data and a process for the development of fire-engineered designs that will increase their quality and consistency. This will be particularly important as a framework to assist in the implementation of the new Building Act requirements for consultation with the New Zealand Fire Service Commission on building consent applications.

Alternative Solutions

Guidance material relating to Alternative Solution proposals, and the issues that need to be considered when assessing Alternative Solutions, was in preparation during the September quarter.[15] This advice will improve awareness among the sector of the policy and administrative considerations of Alternative Solutions and help industry to assess specific types of Alternative Solution. The document specifically targets building officials in local authorities and certifiers. Builders, designers and engineers will also find the document useful when preparing building consent applications involving Alternative Solutions.

Determinations

Since late 2003, a steady stream of weathertightness determinations has been received at a rate of approximately 15–20 requests per month. The majority of these determinations arise from the greater Auckland region. During August and September the number of these requests has increased (10 requests in July, 27 requests in August and 23 requests in September).

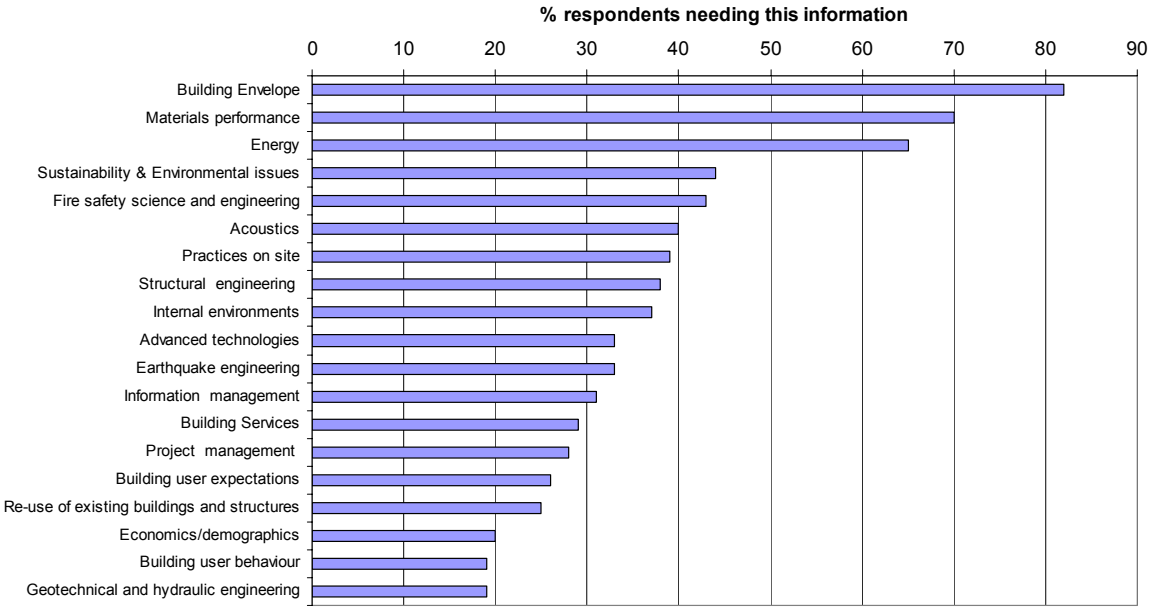
Work has been progressed with some Auckland region TAs to address their use of the determination process and to encourage the submission of comprehensive house condition data with any applications. Work has also been completed with TAs to highlight both the logic behind weathertightness determination decisions and the framework these decisions provide to local authorities in their own consideration of weathertightness compliance.

Industry information needs

Each year BRANZ conducts a needs survey to identify building industry views of areas where new information is needed (Chart 17). Materials performance and building envelope issues are still ranked highly among respondents, as is energy.

[15] Out for public comment.

Chart 17: Information Requirements (General Topics)

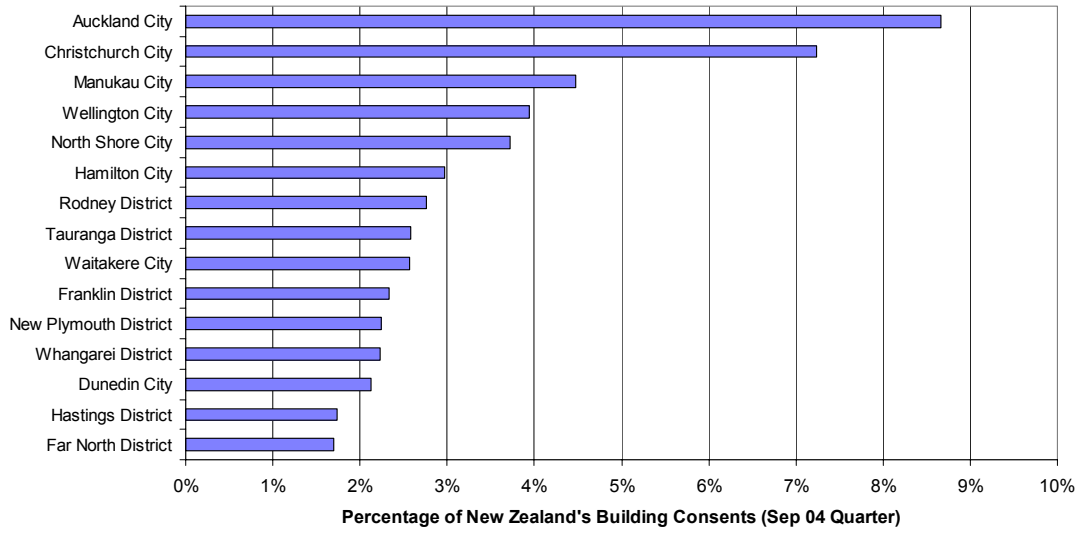


Building Regulation

Volume of building regulation work

Half of New Zealand's building regulation activity is undertaken by 15 of the 74 territorial authorities (TAs). Chart 18 reveals that two additional TAs (the Far North and New Plymouth Districts) are now on the list of TAs that process 50 percent of New Zealand's building consents.[16] The distribution of this work across two additional TAs is due to a reduction in building consent volume among some larger local authorities during the September quarter.

Chart 18: The 15 Territorial Authorities That Processed 50% of New Zealand's Building Consents 1 Jul - 30 Sep 2004



The greatest volume of regulatory activity continues to take place in the Auckland region, with six Auckland region TAs in this list of top 15 by volume. The Auckland region TAs collectively account for 25 percent of New Zealand's building consents. However, the total proportion of all regulatory work in this area has decreased in the September quarter, following a substantial decrease in the number of consents issued by Auckland City. Tauranga also experienced a large decline in the number of consents issued during in the quarter, reportedly attributable to an increase in Impact Fees that came into force on 1 July 2004. The signalled increase in Impact Fees apparently resulted in a heightened demand for consents during the June quarter.

[16] In the June 2004 quarter, only 13 TAs processed 50 percent of all building consents.

Building Code waivers

Section 34(4)(a) of the Building Act 1991 allows a territorial authority to grant waivers or modifications to the Building Code subject to certain conditions. This power has traditionally been used infrequently by territorial authorities. Twenty waivers were issued during the September quarter (Table 8). The July to September figure of 20 waivers compares to a long-term average[17] of approximately 30 waivers per quarter, approximately a third of which are usually issued to Code clause C3.

Once again, C3 waivers feature prominently in the September quarter figures. A common situation leading to a C3 Code waiver is where a building is close to a boundary which requires measures to prevent spread of fire. Where these boundaries are beside public parks or rights of way, or other areas that are not going to be built on, the territorial authority often waives the fire rating requirements. Sometimes though, the title is also marked so that, in the event of any building being erected on the adjacent area, the waiver could be withdrawn. C3 waivers are also sometimes granted for car parks in apartment buildings. Where each car park has a unit title, the Building Code requires a fire wall between adjacent parks. Generally, this requirement is waived by territorial authorities on the condition that nothing, other than a vehicle, is stored in the park.

During the September quarter, five waivers have been issued to Building Code clause E1. These have all related to buildings or additions granted where the proposed building lies in a flood-prone location.

Table 8: Building Code waivers

	C3 Spread of Fire	D1 Access Routes	E1 Surface Water	Total
Hastings District	5	0	0	5
Tauranga City	1	0	3	4
Auckland City	4	0	0	4
Franklin District	0	0	2	2
North Shore City	2	0	0	2
Wellington City	2	0	0	2
Clutha District	0	1	0	1
Total	14	1	5	20

The Department continues to monitor territorial authorities' use of Code waivers to determine whether they highlight any problem with the Building Code or other performance issues.

[17] Refer to *BIA News* no. 132 for a 19-month summary of the Code clause waivers that were notified to March 2002.

Territorial authority and certifier performance

The Department monitors and reviews the performance of territorial authorities and private building certifiers to ensure the maintenance of minimum standards within building control operations. These reviews are structured around five main objectives that address:

- Code compliance
- processes and procedures
- weathertightness
- best practice issues
- communication among territorial authorities/building certifiers and the Department.

During the September quarter, three final reviews were published into operations at North Shore, Auckland and Christchurch City Councils. A number of other reviews have also been progressed.

The reviews have so far identified a number of initiatives that all building control agencies could consider implementing in order to improve the quality of building control and increase their standards of service. The reviews have also identified several areas of weakness in some building control operations and issues surrounding the consistency of Building Act enforcement by some local authorities.

The review programme is being realigned to meet the Department's requirements for monitoring the performance of local authorities and building consent authorities. BCA review work over the next several years will continue to have a strong focus on assisting these organisations to understand the performance requirements to reach BCA accreditation standards and assist individual organisations and groups to meet these standards.

Support has already been provided to several local authorities to foster cooperation between them as they move towards combined service arrangements to become BCAs.

Another initiative to improve building control capacity and capability has been the establishment of a sector-based education and training advisory group to oversee and guide implementation of an education and training strategy for building officials. This strategy includes a path to the development of national qualifications in building control, the development of mechanisms to recognise current competencies held by building officials, and the development of strategic relationships with education suppliers who will develop training opportunities in the new qualifications.

Key building control performance issues

The technical reviews continue to show that assessing weathertightness compliance remains a dominant issue. Whilst there appears to be a growing appreciation of the requirements for weathertightness compliance in the Auckland region, elsewhere the level of awareness of weathertightness requirements still appears mixed.

The reviews have identified that assessment of Alternative Solutions is another area requiring improvement. The Department has now published for consultation guidance information on processes to assist building officials to improve their assessment of Alternative Solution applications.

Reviews show that building control processes place a significant reliance on Producer Statements. The policies and procedures for acceptance of these Producer Statements appear less than satisfactory in some organisations. This issue is being addressed with TAs where specific problems have been identified and the Department is preparing guidance documents on how to manage Producer Statements, how to assess their validity and under what circumstances to accept them. The role of Producer Statements is also being addressed in the design of the accreditation system for BCAs.

Reviews have highlighted ongoing issues in the area of accessibility compliance. The Department continues to provide technical advice to the industry on a case-by-case basis and has made determinations relating to accessibility. The work of the Barrier Free Trust in providing accessibility training in the industry is ongoing.

Resources

Building control operations within TAs have faced the same resource pressures that the wider construction industry has been dealing with over the past several years. Technical reviews appear to reveal an accelerating number of retirements among building officials, difficulty in recruiting skilled and experienced staff, and difficulty in retaining competent staff. Findings also indicate that additional education and training is needed to improve competence in some building control disciplines.

These resource pressures appear likely to continue over the next year or two with construction activity likely not to diminish significantly if the expected increase in non-residential construction comes to pass. Requirements to meet BCA accreditation standards over the next 3 years will also cause demand for skilled resources. The Department continues to assist industry to deal with these issues and has already developed the aforementioned education strategy as one significant initiative.

Review of private building certifier insurance

A review of the building certifier scheme of insurance was initiated in April 2004 with a view to considering what improvements could be made to the operation of the scheme. Industry consultation on this insurance review was completed during September 2004. The review has confirmed difficulties exist in meeting the insurance requirements of the Building Act 1991. This includes problems securing run-off cover and implementing the bonding arrangements when private certifiers cannot secure their own cover. Accordingly, consideration is now being given to addressing new minimum standards of insurance cover required to satisfy legislative requirements. This work is also helping to inform the development of the consumer protection measures required by the new Building Act.

Certifier industry transition

The new Building Act does not allow certifiers to issue or process consents from 31 March 2005, but will allow certifiers to complete work on consents that have already been issued under the 1991 Act.[18] In the future, any private organisations that wish to issue consents or building certificates will need to gain accreditation as a BCA.

These legislative changes, although yet to take effect, have already led some certifiers to wind down their businesses, having decided not to make a transition to the new BCA arrangements. The Department has therefore put processes in place to support certifier closure and to facilitate other transition activity. This has involved encouraging certifiers to talk to territorial authorities about contracting opportunities within the new BCA environment. Already, some territorial authorities have begun considering these opportunities in light of their own need to increase capacity to meet BCA requirements and to cope with any increased demands created by private certifier closures.

Certifier performance management

Disciplinary action was taken against two private building certifiers during the September quarter. Approved Building Certifiers Ltd (ABC) was deregistered following an inquiry into complaints received during 2003. The transfer of all ABC's outstanding work to relevant territorial authorities was completed by the end of September 2004. Issues still remain for owners affected by the closure of ABC in that the documentation from the ABC files has been poor in many cases and this creates difficulties for territorial authorities who must decide whether to rely on the building control work previously completed by the certifier.[19]

[18] However, any certifiers that continue to operate will need to continue to hold an approved scheme of insurance.
[19] At the time of publication, Nationwide Building Certifiers Ltd has closed.