Guidance for risk-based building consenting

Information for the Christchurch City Council Building Consent Authority (BCA) and for the Licensed Building Practitioners (LBP) coordinated by Project Management Organisations (PMO) participating in the risk based consenting system.

Christchurch City Council

CHRISTCHURCH CITY COUNCIL BCA GUIDANCE DOCUMENT		
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1. Introduction

This guidance document provides information and direction for Christchurch City Council's Building Consent Authority (BCA) staff to use risk-based building consenting to assist with remedial (repairs) and rebuild (new building) building recovery work, following the Canterbury earthquake. The document will be amended as forms and supporting documents are further developed.

A requirement of any Project Management Organisation (PMO) to be able to work under this risk-based consenting system is that the PMO signs a Memorandum of Understanding with the BCA. If the PMO does not wish to sign a Memorandum of Understanding then they must operate under the normal BCA consenting practices.

Section 2: **Background** - This document outlines the benefits of the BCA's streamlined risk-based consenting and inspection approach for Canterbury earthquake recovery building work and how this approach is consistent with national-level reforms the Government is progressing.

Section 3: **Overview** - Provides a simple summary flowchart of the stages.

Section 4: **Detail of risk-based consenting** - Provides information about the requirements at each stage:

- Pre-building consent phase
- Building consent application phase
- Construction phase
- Completion of construction - Code Compliance Certificate phase
- Scope of the system
- Rationale for critical checks (plan and inspection)
- Supporting BCA random audits

Section 5: **Issues and risk management** - Outlines some risk management considerations supporting the BCA's risk-based consenting for Canterbury earthquake building recovery.

Appendices 1- 6: Provide further detail, links to associated documents and template forms for use (more will be developed).

This document should be read in conjunction with other information that is available following the Canterbury earthquake: http://www.ccc.govt.nz/homeliving/civildefence/chchearthquake/index.aspx.

2. Background

On 4 September 2010 a 7.1 magnitude earthquake hit the Canterbury region. The earthquake caused widespread damage to homes and buildings and major disruptions to water, power, sewerage services, and other infrastructure. Substantial ground movement occurred in some areas, with many buildings impacted by the 'liquefaction' of the ground beneath the buildings. There were a number of aftershocks which caused further building damage. Subsequently a significant aftershock on 22 February 2011 has resulted in loss of life and considerably more property damage especially in the central business district and residential suburbs in the east of the city and the Port Hills.

Over 150,000 claims to the Earthquake Commission (EQC) were attributed to the September earthquake, to which the February earthquake has added a further 100,000 claims by the 5 April 2011. The majority of dwellings damaged will have minor damage including damaged chimneys and superficial cracking to cladding/linings. Much of this repair work should be exempt from the requirements to obtain a building consent. It was estimated in January that there were approximately 50,000 claims with estimated dwelling damage between $10,000 and $100,000 (exclusive of GST) and 65,000 claims over $100,000 that require major repairs or complete rebuilds. These figures are expected to significantly increase after claims form the February earthquake are assessed.

One of the consequences of this damage is there are thousands of buildings that need remedial or re-build building work for which a building consent will be required. This could result in the Christchurch City Council Building Consent Authority (BCA) being overwhelmed by the volumes of building consents being sought over the next few years. Streamlined building consenting will, therefore, assist with rebuilding following the Canterbury earthquakes.

2.1 Benefits of a streamlined risk-based approach

Streamlining consenting (while not compromising public safety and building quality) for earthquake-impacted buildings will help and free up the BCA's limited building control resources and enable the Council to focus on the more complicated, higher risk work, where a project management approach does not exist. The level of remedial and re-build of residential homes is expected to be significant.

Efficient and streamlined risk-based consenting will enable:

- Home owners to return to their homes earlier, or have them fixed sooner, than if standard general building consenting was used, because of time savings and efficiencies from more streamlined, risk-based, consenting and inspection;
- The BCA to better manage its staff capacity and resourcing needs and allow refocusing of limited building control resource on higher risk building work; and
- Building quality to be maintained by placing primary responsibility on the Licensed Building Practitioner (LBP) for ensuring design work complies with the Building Code and that the construction meets the requirements of the building consent. Building quality will also be maintained by requiring targeted critical consent approval (plans and specifications) and inspection checks to manage the risk of public safety concerns and significant building quality failures.

The definition of a Project Management Organisation (PMO) is an organisational unit working on behalf of an insurance company with responsibility for the central, coordinated management of building projects such as repair and rebuilding of buildings that have been damaged by the Canterbury earthquake. Under the streamlined, risk-based, consenting system, the time and cost of doing sufficient checks outside of the identified critical checks for building work effectively transfers from the Council's BCA to the LBPs working on behalf of the PMO. A PMO approach to the end-to-end building design and construction activities will be applied. Fletchers Building has been appointed by the Earthquake Commission as the PMO for building work in the $10,000 - $100,000 value. The consenting will be managed by one or more entities. Hawkins Limited has been appointed as the PMO for IAG (NZI and State). Arrow International has been appointed as the PMO for AMI. Mainzeal/MWH has been appointed project manager for Vero. Stream has been appointed project manager for Tower. Ireland has been appointed project manager for Lumley. Other PMOs may also be added to this list. The commercial building and project management using a risk-based building consenting model has still to be worked through (see Box F, page 12).

Because the system is not set out in legislation, to implement it on a voluntary basis requires some different processes to the standard building consenting processes that the BCA uses. These are discussed in more detail in **Section 5.0**.

2.2 Consistency with national-level regulatory reforms

Designing a streamlined system is also consistent with developments at the central government level to move to a more streamlined and risk-based building consent system nationally. This means that there will be a number of different pathways for building work, based on the risk posed by the building work in question. This recognises that a 'one-size-fits-all consenting' approach is too restrictive, inefficient and costly given the varied type and nature of different building projects that are undertaken on a day-to-day basis.

A summary of the different pathways taken from *Table 2.1 - Guidance on house repairs and reconstruction following the Canterbury earthquake - 20 December 2010*, is shown below. The pathways that are most relevant to this policy regarding buildings damaged by the Canterbury earthquake are (d) and (e) in the following table. More detail on each of these pathways, including the obligations of building owners and BCAs is provided in **Appendix 1.**

There are some types of projects that are specific to the Canterbury situation, which are not covered by the national reforms. Streamlined consenting covered by this document is specifically for remedial or re-build work on earthquake damaged buildings/properties (the national system does not cover such work specifically). Additionally, a PMO approach to the end-to-end building design and construction activities will be applied. The scope of the system has been detailed in **Section 4.5.**

Summary of the risked-based consenting pathways for building work	
Non-consented building work	**(a) Low risk building work automatically exempted from the usual building consenting requirements because it meets one of exemptions (a)-(j) and (l)-(n) in Schedule 1 of the Building Act.** This essentially covers repair and replacement with comparable material, components or systems, including some structural repairs.
	(b) Low risk type of building work that a council has previously decided to not require consent applications for. Councils use their discretion under item (k) in Schedule 1. Could be applied to any building work and would require councils to publish scope and parameters.
	(c) Low risk type of building work where councils decide on a case-by-case basis to exempt from requirements to obtaining consent. Council use their discretion under item (k) in Schedule 1. Could be applied to any building work, but targeted at LBP designers and builders, with no inspections.
Streamlined consented approach	**(d) Streamlined process for major earthquake damage repairs.** A case-by-case decision is made by the Council to reduce the usual plan checks and inspections (due to criteria such as the competence of the practitioners, location of building, type, nature and complexity of repair work, etc).
	(e) Streamlined process for new-build houses. For new houses within the scope of the Simple House Acceptable Solution (or similar criteria), there will be less of the usual plan checks and inspections (level yet to be determined). These will be agreed between the applicant and Council.
	(f) Repairs and construction of commercial buildings with third party quality assurance. This pathway is targeted at specialist design firms and **construction** companies. The applicant and council agree a risk profile and quality assurance plan, which is then implemented.
Consented building work	**(g)** The standard building consenting, inspection and approval pathway is used for **higher risk building work** or where the other approaches are not **appropriate**.

3. Overview of the risk-based processes

Prior to building consent

PMO ensures that:

- the Design LBP provides a statement that tthe provisions of the building code would be met if the building work were properly completed in accordance with the plans and specifications that accompany the application (see **Section 4.1** and the **LBP Designer statement Appendix 3).**
- there is an appropriately qualified LBP assigned to the building work that will ensure building work is built to the consent documents (this might be the PMO site supervisor)

Building consent application

The BCA:

- checks plans and specifications for code compliance at critical points only (see **Section 4.2 and Appendix 4**). This should include ensuring that the building design is consistent with the DBH's *Guidance on House Repairs and Reconstruction following the Canterbury Earthquake*.
- ensures application is complete (eg Design statement from Design LBP is provided, see **Appendix 3**).
- ensures applications for new-build houses are within the scope of the 'residential 1' definition and applications for earthquake damage repair work is within scope of the DBH's *Guidance on House Repairs and Reconstruction Following the Canterbury Earthquake (2010)*(see Section 4.5)
- considers any relevant PIM considerations and undertakes a planning check to see if a resource consent is required. (Checks ground conditions, flood level, drainage and floor height etc.)
- grants building consent.

The BCA conducts random audits of the designs outside of prescribed plan and specification check points to ensure this work complies with the Building Code..

During construction

The BCA undertakes prescribed inspections while the supervising LBP ensures that all the building work is being carried out in accordance with the consent documents (see **Section 4.3** and **Appendix 5**).

The LBP doing/supervising the building work is responsible for ensuring that the building work complies with the consent documents (each LBP undertaking or supervising building work provides a statement for the building work being covered, see **Appendix 6**).

Statements confirming work meets the consent documents are collected from LBPs during or at the end of construction (see **Section 4.3** and **Appendix 6**).

PMO applies for an inspection file assessment before the final inspection is carried out and at least 5 days before applying for a Code Compliance Certificate,. This will identify any further construction statements that will be required as a part of an application for a Code Compliance Certificate.

The BCA will/may also conduct random audits of work outside of the prescribed inspection points to ensure that work is being built to the consent documents.

Completion: BCA issues a Code Compliance Certificate

PMO applies for a Code Compliance Certificate and provides statements identified by the file assessment. **(See Section 4.4)**

(Note: The BCA will accept producer statements via the Site LBP or PMO from a registered trade eg Certified Plumber, Drainlayer, Gasfitter and Registered Electricians).

BCA undertakes a final inspection.

BCA checks there are no outstanding notices to fix, as-built records required, etc.

BCA issues a Code Compliance Certificate.

4. Detail of risk-based consenting

4.1 Pre-building consent phase

In the pre-consent application phase, the following tasks occur:

- PMO commissions Licensed Building Practitioners (LBP) to design and build the work.
- PMO engages a Design LBP to design the remedial or rebuild (new building) work. PMO checks that the person is a Design LBP (e.g. can check the online LBP Register, New Zealand Registered Architects Register, or CPEng Register).
- The designer signs a statement that the provisions of the building code would be met if the building work were properly completed in accordance with the plans and specifications that accompany the building consent application. Refer to statement template in **Appendix 3**.

4.2 Building consent application phase

- An application for building consent is made with plans and specifications and a statement from a Design LBP[1]. It is suggested that a "Design Summary checksheet" is provided, as shown in Section 4 of the DBH's *Guide to applying for a building consent (residential buildings)* October 2010 edition.
- PMO provides details of the LBP(s) doing the building work with the building consent application. If the LBP(s) doing the building work are not yet known then their details must be provided prior to the first inspection booking.
- The BCA checks the plans and specifications for the clauses of the Building Code that are regarded as critical under this policy. These are discussed in **Appendix 4** and only include:
  - B1 - Structure (could also be covered by a producer statement from a chartered professional engineer)
  - B2 - Durability (could also be covered (in part) by a producer statement from a chartered professional engineer)
  - C - Fire
  - E1 – Surface Water (flood level, floor height will be critical in some suburbs).
  - E2 - External Moisture
- Like all other consents, the Council will check for any project relevant matters by completing a "Development Report" to assess compliance with the City Plan, minimum levels, ground conditions, hazards, etc.
- The primary responsibility for ensuring the building design work complies with **all** clauses of the Building Code rests with the Design LBP at this stage of the process. The five critical Building Code clauses also require a BCA review because they are significant aspects of a building.
- For specific engineering design work it is anticipated that usual industry practice of design producer statements from a chartered professional engineer could operate, thus further reducing the BCA's processing time and work (e.g. PS1 and PS4).
- Where obvious and **potentially significant non-compliance** with the other Building Code clauses, outside of the 5 critical clauses listed above, is identified (despite not specifically assessing these aspects) the BCA can either:
  - Raise these with the PMO prior to lodgement or during processing and seek to resolve the concerns at this stage (it is the PMO's responsibility to liaise with the LBP Designer about significant non-compliance issues), or
  - Having been unable to resolve the issues in discussions reject the application and return it to the PMO, but provide clear reasons why we consider that the safety of people or significant building quality failure will be reasonably likely to occur.
- The BCA acknowledges that the term *"potentially significant non-compliance"* is subjective and broad and will inevitably depend on the facts of each case. However, it will include design non-compliance that affects the safety of people or would reasonably likely result in significant building quality failure, e.g. weathertightness or structural failure. It could also arise from a departure from the consented documents during construction.
- If remedial work to buildings has been designed in accordance with the DBH's *Guidance on House Repairs and Reconstruction Following the Canterbury Earthquake (2010)* then clauses B1 and B2 of the Building Code will be deemed by the BCA to have been met.
- Where architectural plans and specifications are required to detail the remedial works then the DBH's *Guide to Applying to a Building Consent - Residential Buildings* (2010) provides best practice advice on the expected quality of consent documentation. However, for some residential remedial works an alternative level of documentation may be sufficient (e.g. engineer calculations and sketches only for predominantly structural only repair work).

4.3 Construction phase

In the construction phase the following tasks occur:

- The building work commences and the BCA undertakes the critical inspections described in **Appendix 5**. In summary, these include:

[1] If a Design LBP is unwilling to provide a statement the building consent application is treated like a standard building consent with the BCA performing a full and comprehensive plan check and review.

New builds **Critical BCA Inspections**	**Remedial work**
• Foundations • Pre-slab pour • Pre-roof Inspection • Pre-line • Drains • Final	This will depend on the significance of the remedial work: • Some cases might involve less BCA inspections because an engineer is overseeing the construction and the damage is primarily structural work (a record of this should be obtained and kept on file), e.g. a producer statement (construction and review) from a chartered professional engineer will be needed. • If significant replacement of external cladding is included in a building consent, a BCA inspection might be appropriate. Alternatively, statements of compliance from appropriately qualified LBP cladding installers could be obtained. • A final inspection by the BCA is undertaken.

- At the time of each critical BCA inspection copies of all the LBP statements for work completed up to that inspection are collected and given to the BCA
- If the PMO or building owner has changed their mind about being subject to the risk-based consenting process, an application for an amendment to the building consent must be submitted for a full plan check, and appropriate inspections will be scheduled as for the standard process. No work must commence until this amendment has been granted.
- Where an inspection fails because the building work does not meet the building consent, the BCA can issue a Notice to Fix (generally for more major issues) or treat the matter as they would normally with a failed inspection. Most failed inspections will require the inspection to be rebooked once rectification is complete. Prompt engagement with the PMO should be made to help resolve the issue efficiently.
- For a proposed change to the building work after a building consent is issued, a decision needs to be made to whether the changes can be assessed as a minor variation to a building consent or amendment to a building consent. Section 45A of the Building Act enables a BCA to grant a minor variation prior to or during construction without having to go through the formal process of issuing an amendment to a building consent.. Where the change is more than minor the applicant must apply for an amendment to a building consent. See DBH document '*Minor variations to building consents: Guidance on definition, assessment and granting*'.
- If the amendment to a building consent takes the building outside of the general scope:
  - For remedial work, the DBH's '*Guidance on House Repairs and Reconstruction following the Canterbury Earthquake (2010)*', or
  - New Residential buildings within the scope of 'Residential 1'* as defined by the National BCA Competency Assessment System created by the DBH. * 'Residential 1' defined as detached dwellings (SH) designed to a common standard (e.g. NZS 3604, NZS 4229) that are single storey and have an E2/AS1 risk matrix score less than or equal to 6. Also includes residential outbuildings and ancillary buildings as defined by the Building Regulations 1992.

  Then the standard consenting system could be used.
- Where the BCA has serious concerns about the performance of the LBP(s), this will be reported to the PMO and investigated. If the result of this investigation is deemed to pose a significant risk to the compliance of the building, a complaint will be registered with the DBH, a Notice to Fix will be issued, and either:
  (a) an alternative LBP will remediate any deficient work and complete the project, or
  (b) an application for an amendment to the building consent must be submitted for a full plan check, and appropriate inspections will be scheduled as for the standard process.
- There is a possibility that building work outside of the critical inspections could be subjected to a random audit. Refer to **Section 4.7** of this Policy for further information about auditing.

4.4 Completion of construction – Code Compliance Certificate phase

- A request for inspection file assessment is made before a final inspection is carried out and at least 5 days before applying for a Code Compliance Certificate Copies of all LBP statements for work completed up to that point are given to the BCA. Refer to statement template in **Appendix 6.**
- A Code Compliance Certificate is applied for after the final inspection. The PMO ensures all the documentation identified as outstanding is provided. This may include; copies of LBP statements and as-built documentation (e.g. energy compliance certificates, producer statements from engineers, as-built drainage plans, plumbers, gasfitter, drainlayer certificates, etc).
- The PMO will help facilitate and co-ordinate any necessary as-built paper work this, but it will not be signing any certificate as the PMO. Those undertaking the building work will be responsible for this.
- The BCA will check that the statements are by LBPs and that the statements cover all the key building work.
- The BCA will issue a Code Compliance Certificate when all building work has seen completed in accordance with the building consent:
  - All critical inspections have been completed by the BCA; and
  - There are no outstanding matters (e.g. notices to fix); and
  - It has received statements from the building LBPs; and
  - It has received other relevant as-built documentation.

4.5 Scope of the system

Risk-based consenting is proposed to only apply if the following requirements are met:

- The proposed work is either:
  - Major earthquake repairs to buildings in general accordance with the Department of Building and Housing's *Guidance on house repairs and reconstruction following the Canterbury earthquake - 20 December 2010*, **Or**
    New Residential buildings within the scope of 'Residential 1'* as defined by the National BCA Competency Assessment System created by the DBH. * 'Residential 1' defined as detached dwellings (SH) designed to a common standard (e.g. NZS 3604, NZS 4229) that are single storey and have an E2/AS1 risk matrix score less than or equal to 6. Also includes residential outbuildings and ancillary buildings as defined by the Building Regulations 1992.
- All work is to be designed by a LBP (appropriate license class), charted professional engineer, or registered architect and they provide a design statement at the building consent application stage.
- Critical construction work is required to be undertaken by, or supervised under, a LBP (appropriate license class – e.g. carpentry or site supervision). LBPs must provide a construction statement upon completion of their work.
- The building work is managed, end-to-end by an appointed PMO.

4.6 Rationale for critical checks (plan and inspection)

This system in this BCA guidance represents a shift in primary responsibility for ensuring Building Code compliance for a subset of building work away from the BCA and onto the LBP or PMO. However, it is not a total shift as key checks and balance have been incorporated into the new system. These include independent third party (i.e. the BCA) checks at critical design and construction points and a random audit regime.

In developing the proposed list of critical plan, specification and inspection checks by the BCA, the following criteria were considered:

- Feedback during the Building Act Review about the appropriate inspection points for low risk work and ideas for limited plan checks (e.g. plan checks should mirror the critical inspections).
- The checks should cover aspects that could significantly affect the stability or durability of the building (e.g. foundations, structure, cladding) or have higher risk life safety implications or which could significantly impact on building quality.
- The checks should cover off areas where poor compliance has been identified in the industry (e.g. weathertightness).

The identified critical design and inspection checks are outlined in **Appendices 4 and 5.**

4.7 Supporting BCA random audits

The BCA will be supporting risk-based consenting for earthquake damaged buildings but implementing an audit regime aimed at the processing and inspection points in the overall design and construction process. A risk-based approached will be taken to undertaking random audits of PMO jobs. This will be based on the performance history, nature of the job, competency of LBPs. An overall random audit will be undertaken by the BCA. If any further audits are needed because of issues found by the BCA, then the BCA will charge extra to the fixed fee for these extra audits.

Random audits are third party checks on selected design and construction work that has been undertaken under risk-based consenting. This includes both approved plans and specifications by Design LBPs **and** on-site construction work undertaken or supervised by LBPs. Random auditing is a way of checking the effectiveness of the risk-based consenting process. The results should provide a reasonable representation of what is happening.

Targeting of our audits will consider factors such as:

- Randomly selecting processing and inspection examples of work, where appropriate;
- Targeting known areas of risk (e.g. identified areas of recurring non-compliance or practitioner performance history);
- Responding to emerging non-compliance themes.

The BCA will undertake sampling audits across both the design and/or construction components. The BCA's random audit programme:

- Will follow some building work projects through to completion, visiting the site on a regular basis to check for compliance with the consent;
- Will include samples of:
  - Checking the entire plans and specifications (including critical plan check points) for Code Compliance. Our audits should detect any trends in poor Code Compliance.
  - Checking building work outside of non-critical inspection points during construction.

For risk-based consenting, it is also particularly important that some random auditing of the non-critical inspection points are undertaken to ensure that the practitioners and the PMOs are performing appropriately in these areas. This addresses the following risks:

- The deterioration in performance outside critical inspection points because practitioners know the BCA is primarily focusing on the identified critical points. With a random audit programme, practitioners know that their work may be checked for consent compliance outside of these critical areas, ie it provides a deterrence value;
- A failure to identify emerging trends in those areas of non-compliance outside the critical inspection points. For example, if there are product shortages and practitioners are using non-specified products to ensure the job is completed quicker. This is of particular importance in the Canterbury earthquake recovery context where there may be some unique pressure drivers that could impact on building quality, e.g. a risk of influx of unskilled labour being used to meet building demand.

Undertaking audits

The BCA has power to review consent documentation and undertake inspections as part of its generic responsibilities under sections 48-51 and 90 of the Building Act 2004.

The BCA may appoint or approve other parties to undertake audits as it recognises the benefits of using external and independent building control consultants to perform these. This frees up internal staff to focus on core business and brings an element independence and impartiality to the audits. Such an approach still allows a feedback loop where the auditors can communicate their findings to the BCA for training and performance improvement initiatives. The personnel undertaking random audits need to be technically qualified in Building Code compliance and building legislative requirements and have a proven ability to identify and resolve non-compliance.

The auditor must not audit design or construction work that they have previously certified.

What happens with the information?

The information is collated and any trends will be identified by the BCA to test if the risk-based system is working. Follow-up and ongoing liaison with the PMO should occur to ensure that learning's from the audits are communicated back to the PMO and viable solutions to remedy any problems are identified and implemented.

If the BCA identifies non-compliance during an audit (e.g. the plan is not Code compliant or work is not compliant with consent) we will:

- Advise the practitioner on-site so they can rectify the issue (and we will record this communication).
- Advise the PMO site-supervisor so they can ensure the issue is rectified (and we record this communication).
- Use the standard enforcement tools (e.g. site instruction notice, notice to fix, etc if the non-compliance is not remedied).
- Feed the information back into the BCA's audit system to ensure trend and issues identified and managed.

Cost recovery of the audit function

Like standard consenting quality assurance processes, the auditing activities are a valid cost of having the risk-based process and can therefore be legitimately passed on in the application fee. Those selected for audit should not be charged a separate audit fee. The cost of the random auditing process should be included in the building consent application fee or cost recovered according to the BCA's funding policy.

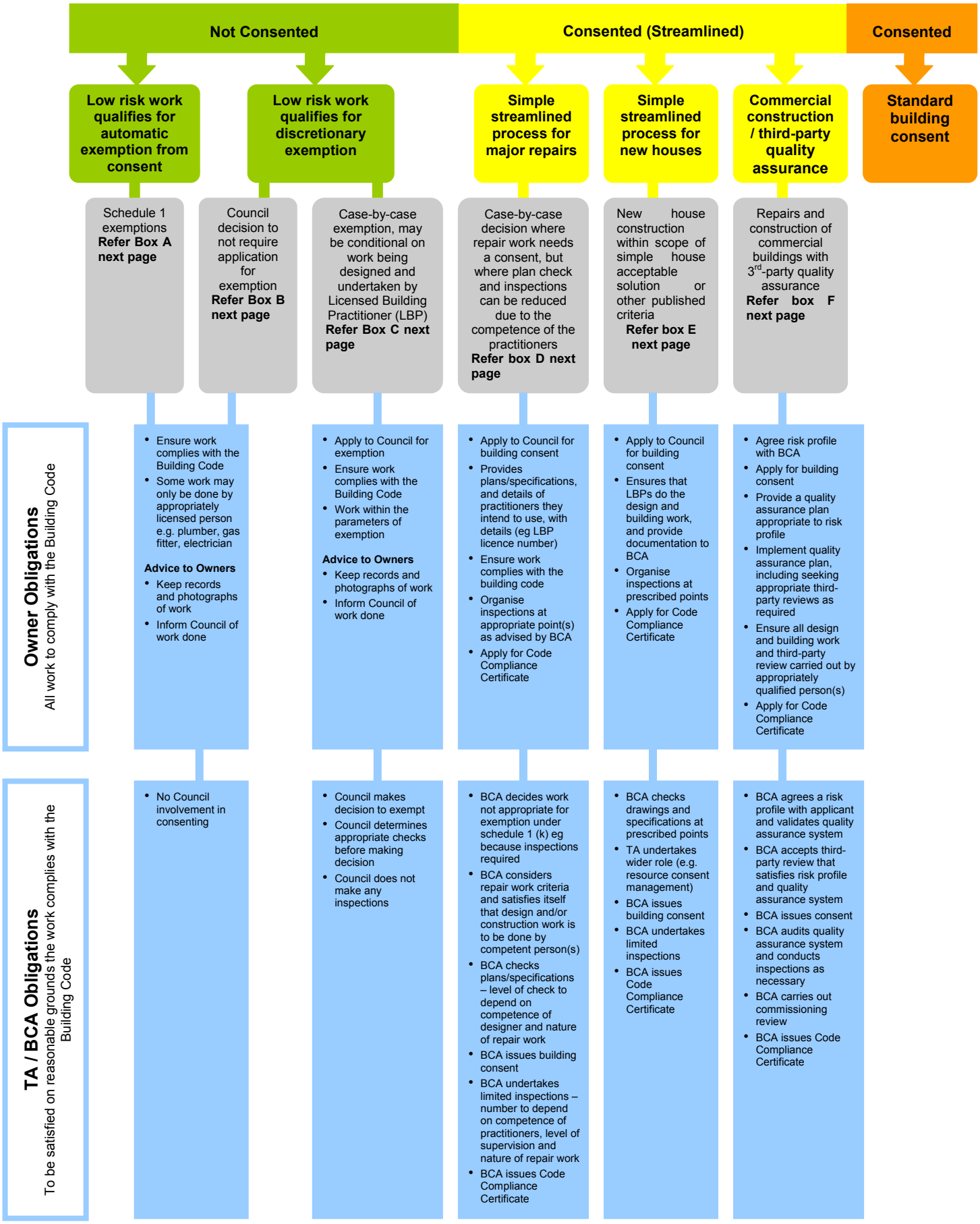
5. Issues and risk management for the risk-based system

Like with all consenting systems there are risks and issues that need to be mitigated to help ensure good quality and compliant building work is achieved. Some of the considerations supporting the BCA's risk-based process for Canterbury earthquake building recovery work are noted below:

- The scope of the risk-based consenting system is quite tight and manageable. It covers simple (low weathertightness risk) residential buildings and major earthquake repairs in general accordance with the Department's published technical solutions.
- The system provides an end-to-end project managed approach with a dedicated project manager (the PMO) as opposed to the BCA having to interact with multiple designers and constructors on each project.
- The system has an improved level of assurance that competent practitioners are undertaking or supervising the design and construction work (e.g. LBPs, chartered professional engineers, and registered architects will do the work).
- The sector has been, and will continue to be, provided with technical solutions from the DBH to undertake much of this work, ie:
  - The DBH's Guidance on House Repairs and Reconstruction following the Canterbury Earthquake (2010), or
  - The compliance document for simple housing *Simple House Acceptable Solution (2010)*
  - The DBH's Guide to Applying for a Building Consent (2010).
- The BCA's third party checks at critical points are being applied.

- The BCA's audit programme will support risk-based consenting and provides another check and balance in the system.
- The standard consenting pathways can be applied if other parties are not fulfilling their obligations (e.g. poor quality consenting applications are being lodged; recurring non-compliance is occurring, or performance issues with practitioners, etc.
- The practitioners (whether licensed or not) involved in the EQC Canterbury Earthquake recovery programme of work will be under contract to EQC – a government agency. This provides an additional level of accountability for their performance and the quality of their work that would not otherwise occur under the standard building consenting model. Like with all practitioners, they are also covered by the implied warranties under the Building Act 2004.
- There are other unique incentives on the PMO and licensed building practitioners to do good quality work under this system than perhaps would otherwise be the case. A central government agency is a key stakeholder with a significant investment to protect. The Government as a whole is concerned to ensure the Canterbury rebuild work is undertaken to a high quality and the people impacted are not exposed to safety risks or building work where normal quality considerations are compromised. Potential reputational risk on the PMOs will also help create an incentive to ensure the work is code compliant.

PATHWAYS FOR BUILDING WORK



Box A **Low risk work qualifies for automatic exemption from consent**

- List of work exempted from consent, Building Act Schedule 1 (a) – (j) and (l) – (n)
- Essentially allows for repair and replacement with comparable materials, components or systems, including some structural repairs
- E.g. Would enable demolition and repair of chimney, repairs to roof structure and cladding and installation of heatpump; replacement of an isolated and/or a small proportion of the total number of piles
- For more details see: http://www.dbh.govt.nz/UserFiles/File/Publications/Building/Building-Act/building-work-that-does-not-require-a-building-consent-short-guide.pdf

Box B **Low risk work qualifies for discretionary exemption (prior Council decision to not require**

- Building Act Schedule 1 (k)
  (i) is unlikely to be carried out otherwise than in accordance with the building code; or
  (ii) if carried out otherwise than in accordance with the building code, is unlikely to endanger people or any building, whether on the same land or on other property.
- Requires prior Council decision and publication of scope and specified parameters - eg, for Christchurch City Council, see: http://resources.ccc.govt.nz/files/B390ExemptionInformationSheet.pdf
- Could be applied to ANY work

Box C **Low risk work qualifies for discretionary exemption (case-by-case)**

Building Act Schedule 1 (k)
(i) is unlikely to be carried out otherwise than in accordance with the building code; or
(ii) if carried out otherwise than in accordance with the building code, is unlikely to endanger people or any building, whether on the same land or on other property.

- Targeted at LBP designers and LBP builders, with no inspections
- E.g. repair of structural damage to concrete foundations
- Could be applied to ANY work

Box D **Simple streamlined process for major repairs**

- Repair work that needs a consent, but where plan check and inspections can be reduced due to the competence of the practitioners doing the work
- Criteria for BCA to take into account:
  - Level of damage (eg yellow, red placards after earthquake assessment)
  - Location of building
  - Building type and use
  - Complexity of repair work
  - Methodology/technical approach proposed by applicant
  - Competence of persons put forward to the work
- Recognised practitioners would include
  - Chartered Professional Engineer (CPEng)
  - Registered architect
  - LBP Designer
  - LBP (Carpentry, Roofing, Brick and Blocklaying, Foundations)
  - LBP Site (for site supervision purposes)
  - Technical specialists (such as remedial structural expert, slab repair expert)
- Plan Check and Inspections – limited in scope based on the use of LBPs
- Eg levelling of concrete slab-on-ground houses and repair of damaged structural systems (bracing elements eg gib); reinstatement of collapsed floors; strengthening of damaged masonry elements

Box E **Simple streamlined process for new houses**

- Based on Simple House Acceptable Solution (or similar criteria)
- Limited prescribed checks on plans (to be determined)
- Limited prescribed inspections (to be determined)
- Could incorporate variant for MultiProof

Box F **Commercial construction / third-party quality assurance**

- Risk profiles to be determined
- Targeted at established large or specialist design firms and construction companies
- Eg repair of damaged structural masonry

APPENDIX 2

INDEX OF RELATED DOCUMENTS

Non – consented work

http://resources.ccc.govt.nz/files/B390ExemptionInformationSheet.pdf

http://www.building.dbh.govt.nz/bc-no-consent

http://resources.ccc.govt.nz/files/B004ApplicationForExemptionFromBuildingConsent.doc

Streamlined building consents

Application for building consent
http://resources.ccc.govt.nz/files/B002ApplicationFormBuildingAndPIMConsents.doc

Design summary checksheet
http://www.dbh.govt.nz/UserFiles/File/Publications/Building/Building-Act/guide-to-applying-for-a-building-consent.pdf

Producer statement – Construction (PS3) template
http://resources.ccc.govt.nz/files/B085b_ProducerStatementPS3.doc

Minor variations to building consents
http://www.dbh.govt.nz/UserFiles/File/Building/information%20for/Guidance-on-minor-variations.pdf

General

Link to DBH guidance document on *Guidance on house repairs and reconstruction following the Canterbury earthquake*
http://dbh.govt.nz/UserFiles/File/Publications/Building/Guidance-information/pdf/guide-canterbury-earthquake.pdf

Please note that the Council has a continuous improvement system, and that not all available associated guidance will be shown in this appendix.

APPENDIX 3

LICENSED BUILDING PRACTITIONER STATEMENT
FOR DESIGN WORK TO RISK-BASED BUILDING CONSENTS

Street address of property/building for proposed work: .....

.....

Owner of property of proposed building work: .....

Description of design work: .....

.....

DESIGN LBP DETAILS:
Name *(please print)*: .....
LBP Design License Number *(if applicable)*: .....
LBP Licensing Classes held: .....
Registered Architects Number *(if applicable)*: .....
Chartered Professional Engineer *(if applicable)*: .....
Mailing Address: .....
Street Address / Registered Office: .....
Phone: LANDLINE: ..... MOBILE: ..... DAYTIME:..... AFTER HOURS: .....
Email Address: .....

I, *[add name of LBP Designer here]* ..... certify that the that the design work I undertook or supervised as described above would meet the provisions of the building code if the building work were properly completed in accordance with the plans and specifications that accompany this application;

And/or if applicable
The design is in general accordance with the Department of Building and Housing's *Guidance on House Repairs and Reconstruction Following the Canterbury Earthquake Guide (2010);*

And/or if applicable
The design is within the scope of 'Residential 1' defined as 'detached dwellings (SH) designed to a common standard (e.g. NZS 3604, NZS 4229) that are single storey and have an E2/AS1 risk matrix score less than or equal to 6. Also includes residential outbuildings and ancillary buildings as defined by the Building Regulations 1992'.

And/or if applicable
The design meets the consent documentation requirements in the Department of Building and Housing's *Guide to Applying for a Building Consent (2010)*

Signed: ..... Date:.....
(Design Licensed Building Practitioner)

Useful Notes:

- *If you were working under the supervision of another Licensed Building Practitioner, you should agree with the LBP if they will provide a statement for the work or if you are to provide a statement for the work you did.* ***Lack of provision of statements is likely to compromise the issue of a Code Compliance Certificate.***
- *If there are several LBPs working on a particular aspect, all should provide a statement stating what they did unless there is a supervising LBP that provides a statement for all the work.*

APPENDIX 4

BCA's CRITICAL PROCESSING PLAN AND SPECIFICATION CHECKS

This Appendix specifies the critical plan and specification (building consent processing) checks that the BCA will undertake under the risk-based consenting process for building work as a result of the Canterbury earthquake.

Critical BCA compliance checks

The BCA will check the plans and specifications for compliance with the following critical Building Code clauses:

Code Clause	Compliance:
B1 Structure *– Demonstrate how the building withstands likely loads, including wind, earthquake, live and dead loads (people and building contents).*	Compliance: Check details of framing (walls including balustrades, roof, and floor) and bracing. Drawings, specifications, product information, calculations, schedules.
B2 Durability *– Confirm the use of materials that will remain functional for the minimum periods specified (5, 15 or at least 50 years).*	Compliance: Check information on the materials used, e.g. timber treatments; and location of these materials. Also consider the compatibility of the materials. Drawings, specifications.
C Fire Safety (C1 Outbreak of Fire) *– Confirm the safe installation of solid fuelled fixed appliances.*	Compliance: Provide information on the appliances (including installation instructions). Specifications, product information.
E1 Surface Water – *Confirm the method of disposal of surface water; for example, rainwater from external surfaces, and demonstrate that surface water cannot enter the building.*	Compliance: Provide details of site and floor levels, also size, location, and type of material of spouting, gutters, downpipes and surface water drainage. Drawings, specifications, product information.
E2 External Moisture – *Demonstrate that the design and detailing of all external roof and wall claddings and external openings will prevent external moisture from causing undue dampness or damage.*	Compliance: Check details of all roof and wall cladding, including all different junctions, wall and roof penetrations, window and door installations. Drawings, specifications, product information, calculations, schedules.

Points not to be routinely checked by the BCA

Unless there are potentially significant non-compliance issues with the other Building Code clauses outside of the above critical clauses (or non-compliance is found in an audit) the BCA will not check the following when processing streamlined risk-based building consents:

Code Clause	Compliance:
D1 Access Routes – *Demonstrate safety of entry/exit to the building and the safety of any internal or external stairs and slip resistance.*	Compliance: Provide details of stairs, ramps, handrails, etc. Drawings, specifications, product information.
E3 Internal Moisture – *Confirm that surfaces in wet areas are durable enough, easily cleaned and designed to resist moisture; and that ventilation and the space temperature are sufficient to avoid the excessive build-up of moisture.*	Compliance: Check information on the materials used (e.g. wall linings to wet areas, type and rating of insulation). Drawings, specifications, product information.
F2 Hazardous Building Materials – *Confirm that the appropriate selection of glass and glazing methods, to ensure the safety of building users.*	Compliance: Provide information on the glass and glazing methods. Drawings, specifications, product information
F4 Safety from Falling – *Demonstrate the safe design of all barriers (including handrails and balustrades) inside and outside the building (note: includes the design of swimming pool fences under the Fencing of Swimming Pools Act 1987).*	Compliance: Provide details (in conjunction with B1) of all barriers (handrails & balustrades). Drawings, specifications, calculations, product information.
F7 Warning Systems – *Confirm that appropriate means of detection and warning for fire is provided.*	Compliance: Provide information (including location of) on the smoke detectors/fire alarms. Drawings, specifications, calculations, product information.
G1 Personal Hygiene – *Demonstrate that there are sufficient sanitary fixtures (toilets, showers and basins) for cleanliness. Also located to provide appropriate privacy and provide a healthy safe disposal system.*	Compliance: Provide details (including dimensioned layout) of bathrooms, toilets, ensuites, etc. Drawings, specifications, product information.

G2 Laundering – *Demonstrate the provision of adequate space and facilities for laundering.*	Compliance: Provide details (including dimensioned layout) of laundry. Drawings, specifications.
G3 Food Preparation and Prevention of Contamination – *Demonstrate the provision of adequate space for, and safe and hygienic facilities for storage, preparation and cooking food.*	Compliance: Provide details (including dimensioned layout) of kitchen. Drawings, specifications.
G4 Ventilation – *Confirm that there is the required natural or forced ventilation to all occupied spaces.*	Compliance: Provide information on ventilation. Size and location of opening window sashes, doors, fan sizes in relation to size of occupied spaces, Drawings, specifications, calculations, product information.
G7 Natural Light – *Confirm that sufficient natural light is provided to occupied spaces and there is the appropriate visual awareness for the occupants.*	Compliance: Provide information on natural light. Size and location of windows & doors in relation to size of occupied spaces. Drawings, specifications, calculations, product information.
G8 Artificial Light – *Confirm the minimum lighting levels in access routes.*	Compliance: Provide information on lighting to hallways and at entry/exit doors. Drawings, specifications, product information.
G9 Electricity – *Confirm safe distribution and use of electricity.*	Compliance: Provide information on safe distribution and use of electricity. Specification references to Electrical Wiring Regulations, work done by registered tradesmen and supply of works certification.
G10 Piped Services – *Confirm the safe distribution of gas.*	Compliance: Provide information on safe distribution of gas. Specification references to Gas Regulations, work done by registered tradesmen and supply of works certification.
G11 Gas as an Energy Source – *Confirm the safe installation of gas-powered appliances.*	Compliance: Provide information on the appliances (including installation instructions). Specification references to Gas Regulations, work done by registered tradesmen and supply of works certification, product information.
G12 Water Supplies – *Confirm the safe supply (avoidance of scalding and backflow), storage, reticulation and heating of water.*	Compliance: Provide information on how water is heated. Drawings, specifications, calculations, product information.
G13 Foul Water – *Demonstrate the safe and sanitary collection and disposal of foul water and the prevention of foul air from entering the building.*	Compliance: Provide details of the plumbing & drainage system. Drawings, specifications.
H1 Energy Efficiency – *Confirm there is an efficient use of energy where it is used to modify temperature and humidity by providing adequate thermal resistance and limiting uncontrollable airflow to the building envelope. Also efficient use of energy where it is used to provide hot water .*	Compliance: Provide details of type of insulation (including glazing) and how these are determined. Drawings, specifications, calculations, product information.

Additional advice on plans and specifications for simple residential buildings

The drawings and specification should fully describe the intended construction of the building.

The specification should complement and not contradict the drawings. Information on the drawings need not be repeated in the specification and vice versa. A brief description on the drawings (i.e. a note) should be backed up by a full description in the specification. Technical trade literature may be included as part of the specification.

It is recommended that designers utilise the DBH's *Guide to Applying for a Building Consent (2010)* as the benchmark for an acceptable consent application, where plans and specifications are warranted. Note, some earthquake repair work may only be structural in nature, in which case for residential only applications, CPEng sketches and calculations only may be appropriate

The drawings and specifications should include details about:

- **Components** - Provide a full description of all components and how they are to be fixed and installed. This should include grade, treatment and finish information.

  Example: 90 x 45 timber studs at 600mm centres, grade MSG8, treatment H1.2. (Trusses should include truss manufacturers fixing details).

- **Materials** - Provide a description of all the materials and how they are to be fixed or installed, include treatment and finish information where relevant. This could be by:

a. A general description of materials using terminology found in compliance documents such as the Simple House Acceptable Solution, or
b. Compliant brand / manufacturer / make.

Examples:
a. Asymmetrical trapezoidal profile metal roofing, BMT 0.4mm, G550 grade with an Aluminium-zinc A150 finish fixed with 12 gauge roofing screws every crest at 650 centres (add fixing and installation information).
b. Dimond Longrun Veedek roofing, 0.40mm thick with Colorsteel Maxx finish (add fixing and installation information as specified by the manufacturer).

- **Products** - Provide a description of all the products, where and how they are to be installed. This could be by:

a. A general description of products using terminology found in compliance documents such as per the Simple House Acceptable Solution, or
b. Compliant brand / manufacturer / make / model, or
c. Manufacturing standard (which are listed in the relevant acceptable solutions)

Examples:
a. Install a wash hand basin in the bathroom
b. Install a Clearlite Stratum vanity unit in the bathroom
c. WHB to AS/NZS 1730 in the bathroom

Plumbing and Drainage

- Plumbing Design - Specify what standard is used for the plumbing design G13/AS1 or AS/NZS 3500.2 or another. Or if both used, define which part is to what design standard.
- Drainage Design - Specify what standard is used for the drainage design G13/AS2 or AS/NZS 3500.2 or another. Note: Terminal vent /drain vent requirements differ.
- Waste, Soil & Water Supply Pipes - Specify size, fall and type of material; include the NZS, e.g. PVC pipes to AS/NZS 1260. Also include tub/washing machine pipe arrangement. Both water (hot and cold) supply and waste pipes. Alternatives ok.
- Pipe Insulation - Specify insulation to pipes for energy efficiency and for frost protection (if required).
- Hot Water Heater - Specify type and energy source of water heater, e.g. electric instantaneous water heater complying with AS/NZS 3350.2.
- For HWC, detail drains from TPR valve CWE valve (i.e. terminate over gully) and detail or specify seismic restraint.

APPENDIX 5

CRITICAL INSPECTION CHECKS BY THE BCA

This Appendix specifies the critical inspections that the BCA will undertake under the risk-based consenting process for building work as a result of the Canterbury earthquake. Six critical inspections will be undertaken.

1. Excavation/Foundation/Reinforcing

For example:
- check ground conditions for bearing capacity
- check placement and tying of reinforcing steel (for strip footings)
- check siting of building, particularly when within 1m of the boundary
- etc

The ground conditions and foundations are fundamental to how well a structure will perform in a natural disaster.

2. Pre-slab pour

For example:
- check damp-proof course, placement and tying of reinforcing steel/ mesh
- check under-slab sanitary plumbing
- check drains
- check floor level in relation to surrounding ground and surface water
- etc

The slab is an integral component of how well a building will perform structurally.

3. Pre-roof Inspection

For example:
- check all connections, including hold-downs for bracing elements
- etc

This completes the structural aspects of the build.

4. Pre-line

For example:
- check weather-tightness issues for wall/ roof claddings, external joinery and associated flashings
- check moisture content of timber
- check first-fix plumbing
- etc

The primary focus of this inspection is to reduce the risk of property damage as a result of water ingress through the external envelope.

5 Drains

6. Final inspection

As per the BCA's normal final inspection process.
Items that may also need to be checked at this stage include smoke alarms to comply with F7, hot water cylinder installations with uncontrolled heat sources (i.e. wetbacks and solar, solid fuel burning appliance installations and fencing of swimming pools. These items if installed incorrectly may have serious implications in terms of life safety and/or property damage/ financial loss

Notes:

Note 1: The BCA has the option to undertake random inspections whenever they consider them necessary (dependent on the knowledge and competence of the licensed building practitioner).

Note 2: A Chartered professional engineer may be engaged to oversee construction in accordance with any specific engineering design. The engineer shall provide a producer statement (PS4) to confirm compliance with the NZBC.

APPENDIX 6

LICENSED BUILDING PRACTITIONER STATEMENT

FOR UNDERTAKING OR SUPERVISING THE BUILDING WORK UNDER RISK-BASED BUILDING CONSENTS

Project Address: .....

Building Consent Number: .....

Owner: .....

LICENSED BUILDING PRACTITIONER DETAILS:
Name *(please print)*: .....
LBP License Number: .....
LBP Licensing Classes held: .....
Plumber, Drainlayer or Gasfitter Registration *(if appropriate)*: .....
Mailing Address: .....
Street Address / Registered Office: .....
Phone: LANDLINE: ..... MOBILE: ..... DAYTIME:..... AFTER HOURS: .....
Email Address: .....

I, ... *[Add name of LBP]* undertook or supervised the following building work and confirm that it is in accordance with the building consent documents and any variations to the building consent that have been approved by Christchurch City Council.

Description of building work undertaken or supervised: .....

.....

(provide an additional sheet if necessary)

Or, tick the appropriate boxes below:

Building Work:

Foundations

- ☐ Siting
- ☐ Piles (subfloor)
- ☐ Concrete slab
- ☐ Raft foundation
- ☐ Masonry block / bond beam
- ☐ Tilt-slab
- ☐ Strip footing
- ☐ Retaining wall
- ☐ Excavation/fill

Structure/ Structural framing:

Weathertightness (cladding):

- ☐ Insulation
- ☐ Pre-wrap
- ☐ Post-wrap
- ☐ Cavity batten
- ☐ Brick veneer
- ☐ Post-line (sheet bracing element fixing)
- ☐ Waterproofing

Signed: ..... Date:.....

(Licensed Building Practitioner)

Useful notes:

- *If you were working under the supervision of another Licensed Building Practitioner, you should agree with the LBP if they will provide a statement for the work or if you are to provide a memorandum for the work you did.* ***Lack of provision of statements is likely to compromise the issue of a Code Compliance Certificate.***
- *If there are several LBPs working on a particular aspect, all should provide a memorandum stating what they did unless there is a supervising LBP that provides a memorandum for all the work.*