BUILDING PERFORMANCE

Guidance

National Building Consent Authority Competency Assessment System

May 2026

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Te Kāwanatanga o Aotearoa
New Zealand Government

Ministry of Business, Innovation and Employment (MBIE)
Hīkina Whakatutuki – Lifting to make successful

MBIE develops and delivers policy, services, advice and regulation to support economic growth and the prosperity and wellbeing of New Zealanders.

More information

This document is issued as guidance under section 175 of the Building Act 2004.

While MBIE has taken care in preparing the document it should not be relied upon as establishing compliance with all relevant clauses of the Building Act or Building Code in all cases that may arise.

This document may be updated from time to time, and the latest version is available from MBIE's website at www.building.govt.nz.

Information, examples, and answers to your questions about the topics covered here can be found on our website: www.mbie.govt.nz or by calling us free on 0800 24 22 43.

Disclaimer

This document is a guide only. It should not be used as a substitute for legislation or legal advice. To the extent permitted by law, the Ministry of Business, Innovation and Employment (MBIE) is not responsible for the results of any actions or omissions taken on the basis of information in this document, or for any errors or omissions.

ISBN: 978-1-99-104191-3 (Online)
ISBN: 978-1-991409-94-2 (Print)

May 2026

Document status

The most recent version of this document (Version 2), as detailed in the document history, is approved by the Chief Executive of the Ministry of Business, Innovation and Employment (MBIE). It is effective from May 2026 and supersedes all previous versions of this document.

Document history		
Status	**Date published**	**Amendments**
Version 1	June 2010	–
Version 2	May 2026	Revised and updated

Version Management and Ongoing Updates

The NCAS is a living document. MBIE will periodically update it to reflect legislative changes, and any insights gained through MBIE's role in administering the Building Act.

The first edition of the NCAS was published in 2010. This is the second edition. As noted above, this version incorporates changes to the building regulatory system and includes the following specific changes.

Overview of Changes in Version 2

Version 2 incorporates changes to the building regulatory system and includes the following key updates:

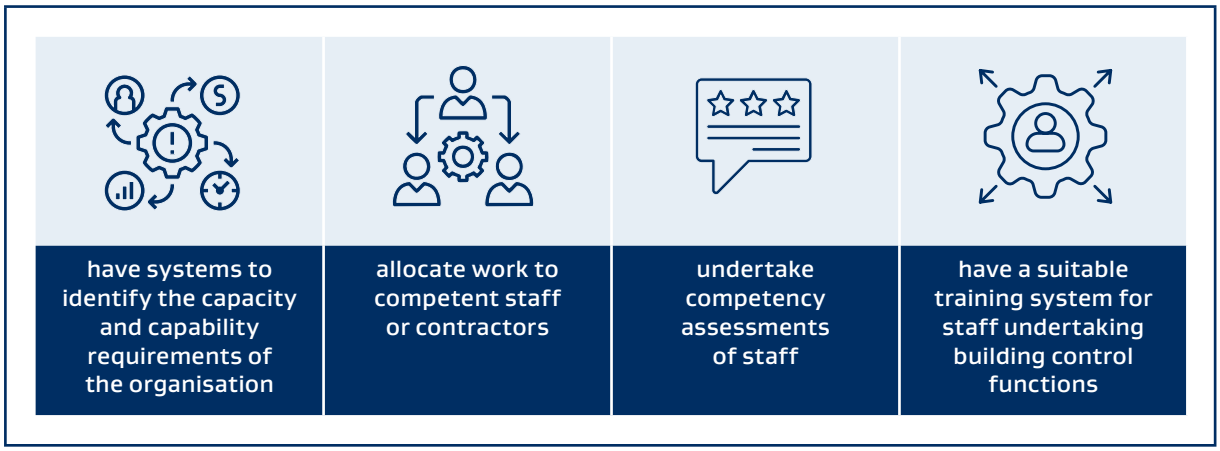
a. Introduction of specific competencies for Building Control Officials (BCOs) who perform building control functions on Large Dams.
b. Incorporation of the 2024 amendments to the Regulations, including the transition from an annual to a biennial competency assessment cycle.
c. The competency specifications for the residential and commercial competency levels have been condensed into a single table for each grouping, meaning that steps in competence are now clearer and more obvious. Six separate competency levels have been retained, but the largely repetitive areas of 'core competency' in each of the six levels have been condensed into two consolidated competency specifications.
d. The notion of 'core competencies' for the residential and commercial competency groupings has been introduced, which better reflects the steps in competence and ability a BCO should possess from Residential 1 – Residential 3 and Commercial 1 – Commercial 3.
e. 'Assessment types' have been better clarified (eg assessment of a new candidate, no level change etc) as have assessor requirements.
f. Competency requirements for offsite manufacturing (OSM) or modular component manufacturing (MCM) have been better clarified in this version.
g. For clarity, the system includes detail on specific engineered design (SED) and alternative solutions and how these are viewed under the NCAS.
h. There is more detail on 'building importance levels' for each of the six competency levels.
i. An improved and more logical numbering system has been applied to competency specifications, which now links back to each of the regulations under 10(3)(a)-(f) of the BCA regulations.
j. A hybrid residential level of competence has been included to accommodate those who are processing, inspecting or certifying medium density housing (MDH).
k. Some of the tools or templates included in V1 have been removed (eg 'the candidate evidence form') with a preference to use naturally occurring evidence (technical audits etc) when, and wherever possible.
l. Revision of the glossary of terms to better explain and clarify key concepts used throughout the document.

Contents

1. Introduction and purpose

The National (Building Consent Authority) Competency Assessment System (NCAS) was developed by the Ministry of Business, Innovation and Employment (MBIE) to help Building Consent Authorities (BCAs) meet the requirements of the Building (Accreditation of Building Consent Authorities) Regulations 2006, (referred to in this document as the regulations). Regulations 9, 10, 11 and 12 require BCAs to have systems in place to allocate building control functions to competent staff (and contractors), to establish the competency of its employees, to undertake competence assessments for staff at least once every two years, and to have a suitable training system in place.

The BCA Accreditation Regulations require a BCA to:



This version of the NCAS was developed by MBIE to be used by BCAs (who are part of a territorial authority (TA) or regional authority[1] (RA)), standalone BCAs and 'Accredited Organisations (Building)' (AOBs), which are organisations that have been accredited by International Accreditation New Zealand (IANZ) but are not registered by MBIE as a BCA.

The NCAS is provided as guidance. While it is not mandatory, it is a benchmark for good industry practice by BCAs and IANZ (as the appointed accreditation body for the BCA accreditation scheme).

The original version of the NCAS was developed by the Department of Building and Housing (DBH), and published in 2010, following consultations and pilots with a number of BCAs. The DBH was interested in establishing a new national system to provide consistency across the country, as different BCAs had previously developed their own systems independently. It urged all BCAs to adopt the new version established in that document.

A major government goal is achieving national consistency in administering the Building Act 2004 (the Building Act), Building Code and Building Regulations. The NCAS contributes to this goal by identifying the competencies required to undertake building control work across the country. As well as providing national consistency, a common system enables BCAs to share services during times of peak workload.

This new version of the NCAS also incorporates changes to the building regulatory system since the first edition was published, such as changes to building regulations, Acceptable Solutions and Verification Methods. It also discusses the competencies required to assess Large Dams in more detail.

1. RA that consent Large Dams.

What is in this document

The document is broken up into three main parts: an introduction, an outline of the NCAS framework and an explanation of the national levels and competency assessment system. Appendices provide the tools (templates, competency specifications, work allocation flowcharts) to plan, undertake and complete a competency assessment.

Hyperlinks are provided for cross-reference within this document and to external websites. These hyperlinks appear with a blue underline.

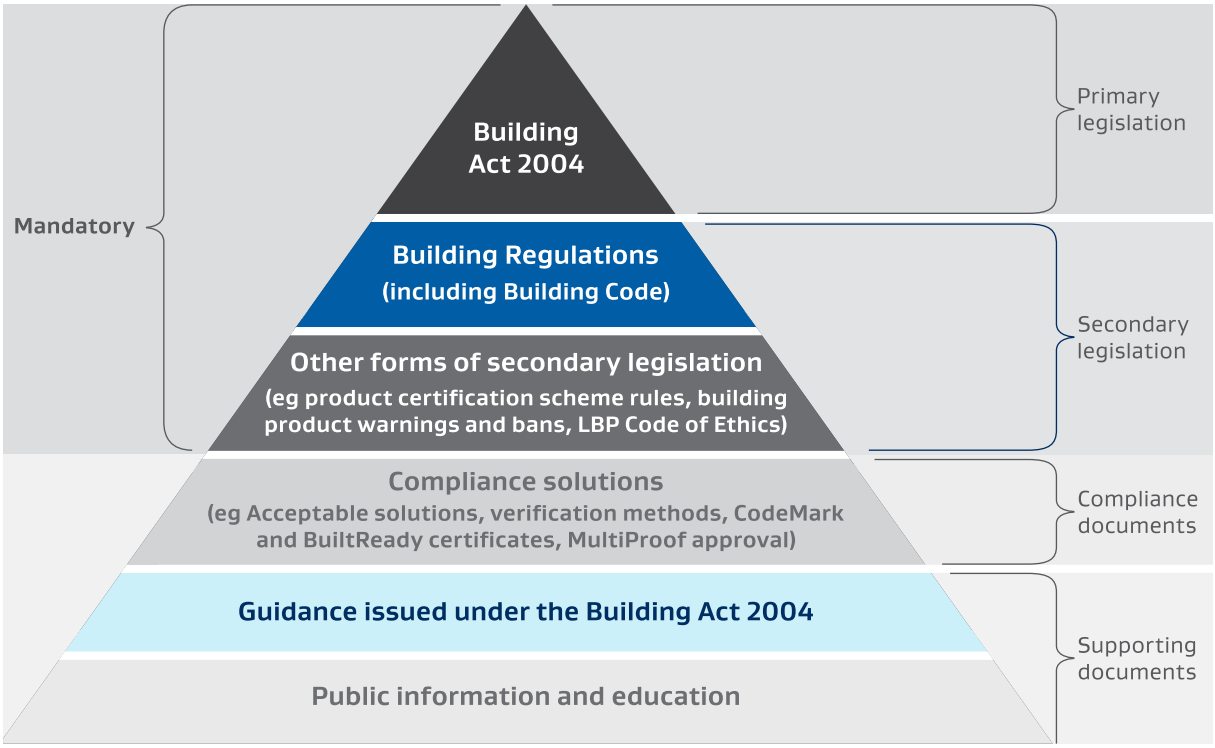
Limitations of this guidance

This document is intended as a resource to support BCAs with the interpretation and application of the BCA accreditation regulations as they relate to competency assessment.

While MBIE has taken care in preparing this guidance, it is not intended to be a definitive or an exhaustive guide. Importantly, it should not be read as replacing the relevant legislation. Users should refer to the Building Act, Building Code, and the Regulations as the primary source documents.

Figure 1 below illustrates where this guidance document sits within the building regulatory system under the Building Act. The lower light blue shaded section highlights guidance issued under the Act, including the NCAS, and shows how it fits alongside other supporting compliance and regulatory documents rather than within primary or secondary legislation.

Figure 1: The building regulatory system



Acknowledgements

This guidance has been prepared by the Building System Delivery and Assurance Team at MBIE, with support from a number of BCAs and other stakeholders. We would like to acknowledge and thank those who have contributed to the development of this guidance.

2. System framework

The National (Building Consent Authority) Competency Assessment System (NCAS) is made up of what is known as 'competency levels' for BCA employees (and contractors) who carryout building control functions. There are three competency levels for residential buildings, commonly referred to as Residential 1, Residential 2 and Residential 3 (sometimes abbreviated to Res 1, Res 2 and Res 3, or R1, R2, and R3) and three levels for commercial buildings, referred to as Commercial 1, Commercial 2 and Commercial 3 (or Com 1, Com 2 and Com 3, or C1, C2 and C3).

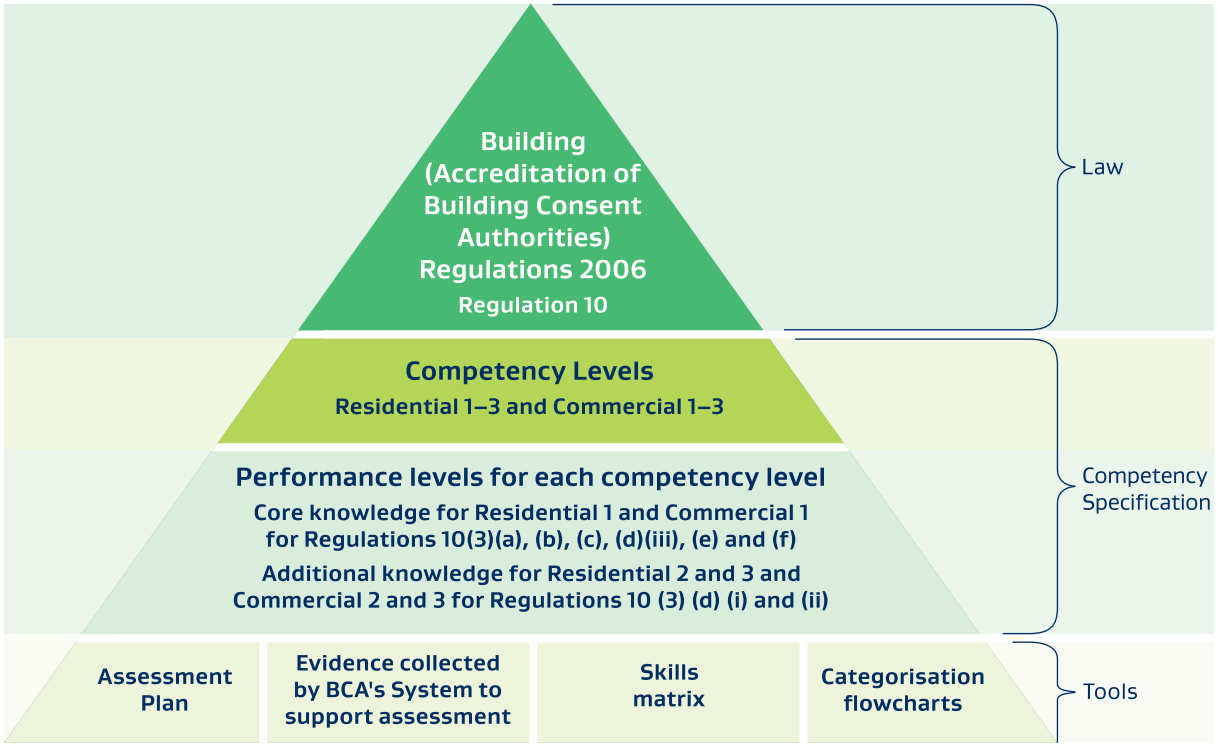
The competency levels Residential 1 and Commercial 1 encompass the core competencies a BCO should hold in order to undertake their building control functions. The other levels require further knowledge and experience, as set out in this document. This is illustrated further in Figures 2, 3 and 4.

The NCAS also includes:

- an assessment plan to help plan and record the outcome of all candidate assessments (Appendix 1)
- work allocation (skills matrix – Appendix 2) and other tools included in Figure 2 such as categorisation flowcharts to help BCAs to allocate work to suitable staff and contractors (Appendix 5)
- guidance on how to meet competency level requirements, performance indicators and assessor guidance on how to interpret these for each competency level (Appendix 3)
- competency requirements for those involved in consenting Large Dams (Appendix 4) desired system requirements for ICT system providers (Appendix 6)
- assessor criteria and requirements (Appendix 7), including a glossary of terms.

Figure 2 – NCAS framework

Figure 2 illustrates the NCAS, showing regulatory requirements, competency levels with performance indicators and assessor guidance. The system is supported by assessment tools including plans, skills matrices for summarising assessment outcomes, and categorisation aids to guide work allocation.



3. Competency levels

The NCAS comprises three residential competency levels and three commercial competency levels. The levels have been further refined into the following functions: processing, inspecting and certifying. Processing and inspection functions have been further defined by building, plumbing and drainage competencies.

Each of the six levels represent significant steps in technical and regulatory knowledge and building type complexity. As mentioned earlier, Residential 1 and Commercial 1 include the core knowledge that is required for processing, inspecting and certifying building work.

As a general rule, Residential 1 and Commercial 1 contain the '**core knowledge**' required to satisfy Regulations 10(3)(a)-(f) of the Regulations, with the exception of processing applications for building consent (Regulation 10(3)(d)(i)), inspecting building work (Regulation 10(3)(d)(ii)) and certifying building work (Regulation 10(3)(d)(iii)).

The knowledge required to achieve competency at the higher levels builds on the core knowledge and requires additional knowledge to satisfy 10(3)(d)(i), (d)(ii) and (d)(iii). The competency levels Residential 2 and Commercial 2 are described in this document as having a '**higher level knowledge**' and Residential 3 and Commercial 3 as having an '**advanced level of knowledge**'. These steps in knowledge are built into the competency levels in Appendix 3 and the relative steps or movement between each of the levels is best illustrated in Table 1. In the below example, Table 1 outlines some of the key technical and regulatory aspects of Regulation 10(3)(b): Understanding and knowledge of building products and methods.

Decision-making goes from simple to more complex analysis with each level step. The levels identify specific areas of Building Code and regulatory knowledge as it relates to the type of construction.

Certain areas of core knowledge are common to both the residential and commercial areas of practice. Some building officials may elect to maintain a range of competencies within both the residential and commercial areas, depending on their level of experience and their BCA's size and needs. However, there are also some specific areas of knowledge that are not common to both. For example, those undertaking residential work will be unlikely to work on issues to do with industrial liquid waste, specified systems or mechanical installations for access. Similarly, BCOs whose focus is commercial work may elect not to maintain currency of practice in everyday residential construction practices.

There are also some regional or local differences – for example in Wellington, BCOs may be expected to have an understanding of compliance matters to do with cable cars.

Where a specialist commercial processor (BCO) seeks to maintain an existing residential competency, they do not need to practice in that field on a regular basis. Instead, they must be assessed as having the ability to process applications of that type, as governed by regulation 10(3)(d)(i) of the Regulations. In that case, an assessor must therefore ensure their assessment of the BCO accommodates the employee's **ability** to maintain their residential skillset as well as their commercial.

The six levels are colour-coded throughout the NCAS to further distinguish them from each other ie **Res 1**, **Res 2**, **Res 3** and **Com 1**, **Com 2**, **Com 3**.

BCAs may elect to use similar colour-coding for allocation and tracking of consents in their own system.

Figure 3 – Residential competency levels

Figure 3 illustrates the residential competency levels, beginning with Residential 1, and extending to Residential 2 and 3. It highlights applicable Regulation 10(3) clauses and notes exceptions relevant to higher levels.

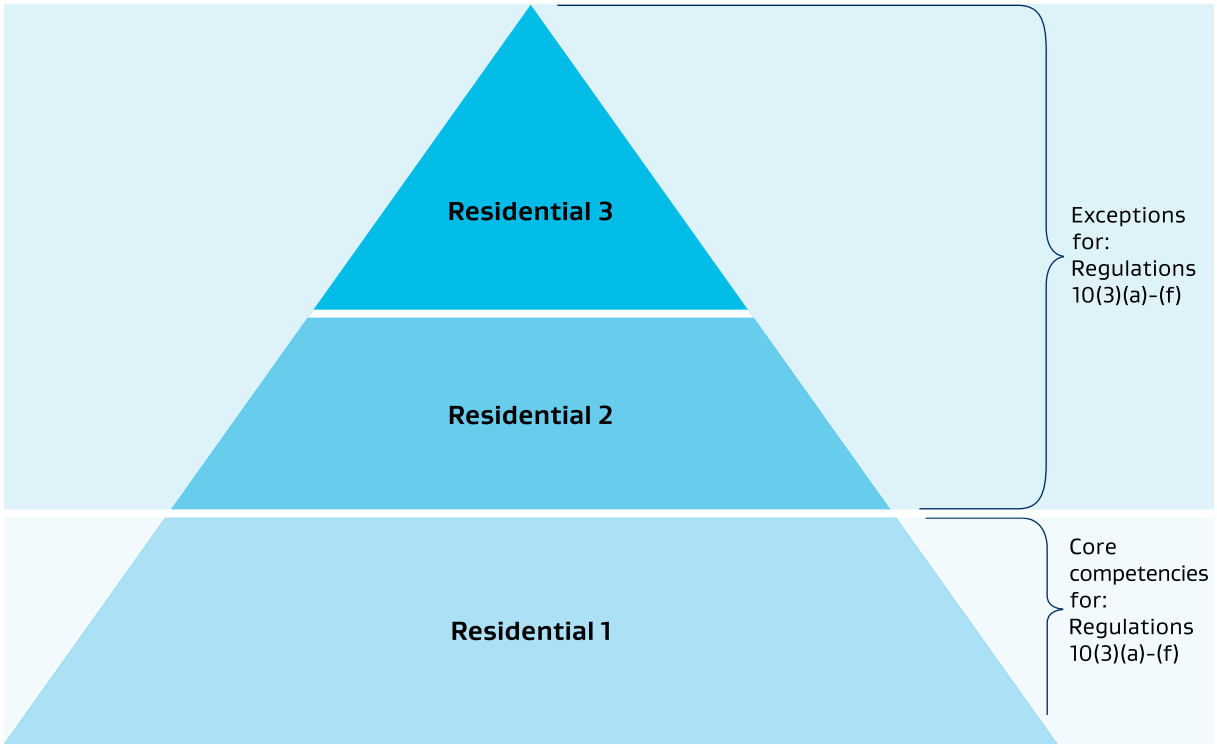
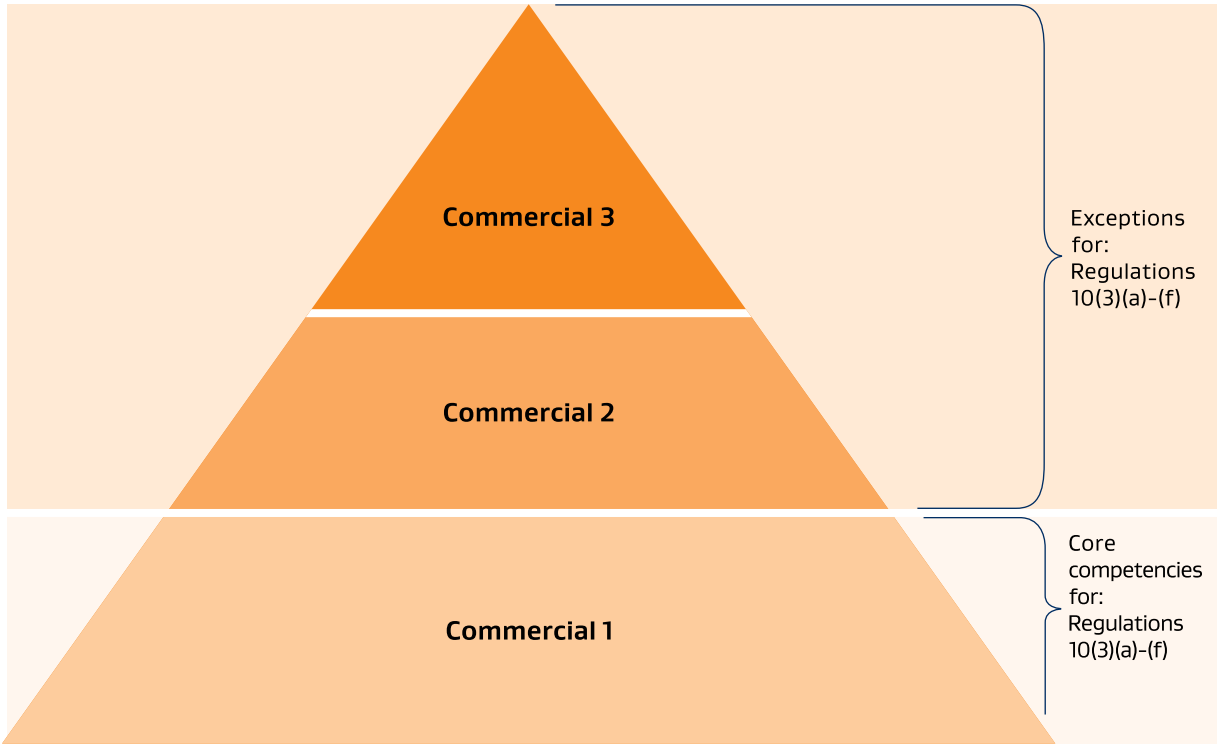


Figure 4 – Commercial competency levels

Figure 4 illustrates the commercial competency levels, beginning with Commercial 1, and extending to Commercial 2 and 3. It highlights applicable Regulation 10(3) clauses and notes exceptions relevant to higher levels.



In some situations, there is no notable step in competence between one level and another in relation to a particular performance indicator. Where this is the case, a comment has been provided to this effect in Table 1 below and applicable cells have also been 'greyed out' in Appendix 3A and Appendix 3B to further clarify this point.

In a building control context, competency refers to the combination of knowledge, skills and abilities that enable a BCO to perform tasks (building control functions) or their role effectively.

- **Knowledge** what a person knows (eg scope of technical expertise, procedural awareness, regulatory nous)
- **Skill** what a person can do (eg use of problem-solving, application of technical skills, demonstrated ability to communicate effectively)
- **Ability** the capacity to perform tasks (eg ability to apply analytical or critical technical thinking (being satisfied on reasonable grounds) and judgement in performing an inspection or assessing a building consent application. This knowledge, skill and ability can be demonstrated at a '**core level**', '**higher level**' or '**advanced level**' of understanding, as is illustrated below in Table 1, in Figure 5 and Figure 6 throughout the NCAS.

Table 1 – Steps in competence between residential levels

(The example below is based on the tables in Appendix 3. However, Table 1 seeks to demonstrate how Appendix 3A and Appendix 3B function in practice).

This table also introduces the standardised NCAS competency numbering system, which provides a consistent and logical structure for referencing competencies across residential building work. The numbering system reflects the relevant building type, regulatory reference, and competency area, and supports clarity and consistency in assessment, reporting, and navigation of competency requirements.

Also refer to the 'competency levels' commentary above and Figures 5 and 6 below.

Regulation 10(3)(b): **Understanding and knowledge of building products and methods.**		
3. Comprehends and has satisfactory knowledge of proprietary systems and building products for this type of building work.		
4. Demonstrates the ability to research, analyse and assess building methods and products associated with this type of building work.		
Residential 1 ***(core knowledge)***	**Residential 2** ***(higher level of knowledge)***	**Residential 3** ***(advanced level of knowledge)***
Core knowledge areas may include, but are not limited to: **R1-Bp1** Has an understanding of commonly used building materials, (proprietary (common) building products/methods)) and systems (eg pre-nailed truss and frames, conventional cladding/ drained cavity, flashing and bracing systems, timber and light steel building products etc) used in residential building work.	Has a ***higher level*** of understanding in respect of: **R2-Bp1** Has a higher-level of understanding with respect to material composition, product performance and demonstrates the ability to identify and evaluate the durability/ performance of alternative solutions as it relates to this category of buildings.	Has an ***advanced level*** of understanding in respect of: **R3-Bp1** Has an advanced-level of understanding in relation to building product performance, material composition and building methods used for this building category (eg is able to decipher complex technical information, often dealing with complex alternative solution methodologies). Has a well-developed understanding of when to seek out third-party verification (peer review/cite past determinations, etc) in order to establish Building Code compliance and be satisfied on reasonable grounds (SORG).
R1-Bp2 Has an understanding of building product information requirements (BPIRs) and which building products are 'designated building products' for the purposes of the BPIR regulations and sections 9A and 9B of the Building Act.	**R2-Bp2** Has a higher-level understanding of building products and building methods (and their means of compliance) as they relate to buildings in this category eg inter-storey structural floor systems, exterior cladding systems to 7metres in height etc.	**R3-Bp2** Has an advanced-level of understanding in relation to test methods used to illustrate compliance for these types of buildings (eg façade testing requirements for complex external envelope designs, fire and sound-rated walls assemblies (building methods) used for separating household units/tenancies).

Residential 1 *(core knowledge)*	**Residential 2** *(higher level of knowledge)*	**Residential 3** *(advanced level of knowledge)*
R1-Bp3 Has a well-developed understanding of the Building Act as it relates to building methods for establishing compliance with the Building Code.	**R2-Bp3** Has higher-level of understanding and is able to decipher and interpret complex technical information when and where required in order to establish Building Code compliance.	**R3-Bp3** Has an advanced-level of understanding in relation to building methods (eg understands the compartmentalisation of cladding systems over multiple levels (7 plus metres in height) to ensure suitable levels of durability, drying, drainage and deflection are achieved).
R1-Bp4 Understands the implications of a building product or building method having a warning or ban issued against it under section 26 of the Building Act. Is aware of any applicable warnings or bans that relate to building products or methods which might be used in residential buildings.	**Note** – as mentioned on the previous page, as there is no notable step in competence between the subsequent level, this level, and the next level in relation to section 26 of the Building Act, the cells for Res 2 and Res 3 have been 'greyed out'. Indicating R1-Bp4 is 'core knowledge' that is equally applicable to all three residential levels.	

Growth in knowledge and competency under the NCAS model is further explained in Figures 5 and 6 below. As is illustrated, as knowledge grows, so does competency as each level builds on the demonstrated level of knowledge and practical experience of the previous level.

Note – the guidance provided in Table 1 for R1-Bp1 – R3-Bp3 offers examples of what an assessor might consider in their assessment and is not intended to act as a step-by-step inventory of what needs to be assessed. This is because an assessment in this context is a sampling exercise that examines a candidates (a BCOs) body of knowledge, evidence-base, experience, qualifications etc with respect to the applicable areas of Regulation 10(3) being assessed. In this instance, the assessment relates to a BCO's understanding and knowledge of building products and methods. It is ultimately the two 'performance indicators' that must be satisfied here rather than the host of examples provided in the guidance.

Emphasis should be placed on quality of evidence over sheer quantity, as a smaller, well-chosen set of evidence is often more effective in demonstrating a BCO's competence. Less is often more in this regard.

Figure 5 – Growth in Residential (RES) competency under the NCAS model

Figure 5 Illustrates how BCOs can progress in their residential competency, with each level building on the knowledge and practical experience of the previous level.

Note – much of the 'core-knowledge' in residential is common or relevant to commercial work. However, there are some distinct differences which is best illustrated below where medium density housing (MDH) is weighed up. Figures 7 and 8 refers.

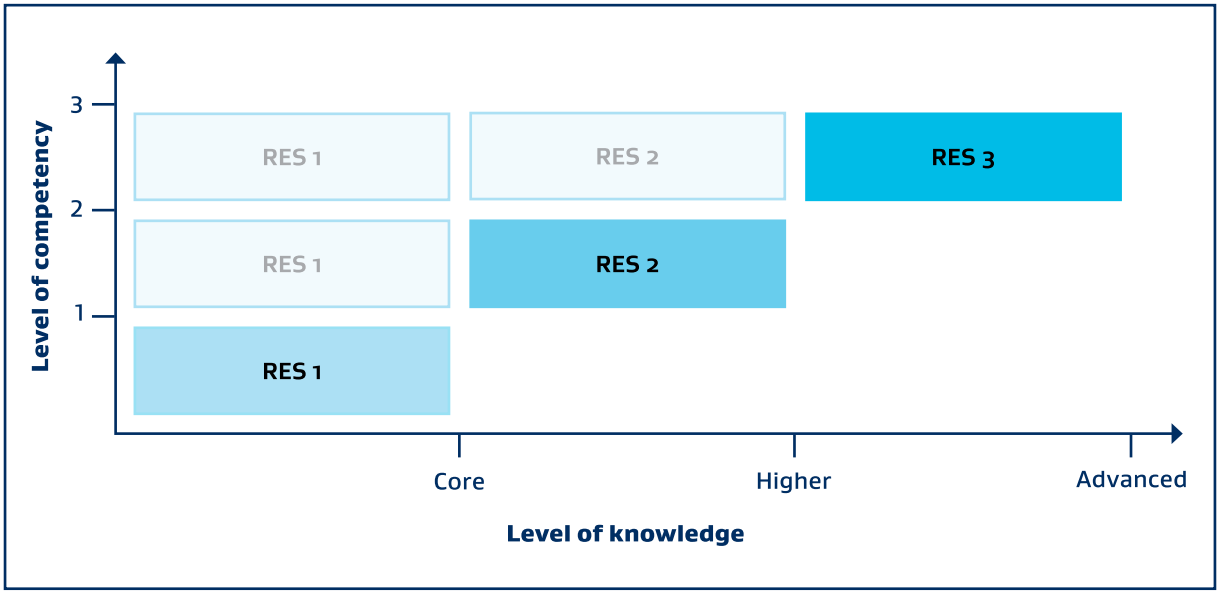
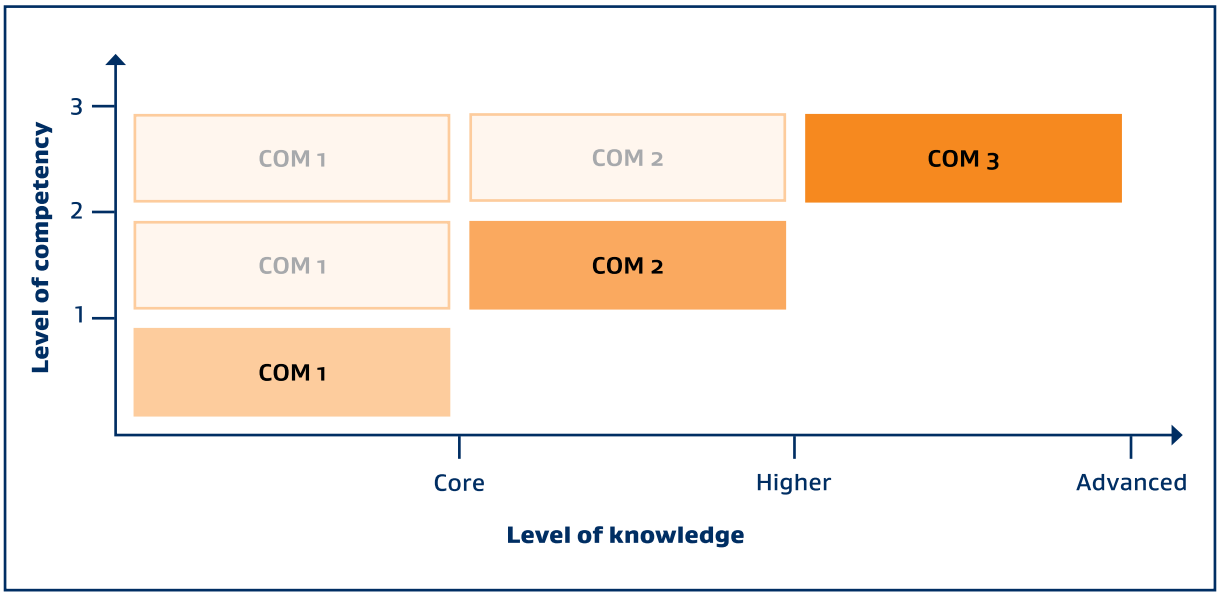


Figure 6 – Growth in Commercial (COM) competency under the NCAS model

Figure 6 illustrates the growth that BCOs could make in Commercial competency. Each level builds on the demonstrated knowledge and practical experience of the previous level.



The competency levels are all underpinned by both technical and regulatory considerations. A number of measures were considered when developing the levels, including:

- **building type and use**, as described in clause A1 of the Building Code
- **building use group**, as defined in Schedule 2 of the Building (Specified Systems, Change the Use, and Earthquake- prone Buildings) Regulations 2005 (for example, sleeping single home (SH), sleeping residential (SR), crowd large (CL), etc)
- **the risk scores and evaluation matrix** included in Building Code Acceptable Solution E2/AS1 External Moisture
- **use of an Acceptable Solution or Verification Method** (or by incorporation of a cited Standard), and the notion of 'building to a common standard'
- **structural importance level** ('IL 1-5') as defined in AS/NZS 1170, (NZS 3604 for IL1 and IL2) and clause A3 of the Building Code
- **building height**, which is measured by the number of storeys both above and below ground (note in a residential sense 'maximum building height' is tied to the relevant metrics in NZS 3604 and the NASH Standard Part 2). Note, this is also influenced by metrics from E2/AS1 with respect to cladding systems that are fitted over a drained and vented cavity system
- below ground (subsurface) floors/storeys
- occupant load and life safety (such as potential for risk or injury to building user).

The competency levels have been designed to capture most building work occurring across New Zealand and in a range of building typologies. However, innovative and unusual building designs or methods will also be produced and may not readily fit the defined levels. So, rather than create new levels to accommodate these uncommon building types, BCAs should determine the competencies required to undertake the work and allocate the work to appropriate staff member(s) or a contractor with the appropriate competencies. To this end, the increasing use of medium density housing (MDH) and its impact on the NCAS is covered below.

Because the system has been developed to cover a common range of building activity in New Zealand, some BCAs may find they have no building activity at a described level. This may mean they will choose not to operate and assess staff against those levels. However, their procedures will still need to note that if work outside their respective level of operation was to be submitted for consent, alternative arrangements need to be made to have the work processed, inspected and certified. This could be achieved through a contract arrangement with another accredited BCA[2], AOB or a contractor.

Elements of Specific Engineered Design (SED) and Alternative Solutions

In undertaking building control work, BCOs commonly consider elements of Specific Engineered Design (SED). This often involves the acceptance of third-party verification or producer statements, which in turn usually requires confirmation of the level of construction monitoring that is to take place during construction.

SED has a broad range of complexity. It relates to a calculation or a design method that is normally beyond the scope of an Acceptable Solution. Many BCAs acknowledge this spectrum by allowing commonly used methods of construction to be employed across competency levels (eg commonly encountered engineered pod or waffle slab systems, engineered frames and trusses, simple proprietary engineered beams or a garage door beam with a loaded dimension or span beyond the scope of NZS3604). For the purposes of the NCAS this is known as being 'designed to a common standard'.

Likewise, common alternative solutions (for example, vertical cladding junctions between dissimilar cladding types) should be included at Residential 1, where applicable. Bearing in mind E2/AS1 does not provide any generic vertical flashing details for these types of cladding intersections. In a low-risk Residential 1 context, a BCO should be familiar with the "4 Ds" (drying, drainage, deflection and durability) and be able to navigate this degree of complexity as it is a core competency.

Similarly, E2/AS1 does not directly account for timber or uPVC joinery. However, the principles being applied in the assessment of such commonly encountered joinery systems are largely universal[3].

2. This could be a BCA who is part of a TA or a standalone BCA.
3. Refer to MBIE's 'SORG' guidance, section 9

Medium Density Housing (MDH)

Medium density housing (MDH) is a hybrid field of building control competence. Much of the skill, knowledge and expertise that is needed to process, inspect and certify this type of building work is captured in Residential 3. However, as the scale and complexity of this type of building work increases, a number of core and specific technical competencies do not feature in the residential group of competencies. Rather, these competencies specifically relate to commercial methods of design and construction. These include horizontal and vertical plane fire and acoustic separation (inter-tenancy walls and floor systems), familiarity with specified systems, greater use of active ventilation, more complex integration of building services, a shift in the standard of energy efficiency, building façade adjustments where building height is greater than three storeys and a higher prevalence of specific engineered design. These competencies tend to extend beyond typical Residential 3 knowledge and understanding.

MDH can also accommodate greater use of modular component manufacturing (MCM) and offsite manufacturing (OSM), which brings additional levels of complexity. MDH also brings in a new vocabulary such as row housing, duplex, triplex, multi-unit, sausage flats, walk-up apartments, courtyard housing, group housing and perimeter block housing. MDH can exist as side-by-side or stacked household units which can make it difficult to classify and allocate correctly.

To better accommodate this growing part of the sector, MBIE have introduced into version 2 of the NCAS a 'Residential 3 MDH extension'.

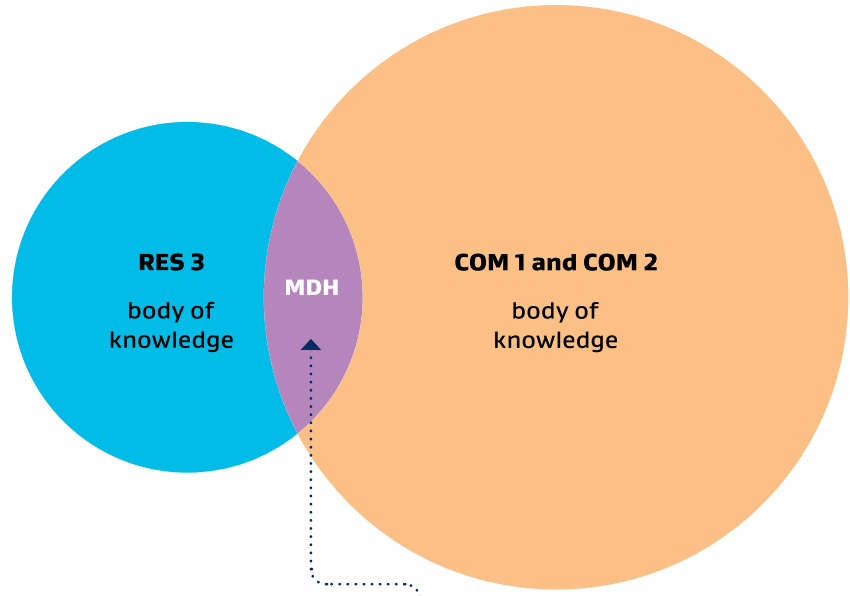
Where such an extension is part of the BCO's competency outcome they are able to undertake building control functions on 'Residential 3 MDH'. However, the Residential 3 MDH extension does not include mixed-use situations, communal residential or community care.

Competencies that are deemed applicable to Residential 3 MDH are marked as such in Appendix 3A.2: Commercial 1 Core Competency Requirements with Commercial 2. Also refer to Table 4 – Assessment types for further information.

As above, Appendix 3A.2 incorporates some additional MCM/OSM requirements for BCOs involved in processing, inspecting and certifying building work that includes the use of more complex modular components. Refer to Figure 7 which covers the intersection or MDH overlap between Residential 3 and Commercial 1 and 2, while Figure 8 conveys how the 'Residential 3 MDH extension' is viewed via the residential competency grouping in the NCAS.

Figure 7 – MDH Venn Diagram

Figure 7 shows the intersection of MDH skills/knowledge relevant to the residential and commercial competency groupings.

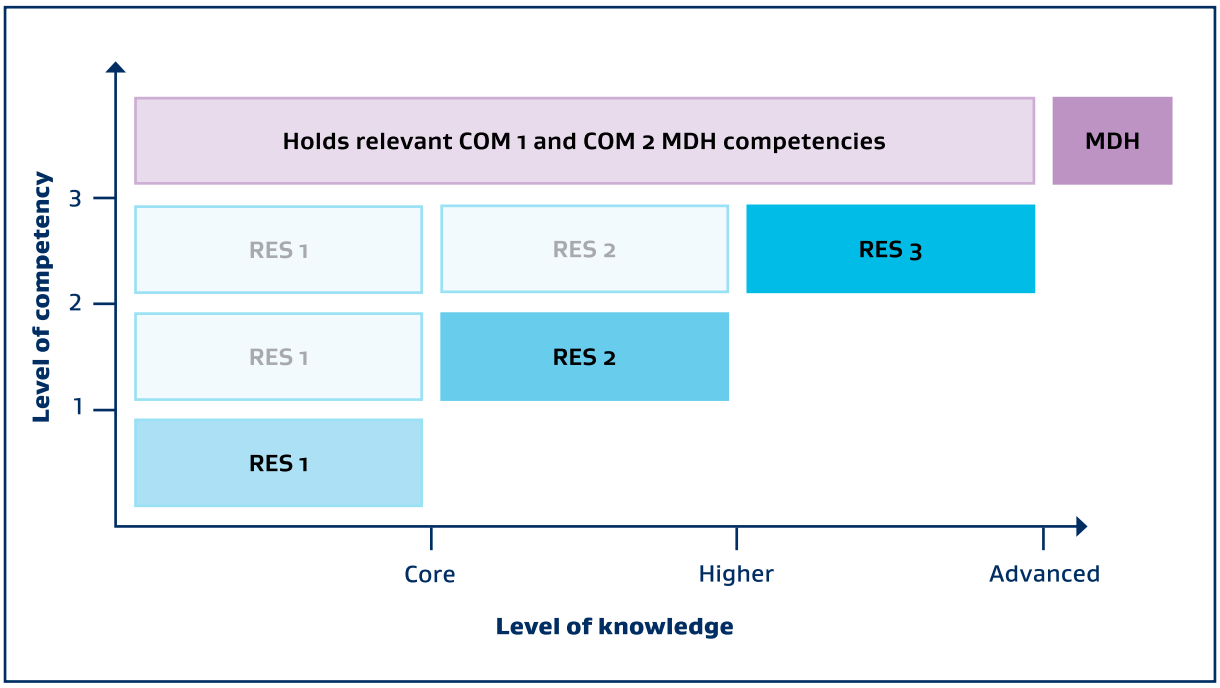


The MDH extension accounts for four-storey MDH (ie vertical and horizontal plane fire and acoustic separation (inter-tenancy walls and floor systems), familiarity with specified systems, greater use of active ventilation, more complex integration of building services, a shift in the standard of energy efficiency, building façades adjustments where they are greater than three levels and a higher prevalence of SED (see Appendix 3A.2).

As with any specific speciality area of practice, the MDH extension should be assessed and identified as an outcome of the competency assessment process.

Figure 8 – MDH Extension to Res 3

Figure 8 shows how this might be conveyed in practice, with Figure 5 amended to illustrate the MDH extension to Residential 3.



For the avoidance of doubt, the MDH extension is not a mandatory part of Residential 3, rather it has been included in this version of the NCAS to assist those BCAs that are dealing with increased MDH volumes (eg Metro and high-growth BCAs) and wish to upskill a contingent of their Residential 3 staff to meet this demand and operate at this hybrid level. Some BCAs already have policies, procedures and systems in place to account for MDH, so this change seeks to codify and better future proof the NCAS for this area of building control.

Large Dams

Some regional and unitary authorities are accredited and registered BCAs for the purposes of processing building consents, inspecting building work and issuing code compliance certificates for Large Dams (a dam that has a height of 4 metres or more and holds 20,000 or more cubic metres volume of water or other fluid. Being large-scale civil structures (eg hydropower, water supply or irrigation), Large Dams do not readily align with the levels set out in this document, so Appendix 4 of the NCAS addresses the competency assessment requirements for those undertaking building control functions associated with these types of structures.

Seven building types and classified uses are listed in clause A1 of the Building Code, of which industrial buildings, outbuildings, and ancillary buildings are the most relevant in relation to Large Dams. Being a unique area of building control, we have not developed a specific skills matrix or decision-tree flow chart for dams of any type. However, the relevant regulatory and technical competencies required to undertake dam-related building control functions are generally consistent with the 'core-knowledge' contained in Commercial 1 when it comes to having a well-developed understanding of the Building Code and Building Act as it relates to the regulatory framework, while other areas of knowledge cross-over into Commercial 2 and Commercial 3 depending on the size and scale of the Large Dam.

To provide a consistent means for BCAs to report on consenting statistics for Large Dams we would recommend that Large Dams are classified as **'Commercial 3' buildings** based on their relative risk and technical complexity. If the BCA's ICT system allows generic text to be added as to building type (ie it has an interactive dropbox) a suitable entry might read '**Com 3 (Large Dam)**'. Alternatively, where the system does not provide for this, it might manually be recorded in the system.

For clarity, those consenting, inspecting and certifying Large Dams are not expected to have extensive commercial consenting experience, but are expected to have had appropriate experience in consenting large civil structures of this type, which represents a very specific subset of **Com 2/Com 3** that is supported by the core-knowledge **Com 1** provides.

Appendix 7 also speaks to assessor requirements for those involved in the assessment of BCOs who are processing, inspecting and certifying Large Dams.

Levels for the National Competency Assessment System

Each level includes a description (metrics, applicable limitations, uses etc) relating to the type of building work encountered at the level. Rendered images (examples) are supplied as a point of reference for each of the levels.

Levels for the National Competency Assessment System	
Residential 1	
Residential outbuildings and ancillary buildings – as defined in clause A1 of the Building Code. Detached dwellings (Sleeping Single Home – referred to as use group ' SH') designed to a common standard[4] (eg NZS 3604, NZS 4229) that are single storey and have E2/AS1 risk matrix score of less than or equal to 6. Importance level 1 and 2 buildings.	
Example of a simple one-storey residential dwelling with an E2/AS1 risk score of 3	
Example of a simple one-storey residential dwelling with an E2/AS1 risk score of 6	

4. Some building elements may be subject to SED (eg trusses, beams, pod foundations etc)

Levels for the National Competency Assessment System	
Residential 2	
Detached dwellings (use group SH) designed to a common standard (eg NZS 3604, NZS 4229) that are less than or equal to two-storeys and have an E2/AS1 risk matrix score of 7–12. Importance level 1 and 2 buildings.	
Two-storey residential dwelling with an E2/AS1 risk score of 10	
Two-storey residential dwelling with an E2/AS1 risk score of 12	

Levels for the National Competency Assessment System	
Residential 3	
Detached dwellings (use group 'SH'), or other dwellings (Sleeping Residential – referred to as use group 'SR') that are less than or equal to three-storeys[5] but limited to vertical fire separation and direct egress to the outside. These have a E2/AS1 risk matrix score of 13–20. Importance level 1 and 2 buildings.	
This example is a two-storey (use group SH) residential dwelling with an E2/AS1 risk score of 22 (note projecting boxed windows, lack of eaves and other risk factors)	
This example shows three-storey (use group SR) terraced dwellings with an E2/AS1 risk score of 17 (vertical fire separation only)	

5. Note: this level also includes specifically designed residential cladding systems, components, detailing and junctions and where a E2/AS1 risk matrix score of greater than 20 has been calculated, where all other governing criteria have been met and are being processed as alternative solutions.

Levels for the National Competency Assessment System	
Commercial 1	
Commercial, industrial and communal non-residential buildings and their associated outbuildings and ancillary buildings equal to or less than two-storeys and an occupancy load of equal to or less than 100 people. This level also includes residential buildings (use groups SR or Sleeping Accommodation – referred to as 'SA') of up to two-storeys, provided they have horizontal fire separation. These are importance level 1 and 2 buildings.	
This example shows a one-storey commercial building (includes mezzanine floor in-part) with less than 100 occupants	
These examples are residential buildings (use groups SR or SA) up to two- storeys, with horizontal fire separation	

Levels for the National Competency Assessment System	
Commercial 2	
This level covers commercial, industrial and communal non-residential buildings equal to or less than four-storeys and with an occupancy load of equal to or less than 500 people (use groups Sleeping Care – referred to as 'SC' or Sleeping Detention 'SD') that are single-level. Up to importance level 3 and including some importance level 4 buildings dependant on occupant load, 'building type'[6] and building height.	
This example is a four-storey commercial building with mixed-use SR) and Working Low (referred to as 'WL' – this is for spaces used for working, business or storage with a low fire load)	
Two-storey commercial building with less than 500 occupants and use group (SA)	

6. An applicable importance level 4 building might include a hospital and other health care facilities having surgery or emergency treatment facilities to one storey with maximum capacity of <500 occupants.

Levels for the National Competency Assessment System	
Commercial 3	
All uses of buildings that are over four-storeys high or contain over 500 occupants. This level also includes all use groups (Sleeping Care 'SC' and Sleeping Detention 'SD') greater than single-storey. This includes up to and including importance level 5 buildings.	
High-rise building in excess of four-storeys and with more than 500 occupants (mixed-use residential, accommodation, intermittent activities and commercial)	
This level includes commercial/ public buildings such as this one, (health care facility (hospital) having surgery and emergency treatment facilities) in excess of four- storeys (includes below ground carparking and building services) and with more than 500 occupants (use group SC)	

Competency Specifications

The competency specifications used in the NCAS have been developed to provide the assessor and candidate with a detailed overview of the knowledge and skills that are required for a building official to be competent at a particular competency level. The guidance included in Appendix 3A and Appendix 3B for assessors and candidates is not intended to be an exhaustive or complete list of things a building official should know. Rather, it is intended to cover many of the core and other specialist areas of knowledge a building official should recognise and understand. The guidance for assessors and candidates **should not be treated as a checklist** as any assessment undertaken is by definition a sampling exercise that takes in a range of evidence in order to come to an assessment outcome.

There are six competency specifications, one for each of the competency levels (Residential 1, Residential 2, Residential 3 and Commercial 1, Commercial 2, Commercial 3). The core competencies for residential and commercial work are contained in the Residential 1 and Commercial 1 categories. As above, these specifications have been developed with a view to being a guide but should not be viewed as a complete list and are therefore a good point of reference with regard to the broad range of knowledge a candidate should possess at any given competency level.

Each competency specification contains:

- a statement about the types of building work that fits within the level
- competencies required by the Regulations
- performance indicators to meet the competencies in Regulation 10(3)
- guidance for assessors and candidates for meeting the performance indicators.

As illustrated below, a hierarchy is beginning to appear, starting with the Regulations, followed by requirements to meet the Regulations in the form of performance indicators and ending with guidance on how this is demonstrated by means of specific examples written in the form of guidance notes for assessors and candidates. See Appendices 3A and 3B for the full list of competency specifications, performance indicators and relevant guidance for assessors and candidates for each competency level.

What the Regulation says:

Regulation 10(3) of the *BCA Accreditation Regulations* requires the following competencies to be assessed for each employee:

a) understanding of the philosophy and principles of building design and construction
b) knowledge of building products and methods
c) knowledge and skill in applying the Building Act, the Building Code and any other applicable regulations under the Building Act
d) Ability to:
(i) process applications for building consent
(ii) inspect building work
(iii) certify building work
e) ability to communicate with internal and external people
f) ability to comply with the BCA's policies, procedures and systems.

For the purposes of Regulation 10(3)

Knowledge (also refer to '*level of knowledge*') is the accumulation of facts, information, and skills acquired through experience and/or education. Sometimes referred to as a 'body of a knowledge' or it can represent the 'collective knowledge' that professionals operating in a field are expected to know and/or understand.

Examples

a. Knowing that Wellington is the capital of New Zealand, it is hilly and sits on an active fault line.
b. Knowing the common Building Code performance requirements for a specific type of building.

Understanding is the ability to interpret, make sense of, and apply knowledge in context.

Examples

c. Understanding why Wellington's geography and seismicity influence building design and performance.
d. Understanding how limits on application apply to some types of buildings (classified uses) and not others under the Building Code.

"Skill" is a learned ability to perform a task well or to a required standard. "Applying" a skill means using that ability in a relevant situation.

Examples

e. A BCO applies critical thinking (a higher level of knowledge and skill) when inspecting a complex foundation system
f. A BCO applies an *advanced level of knowledge* when processing a complex high-rise building façade.

Performance indicators

The competency specifications set out a series of 'performance indicators' for meeting Regulation 10(3)(a)-(f) for each national competency level. To be deemed competent, a candidate under assessment must be able to provide evidence they have achieved these performance indicators. Further guidance on how to meet the various competency performance indicators is provided in Appendix 3A and Appendix 3B.

Guidance for assessors and candidates

This is the technical content of the competency specifications, and it changes depending on the national competency level being assessed. The guidance for assessors and candidates has been developed to help determine if the performance indicators have been met. However, it is not expected that this guidance act as a checklist as the guidance is not intended to be all-inclusive or exhaustive. However, as illustrated in Figures 5 and 6, a BCO's 'core competency' grows over time as they move through the competency framework and are exposed to a more diverse and technically challenging range of work.

Regulation 10(3)(d)(i) (ability to process applications for building consent) generally follows the structure and order of the Building Code clauses, (ie from the general provisions in the A clauses through to the technical clauses of B1 Structure – H1 Energy efficiency).

The assessor and candidate guidance for Regulation 10(3)(d)(ii) (ability to inspect building work) has been grouped around the generic inspection areas of 'foundation', 'pre-line' and 'final' (including inspections for modular component manufacturing (MCM)). The terms foundation, pre-line and final have been used to group the inspection types that BCAs commonly undertake. The following tables show this grouping.

Table 2 – Standard onsite inspection types

Possible building inspection groups			
Inspection Groups	**Foundation**	**Pre-line**	**Final**
Actual inspections	Excavation/fill Siting	Structural framing	Post-line (gib nail)
	Piles (subfloor)	Weathertightness (cladding)	Waterproofing
	Concrete slab	Insulation	Weathertightness (cladding, building envelope)
	Raft foundation	Pre-wrap	Fire stopping
	Masonry block/bond beam	Cavity batten	Accessible facilities
	Tilt-slab	Brick veneer	Means of escape
	Strip footing		
	Retaining wall (DPM)		
Note – The actual inspections are not exhaustive; many BCAs may have other inspection requirements and use other names for some inspections.			

Possible plumbing and drainage inspections groups			
Inspection Groups	**Foundation**	**Pre-line**	**Final**
Actual inspections	Drainage connections	Stack systems	Final plumbing
		Wastes	
	Under-slab plumbing	Pre-plumb (water supplies)	Weathertightness (pipe penetrations)
	Drainlaying	Weathertightness (pipe penetration)	
		Drainlaying	
Note – The actual inspections are not exhaustive; many BCAs may have other inspection requirements and use other names for some inspections.			

Possible onsite MCM inspections groups			
Inspection Groups	**Foundation**	**Superstructure**	**Final**
For Type 1, 2 and 3 components	Siting/lifting and positioning building or component-parts of building on foundation	Connections/structural verification, check elements built to design requirements	Commissioning of services/service connections including energy work and specific systems
	Drainage, water supply/underfloor pre-pour plumbing	Pre-clad/flashing/check of junctions between component parts of the building (if applicable)	Third-party verification of onsite assembly eg elements of specific engineered design
	Sub-floor or slab connections/damp proof membrane	Service connections, water, stormwater, foulwater, electrical, hydraulic	
Inspections are sorted into three broad groups – foundation, superstructure and final. **Note** – this list is not exhaustive, and the actual inspections required should be nominated by the MCM as part of the building consent application, which would ideally tie into the MCM's quality assurance system. These inspections require a different level of understanding to standard or traditional onsite builds. An inspector should have the ability and awareness to check the elements against appropriate quality assurance documents issued with the building consent (ie have an express understanding of how the modular component has been manufactured, and is to be transported, lifted into place and assembled).			

The assessor and candidate can nominate the inspections required as evidence to substantiate the achievement of any applicable performance indicators.

The assessor should agree with the candidate on the national competency level (eg Residential 2) and relevant inspections and supporting evidence required to substantiate competence.

More complex inspections should be chosen for competency assessments, to best demonstrate the candidate's level of competence. What this process effectively does is reduce the number of inspections required to be assessed by focusing on more technically complex inspections that sit at the higher-end of the candidate's (BCO's) range.

Remote inspections

Where remote inspections (RIs) are part of a candidate's core role, an assessor should ensure the assessment process includes demonstrated awareness, understanding and application of the BCA's policies, procedures and systems (PPS) that apply to this type of remote or virtual inspection. Guidance is included under Regulation 10(3)(d)(ii) in Appendices 3A, 3B and 4 to reflect how this competency might be measured.

Modular component manufacturing (MCM)

Almost all new buildings in New Zealand will contain some level of 'prefabricated content' or modular component manufacturing (MCM) or offsite manufacturing (OSM). MCM and OSM is that which is not built on the final building site (or allotment) and comes in many shapes and forms.

It is therefore important that BCO's undertaking building control functions that include elements of MCM and OSM understand how it relates to their everyday work, and how the applicable performance requirements of the Building Code are achieved in this context.

MCM/OSM often involves innovative design (shop drawings and the like), construction methods, transportation, logistics and specific on-site installation and inspection processes. As a consequence, it is important that BCOs working in this area are well versed in common MCM methodologies that cover a broad spectrum from simple manufactured building elements (LVL, CLT, SIPs), components (3D modular components, pods etc) through to entire buildings ie wall frames, trusses and panels ('type 1'), volumetric structures ('type 2') through to those that relate to whole buildings ('type 3')[7].

MCM core competencies and those that indicate a higher or advanced level of knowledge and understanding are captured in both the residential and commercial groupings in Appendix 3A and Appendix 3B. The performance indicators in these appendices speak to how this specific area of competency might be measured and established.

Many BCAs have well developed policies, procedures, systems, user guidance, quality assurance processes and some extend this through to memorandums of understanding (MoUs) for modular construction (eg Auckland Council with their AC1829 Manufactured Modular Component Guidance).

Including MCM in this version of the NCAS simply seeks to better codify the skills that continue to develop and are necessary for a BCA/BCO to work in this area of building control. As our regulatory system continues to evolve and adapt to better accommodate MCM, BCAs, BCOs, designers and builders/manufacturers will in turn have to grow and develop their understanding and knowledge of how MCM fits into the building system. BCAs should therefore seek to:

a. Adopt a proportionate and graduated approach to competency assessment that includes elements of MCM, which should be based on what the BCA's consenting pipeline looks like ie any assessment should be based on volume and complexity of the modular components and OSM coming in the door with respect to the competency level being assessed.
b. Recognising that MCM/OSM can be undertaken offsite in New Zealand (ie under our direct regulatory jurisdiction) or offshore (OSOSM), which in part Auckland Council's guidance document speaks to, being somewhat more challenging and generally requires a greater degree of 'regulatory infrastructure' to support and ensure the appropriate levels of quality assurance are taking place on components fabricated outside New Zealand.
c. Where MCM has a moderate or high degree of complexity and a BCO is seeking to express competence at such a level, the assessor would ideally call this out as a specific skills set in that BCO's assessment. Where possible ensuring that the BCO is across all aspects of the design and build process in this context ie the end-to-end process in that the modular component must integrate or marry-up with any traditional site work and building work. At this level, a BCO should know how a factory producing modular elements might have to be assessed from a Quality Assurance perspective, if that factory weren't certified via a certification scheme, or recognise the nuances with offshore 'OSOSM' in an uncertified space.

7. 'MCM types' are taken from the BuiltReady Scheme Rules 2024.

Assessment process

The purpose of this part of the document is to help the assessor identify what existing competencies the candidate has already achieved and what new evidence (if any) they need to provide to demonstrate competence. Part 1 of the assessment form (see Appendix 1) forms part of the competency record and is used to record the type of assessment, the assessment and the outcome of the assessment.

Planning an assessment in this way reduces the amount of new evidence which needs to be gathered, recognises competencies already achieved and ensures the right evidence is provided to demonstrate competency.

Accreditation and meeting evidential requirements

Regulation 6(b), (c) and (d) of the BCA Accreditation Regulations requires BCAs to record their decisions, reasons for decisions and the outcome of the decision. The evidence used to make a competency decision must be traceable. This can be achieved by cross-referencing the source of the information, for example, 'see building consent number 3057 for details'. Any such reference should be directly supported by reference in Part 2 of the assessment (see Appendix 1).

Relevant evidence such as interviews (or commonly referred to as 'professional discussions'), consent processing notes or inspection records can be copied and added to the competency assessment file. Better still, BCAs that operate digital systems that meet the requirements specified in Appendix 6 can use their digital systems to capture, harvest and record evidence when completing their everyday work.

Appendix 6 outlines the desired system requirements for ICT system providers and seeks to.

1. support a BCA's annual planning of workflow and its capacity and capability needs
2. help surface the BCA's known pressures impacting the performance of its building control functions such as limited access to technical leadership or specialist technical resources
3. not allow work to be allocated to employees or contractors that do not have competency to perform the work without supervision
4. provide for work to be re-classified where the staff member assessing it determines this is necessary
5. enable evidence of competence to be captured in real time whilst a BCO is actively undertaking a building control function
6. identify work that is at the top end of the BCO's competency and query if it is appropriate to earmark as evidence of continued 'practice', or 'currency' or a step in competency
7. provide a mechanism (eg a series of questions in a dropdown format which might be aligned with the relevant regulations in 10 (3)(a-f)) that would allow the BCO to record how their competency has been maintained or improved as a result of performing or completing a building control function or task
8. ideally support the outcome of an individual BCO's training needs assessments and be documented and recorded in an 'annual training plan'
9. allow a relevant training process (course, training etc) to be identified and recorded (including the desired outcome from the training, and a record of this).

Table 3 – Evidence

A range of evidence can be used to demonstrate competency. **Table 3** below provides examples of evidence types which might be used. As mentioned earlier, emphasis should always be on the **quality** of evidence over **quantity** ie one piece of evidence might demonstrate direct competence across a range of regulation 10(3) competencies, while another might well be voluminous and only speak to a narrow range or sole competency. Completing a 'specified New Zealand qualification', or a 'regulation 18 qualification' is an example of a piece of evidence which will speak to a range of competencies.

Examples of evidence used to demonstrate competence[8]	
Potential source of evidence	**Guidance notes – examples that could be used to help assess competency**
Self-assessment against competency specification	Self-assessment by the employee against the competencies to be assessed (ie working through Appendix 1, the assessment and indicating where they believe they have met the necessary performance indicators).
	Employee recognises when work is outside their ability and seeks mentoring, peer-review and/or supervision.
	Employee/employer identifies strengths, knowledge and skills gaps.
	Employee/employer identifies training needs. Applicable training need is resolved.
Work experience and examples of completed work	Overview of work history and relevant experience in the building industry.
	Evidence collected from digital systems for building control functions (see Appendix 6).
	Building consent documentation.
	The employee has processed and approved or refused a building consent.
	Inspections undertaken by the employee, including their inspection records, letters or reports written, notices they have issued, follow-up actions taken.
	Compliance schedules – review of compliance schedule assessments and identification of inspection, maintenance and reporting procedures.
	Code compliance certificates issued – checklists completed and any other material supporting the decisions the employee has made (eg photos).
	Other written documentation or reports they have authored (including letters to stakeholders, internal memos, notices to fix, training, policy documents, guidance material, supervision records or mentoring records and published articles).
Written statements or references from peers or technically skilled observers	This could include statements or peer-reviews from individuals with proven technical skills and expertise, such as managers, team leaders, engineers or other professional colleagues who are either internal or external to the organisation. These statements should confirm that they have observed the employee's work. Written statements, peer reviews and supervision notes should focus on a range of aspects such as confirming ongoing competence, any evidence relevant for a competence level change and keeping up to date with legislative changes and updates.
	Such references or statements should note the dates and time period in question, the capability and professional capacity of the observer, the context of the work in question, and any other relevant information.

8. Note, this is not intended to be an exhaustive list, and other applicable evidence can and should be used where appropriate.

Potential source of evidence	Guidance notes – examples that could be used to help assess competency
Direct observation or shadowing of the employee on the job (witnessing/audits)	Any specific monitoring of the individual's performance.
	Internal audits and their results (**technical/regulatory** and **process-based**).
	Observation of how the employee performs during site visits, vetting applications, processing building consents, carrying out field inspections, issuing code compliance certificates or notices to fix and performing administrative tasks, etc.
	Remote observation of inspections which use technology platforms to allow remote observation to occur. This will allow greater flexibility for observations to take place for targeted and specific inspection types. For example, when an assessor may not work in the organisation where the candidate is being assessed.
	How the employee communicates with stakeholders (verbal and written).
	How the employee handles any instances of deviations or variations from the approved plans and follows-up on outstanding issues.
Organisational records	Previous competency assessments and/or audits that consider the key competencies of the employee.
	Training and continuing professional development records.
	Data, records that support decision-making in building control.
	Any commendations, accolades, awards or positive feedback received from the stakeholders, peers or peak-bodies etc.
Evidence of successful completion of training courses and/or study that relate to competence **Evidence should include any assessment results and application of that training**	Technical courses (eg fire, accessibility, weathertightness compliance).
	Building control courses (eg BRANZ, BOINZ).
	Information technology training and courses.
	Validated APL or RPL processes.
	Training in quality assurance systems and auditing.
	BRANZ, Standards New Zealand or BOINZ seminars and courses.
	BCA induction or in-house training courses.
	Manufacturers or trade demonstrations.
	In-house training on specific areas such as building terminology, legislation, NZS 3604.
	Training in use of the BCA's systems, processes and equipment (eg computer training, training in use of moisture meter, digital camera, accreditation-related training).

Potential source of evidence	Guidance notes – examples that could be used to help assess competency	
Regulation 18, requirement to obtain or be working towards an appropriate NZ technical qualification	**Specified NZ qualifications:**	
	National Diploma in Building Control Surveying (Small Buildings).	Bachelor of Applied Technology – Building.
	National Diploma in Building Control Surveying (Medium and Large Buildings).	Bachelor of Architecture.
	Diploma in Building Surveying.	Bachelor of Architectural Studies.
	Diploma in Construction Management.	Bachelor of Building Science.
	Diploma in Construction.	Bachelor of Construction (Construction Management and Construction Economics).
	Diploma in Quantity Surveying.	Bachelor of Engineering.
	Diploma in Architectural Drafting.	Note: a BCA can accept other qualifications which are not recorded in the above list, such as qualifications in the field of building design or construction under Regulation 3(o)(i) of the BCA Accreditation Regulations eg the NZ Diploma in Building Surveying (in employment) (Level 6) or the New Zealand Diploma in Construction Quantity Surveying (Level 6). Bachelor of Building Surveying and Control (level 7).
	Diploma in Architectural Technology.	
Registration under Statute	Chartered Engineers of New Zealand Act 2002.	Chartered Professional Engineer.
	Registered Architects Act 2005.	Registered Architect.
	Plumbers, Gasfitters, and Drainlayers Act 2006.	Certifying Plumber.
		Certifying Gasfitter.
		Licensed Drainlayer.
	Building Act 2004.	Licensed Building Practitioner.
Other material the candidate has produced	Papers developed and presented at industry workshops, conferences or seminars.	
	Papers developed for training purposes.	
	Checklists or procedures developed.	
	Articles written or published.	
Professional and industry affiliations	Voluntary memberships (eg BOINZ, Registered Master Builders, Certified Builders Association, New Zealand Institute of Registered Building Surveyors, Offsite NZ).	
	Industry participation (committee member, officeholder, attending conferences, etc).	
	Attending conferences or trade shows.	

Ensuring employees and contractors doing a technical job hold a technical qualification

Regulation 18 of the Regulations requires employees and contractors performing building control functions to have, or be working towards, an appropriate technical qualification.

A BCA must have a system for ensuring that all employees and contractors performing a building control function[9] by doing a technical job have or are working towards a recognised qualification.

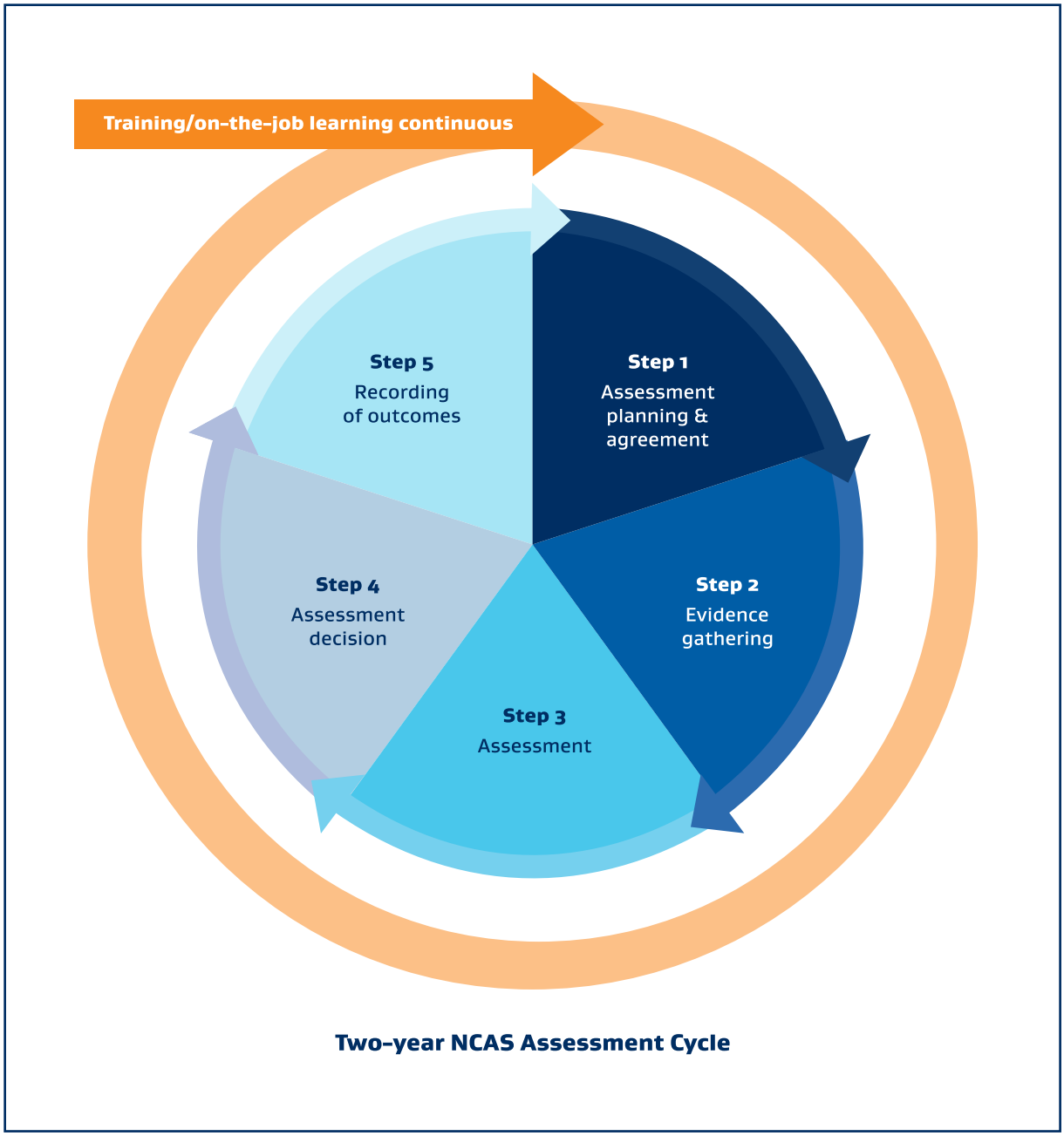
For assessment purposes, where a BCO has obtained a 'specified New Zealand qualification' it should be treated as evidence that the BCO has completed a series of relevant unit standards that speak specifically to skills required to meet Regulation 10. A suitable level of weight should be placed on the specified New Zealand qualification during the assessment, particularly when completing an assessment of a new candidate or BCO.

Further guidance on satisfying accreditation requirements in relation to Regulation 18 is available on the Building Performance website.

9. Building control functions for the purposes of this system are the processing, inspecting and certifying activities as they relate to building consents.

Figure 9 – High-level illustration of NCAS assessment process

Figure 9 illustrates the NCAS assessment process as a five-step circular cycle: planning, evidence gathering, the assessment itself, decision making and the recording of outcomes, with continuous training and learning throughout. These are described further below.



Five step process to using the NCAS

Step 1 – Assessment planning and agreement:

Identify what type of assessment is to be undertaken – establishment of competence, review of an existing employee, level change, transition from another BCA or AoB (**refer to Figure 9 – Types of assessment**).

The focus should then move to the level(s) and functions that are to be assessed (for example, Residential 1–3 building inspections only). The assessor should be familiar with the competency specifications, performance indicators and assessor guidance corresponding with the level being assessed.

The assessor completes Part 1 of the assessment plan and records evidence known to them, such as qualifications, training completed, relevant known experience. The assessor and candidate agree and record the evidence to be collected in the assessment plan. The assessment plan and timeframes are agreed between assessor and candidate. The assessor and candidate can also agree to have certain work witnessed (for example, accompanying an inspector in person or remotely) if the candidate or assessor believes that this is the best way to provide evidence of competence.

Step 2 – Evidence obtained by candidate:

The candidate gathers supporting evidence that they feel demonstrates their competence and aligns with the evidence agreed to be provided in the assessment plan. The candidate prepares evidence if required under the assessment plan. As above, if the candidate believes the best way to provide the assessor with evidence of competence is through worked examples or witnessing of work (eg accompanying an inspector), this should be agreed and recorded in the assessment plan. This could simply be carried out while undertaking the BCA's technical audit procedures.

In order to obtain good quality evidence the candidate should:

- Familiarise themselves with the competency specifications and how to meet the performance indicators for each level, applicable to them.
- Keep records of projects that provide good evidence of the competencies being assessed, including unusual and challenging situations. Worked examples and their outcomes that provide substantive evidence for assessment. Such as, comprehensive reasons and decisions within checklists, detailed correspondence, inspection notes, photographs, discussions with technical leaders, senior team members and related supervision records.
- Provide peer reviews, audits and competence assessments undertaken by the candidate that provide supporting evidence for the competencies being assessed.
- Make decisions and agreements with the assessor on what will be supplied for the candidate's assessment of competency.
- Obtain, record and present the evidence of competence to the assessor.
- Ideally, BCAs that operate digital systems that meet the requirements specified in Appendix 6 can use their digital systems to capture and record evidence when completing their everyday work and in real time.

Step 3 – Assessment undertaken:

The candidate provides evidence to the assessor. Ideally work-related evidence, such as technical audits, peer-reviews and the like would be harvested and held on file in the system. After reviewing and assessing the evidence provided by the candidate and taking account of the candidate's experience, work history, training history and other internal evidence, a decision needs to be made on whether the competence of the candidate can be confirmed from the evidence provided (if it can, go to Step 4). If it cannot, a professional conversation can be organised to further clarify or confirm competence or further evidence required.

It is vital that the assessor understands that the guidance provided in Appendices 3A and Appendix 3B offers examples of what an assessor might consider in their assessment and is not intended to act as a step-by- step inventory of what needs to be assessed. This is because an assessment in this context is a sampling exercise that examines a candidate's (body of knowledge, evidence-base, experience, qualifications etc with respect to the applicable areas of Regulation 10(3) being assessed.

To this end, the assessment relates to a BCO's ability, understanding and knowledge in relation to the '*performance indicators*' being assessed (ie those that relate to each of the applicable regulations under 10(3), and it is these that must be satisfied rather than the host of examples that are provided as guidance).

It is important that the competency decision is as objective as possible, that it can be justified, is fair and non-biased, and that it is supported by sound and reliable evidence.

Where the assessor does not have the required level of technical expertise in a specialist area to assess a candidate's evidence, the assessor may elect to refer this to an expert in that particular field. For example, an expert on commercial plumbing and drainage aspects may be called upon to examine a candidate's plumbing and drainage evidence and provide advice to the assessor.

The reasons for deciding whether a candidate is competent or not yet competent will be specific to each individual and the situation at hand.

Step 4 – Assessment decisions made:

The assessor records the reasons for their decisions in Part 2 of the assessment plan. Evidence for an assessor's reasons can be referenced here (for example, by referencing a particular form and building consent number and then tying it back to the guidance in Appendices 3A, 3B or 3A.2). The assessor can also use professional judgement. The reasons for deciding whether a candidate is competent or not will be specific to the individual and the situation.

Step 5 – Assessor records outcomes:

The assessor records the outcome of the assessment. This can include any limitations (for example, Residential 2 inspection only, not including plumbing and drainage). Depending on how the BCA allocates its work, for example through a skills matrix, these systems should also be updated with the outcome of the assessment.

Assessment cycle

BCAs may stagger competency assessments to reduce the overall assessment burden in a particular year. An assessment cycle might also be adjusted in order to bring forward certain assessments (such as for those ready to undergo a 'level change assessment') or to complete new candidate assessments at the optimum time (eg an off-peak period). An assessment may also be undertaken at any time, if a BCA considers one is necessary.

Types of assessment

Under the NCAS there are four main assessment types which table 4 describes in detail. The assessment type will dictate the nature of the assessment and influence the type of evidence that is considered necessary. A 'review of an existing employee' and 'transition from another BCA/AOB' need not go back to square one and can draw heavily on past experience and on-the-job evidence. The focus for these types of assessment should be limited to the candidate being able to express their core competencies (preferably from a combination of work undertaken and training during the applicable assessment cycle or it can draw on relevant past experience). Evidence may also be provided on areas of their role that have been affected by regulatory or technical change during the relevant period (eg updates to an Acceptable Solution or changes to regulatory settings) which directly impacts their role within the assessment cycle.

For the avoidance of doubt, a candidate's core competency will seldom diminish or be lost over a single assessment cycle so the emphasis in this case should be placed on currency of practice and **what has changed** and **what is new** with respect to the candidate's role.

Note 'core knowledge' required to satisfy Regulations 10(3) (a), (b), (c), (d)(i), (ii), (iii), (e) and (f) of the Regulations is in Residential 1 and Commercial 1. Assessment of these regulations is more about currency of practice and continuing to stay up-to-date with any applicable areas of change (ie you don't tend to lose your core knowledge, much of which should remain current through training and continuing to work (or practice) in one's respective role).

Table 4 – Assessment types

Types of assessment	
New candidate (normally relates to the establishment of 'core competency') eg Residential 1 (inspections)	
Candidate will have:	
a. Often referred to as a foundation or initial assessment as the candidate will not have a valid NCAS point of reference or any relevant working assessment outcome.	b. It represents a comprehensive assessment of all relevant performance indicators and serves to clarify what competency level has been achieved as an entry level candidate.
c. May limit the candidate's scope of operation (eg processing (building) only).	d. The candidate's core-knowledge (Regulations 10(3) (a)-(c) will also be developing and as a result any particular strengths should be noted, such as a depth of knowledge in Regulation 10(3)(b) from the likes of a former role working in building supplies or as a tradesperson etc).
e. A candidate may also hold or be working towards a Regulation 18 qualification, which should hold weight against many of the core performance indicators in the NCAS.	f. May acknowledge that the candidate is under some level of development (ie areas which may be picked up in the next round of assessment (or sooner) for consideration of level or scope of work change).
g. Evidence of competence can also be drawn from the list of items in Table 3.	
Review[10] of existing employee (no level change) eg currently Residential 3 and Commercial 1, maintaining Residential 3 and Commercial 1 (processing)	
Candidate will have:	
a. A benchmark or base-level of competency will have been established and recorded in the BCA's system and any subsequent assessments that have been completed can be referenced. The candidate will have proven core-competence in their role and their specialist areas (eg inspections in plumbing and drainage).	b. Given the above, **the assessment should be focussed on what has changed and what is new in respect of the candidate's role** (eg new or updated regulatory or technical requirements that might directly affect their role).
c. Audits (both technical/regulatory and also process-related) and peer-reviews and any relevant training in the assessment cycle should be drawn on to determine currency of practice.	d. Evidence of competence can also be pulled from the list of items in Table 3.

10. Note – a review in this context is not a reassessment, this is because a NCAS level of competence has already been arrived at, so the review should be conducted on the basis that the BCO is seeking to maintain currency in a given field of building control. It simply serves to build on what is already known about the BCO's competence.

Level change (focus of assessment on areas of higher or advanced knowledge/competence). For example, currently Residential 2 moving to Residential 3 (processing)	
Candidate will have:	
a. A benchmark or base-level of competency will have been established and recorded in the BCA's system. Any subsequent assessments that have been completed, can also be referenced.	b. **The focus** of the assessment **should be first and foremost** on the **level change** ie moving from a '**higher**' to an '**advanced**' level of knowledge/competence (eg quoting the likes of 'R3-P6' for external moisture and 'R3-P8' for F7/C/AS1 for residential smoke detection where direct evidence is cited).
c. Audits (both technical/regulatory and process-related) and peer-reviews and any relevant training in the assessment cycle should be used to determine currency of practice.	d. Note, a level change can also relate to a move downward if for example, there has been little to no evidence of a candidate completing work/a building control function at a particular level for an extended period or where the candidate is not wanting to maintain an area of competence eg an inspection competency is no longer required due to an ongoing focus on processing.
e. Evidence of competence can also be drawn from the list of items in Table 3.	
Transition from another BCA or AoB currently Res 3, re-endorsed at Res 3 (inspections)	
Candidate will have:	
a. A benchmark or base-level of competency will have been established and recorded in another BCA or AOB's system. This and there most recently completed assessment records (as applicable) should be brought across to be put on file.	b. Where the benchmark assessment has been completed under the NCAS and the transfer is to a BCA using the NCAS then an appropriate assessment should be completed on the next assessment cycle (eg a review of an existing employee or a level change).
c. Evidence of competence can also be drawn from the list of items in Table 3.	**Note** – A recent assessment outcome from another BCA or AOB can be used to place a new employee on the new BCA/AOB's skills matrix. Albeit that Regulation 10(3)(f) will need to be addressed where the BCA's policies, procedures and systems differ.

As above, ***competency assessment*** is a structured evaluation of an individual's ability to effectively perform tasks based on a set of defined competencies. The below example provides an illustration of what might be inputted in a candidate's assessment based on the performance indicators quoted in Appendix 3A and Appendix 3B and types of evidence quoted in Table 3 of the NCAS.

Part 2 of the assessment form (Appendix 1) provides an example of how these principles are applied in practice.

The following example relates to a BCO seeking progression from Residential 1 to Residential 2 and includes an excerpt from the assessor's reasoning for the decision. This demonstrates how evidence and performance indicators are used to justify competency outcomes in alignment with the NCAS framework.

Part 2: Reasons for decision		
Regulation	**Performance indicator**	**Performance indicators were met by (cite evidence observed and reference guidance coding if applicable e.g R2-P1)**
Regulation 10(3)(d)(i): Ability to process applications for building consent.	1. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (building related processing only).	Candidate XXX's ability to process a building consent was demonstrated in her thorough understanding of ***R2-P1 and R2-P4*** in respect of *R2-BC1121, R2-BC1122* and *R2- BC1123*, technical audits *TA-123* and *TA-124*. A higher level of understanding was evident in XXX's ability to process in relation to tracing structural load paths, bracing evaluation in both new builds and existing buildings as well as assessing the applicable durability requirements that apply to building elements for Res 2. XXX's *SORG* related decision-making was observed to meet ***R2-Br4***. In that they demonstrated a higher-level of understanding and knowledge in relation to section 112 in quoting MBIE's 'SORG guidance'. We discussed in *R2-BC1122*, which was a relatively complex addition and alteration to a circa 1960s dwelling. XXX was able to describe the key components of the 'section 112 test' and how it was applied to the existing building vs the new building work being undertaken. XXX also, touched on the '*ANARP*' aspect of the application and her processing notes in that it applied to the assessment of means of escape from fire. In this instance XXX spoke to the use of NZS 4514 and interconnected smoke alarms, per performance indicator *R2-P10*. Cross-referencing her training file in that interconnected smoke alarms were a relatively new requirement.

4. Appendices

Appendix 1: Assessment Form

Important Note: *Do not change the format or the headings on this form.*

Assessment form – Part 1: Assessment plan

Part 1: Assessment plan **Assessor completes this plan and agrees evidence requirements and dates with candidate.**
Personal assessment plan for:
Assessment type (refer to Table 4 for further details): ☐ **New candidate** (establishment of 'core competence' etc) ☐ **Review of existing employee** (no level change) ☐ **Level change** (focus of assessment on areas of 'higher' or 'advanced knowledge'/competence) ☐ **Transition from another BCA or AOB** (leverage off and/or reference an assessment already set at BCA/AOB) **Note** – if some information has already been supplied and recorded in a previous assessment (such as a candidate's work experience) it is acceptable to reference such material. If so, only include aspects here that have changed between assessments cycles).
Competency level assessed:
Assessment includes (tick relevant area/s): ☐ **Res One** ☐ **Res Two** ☐ **Res Three** ☐ **Com One** ☐ **Com Two** ☐ **Com Three** Plus: ☐ **Plumbing and Drainage Building** ☐ **Processing Inspections** ☐ **Certification (code compliance)** ☐ **Specialist: eg Com 3 Large Dams, Res 3 MDH, MCM, Fire Safety etc (please state:** …… ……
Candidate's relevant work experience:
Candidate's qualifications:

Relevant training completed:		
Evidence required	**Comments**	**Date required**
Completed processing sheets/ plans/ specifications/ internal audit/ records etc		
Quiz results		
Training course evaluation		
Copy of qualifications		
Completed inspection records	*(Quote relevant performance indicator reference(s) eg 'C2-I' if applicable to evidence)*	
Completed consent processing records	*(Quote relevant performance indicator reference(s) eg 'R3-P8' if applicable to evidence)*	
Witnessing of work (audits)		
Other (please specify)		
Special requirements (list any competency scope limitations):		
Agreement:		
Assessor: [signature]	Candidate: [signature]	
Date:	Date:	

Assessment form – Part 2: Reasons for decision

Part 2: Reasons for decision		
Regulation	**Performance indicator**	**Performance indicators were met (or not met) by (cite evidence and Regulation 3A and 3B guidance reference if applicable)**
Regulation 10(3)(a): Understanding the philosophies and principles of building design and construction.	1. Comprehends and has satisfactory knowledge of sections 3, 4 and 5 of the Building Act. 2. Comprehends and has satisfactory knowledge of design and construction techniques and construction sequencing for this type of building work.	
Regulation 10(3)(b): Understanding and knowledge of building products and methods.	3. Comprehends and has satisfactory knowledge of proprietary systems and building products for this type of building work. 4. Demonstrates the ability to research, analyse and assess building methods and products associated with this type of building work.	
Regulation 10(3)(c): Knowledge and skill in applying the Building Act, the Building Code, and any other applicable regulations under the Building Act.	5. Comprehends and can apply knowledge of the application of the Act. 6. Comprehends and can apply knowledge of the roles and responsibilities of a BCA and TA. 7. Comprehends and can apply knowledge of the linkage and interface between the Resource Management Act 1991 and the Building Act.	
Regulation 10(3)(d)(i): Ability to process applications for building consent.	8. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (building related processing only). 9. Demonstrates an understanding of the type of national multiple use building approvals (MultiProof) that fall within the scope of this competency level. 10. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (plumbing and drainage related processing only).	

Regulation	Performance indicator	Performance indicators were met (or not met) by (cite evidence and 3A and 3B guidance reference if applicable)
Regulation 10(3)(d)(ii): Ability to inspect building work.	11. Inspect building work relating to foundation type inspections to establish whether compliance with the Building Code (building only) has been achieved for this level. 12. Inspect building work relating to pre-line type inspections to establish whether compliance with the Building Code (building only) has been achieved for this level. 13. Inspect building work relating to final type inspections to establish whether compliance with the Building Code (building only) has been achieved for this level. 14. Inspect building work to establish whether compliance with the Building Code (plumbing and drainage related inspections only) has been achieved for this level.	
Regulation 10(3)(d)(iii): Ability to ability to certify building work.	15. Can issue certification (building consent or code compliance certificate) for this type of building work.	
Regulation 10(3)(e): Ability to communicate with internal and external people.	16. Communicates with internal and external people. 17. Can use phone, email, internet and fax. 18. Demonstrates good active listening, questioning and assertiveness skills in dealing with day-to-day tasks and responsibilities.	
Regulation 10(3)(f): Ability to comply with the BCA's policies, procedures and systems.	19. Observes the BCA's policies, procedures and systems for this type of building work.	

Assessment form – Part 3: Outcome of assessment

Part 3: Outcome of assessment	
Outcome statement (and conditions if applicable):	
Agreement:	
Special requirements (list any competency scope limitations):	
Assessor: [signature]	Candidate: [signature]
Date:	Date:

Appendix 2: Skills Matrix

The skills matrix is a tool used to record the names of individuals with certain skills and allocate building control work to competent staff of contractors.

Important Note: *Do not change the format or the headings on this form.*

Competency levels (processing)							
		Residential 1	**Residential 2**	**Residential 3**	**Commercial 1**	**Commercial 2**	**Commercial 3**[11]
Processing	Competent						
	Developing						
Certification	Competent						
	Developing						

Competency levels (inspections)							
		Residential 1	**Residential 2**	**Residential 3** ***(MDH if applicable)***	**Commercial 1**	**Commercial 2**	**Commercial 3** ***(Large Dam if applicable)***
Foundations	Competent						
	Developing						
Pre-line	Competent						
	Developing						
Final	Competent						
	Developing						
Certification	Competent						
	Developing						
MCM and/or MDH	Competent						
	Developing						
Remote inspections RI	Competent						
	Developing						

11. Includes Large Dams

Appendix 3: Competency specifications

Numbering system and reasoning (reference for Appendices 3A & 3B)

Context and Purpose

This Appendix provides the requirements for Residential competency levels (in Appendix 3A) and Commercial competency levels (in Appendix 3B).

The standardised numbering used throughout the NCAS is designed to provide a logical structure for referencing competencies across residential and commercial levels, as well as for Large Dams. Each code is compiled to reflect the building type, regulatory reference, and the specific competency area, with accompanying reasoning for transparency and ease of use.

Large Dams have their own individual standardised numbering/ID system, as below.

The numbering system supports users to navigate the competency requirements, ensuring consistency and clarity in referencing, assessment, and reporting. For further details on how these codes are applied in residential and commercial contexts, see Appendix 3A and Appendix 3B.

Example Scenario: Navigating Appendix 3A Using the Numbering System

A BCO is preparing for a Residential 2 competency assessment under Regulation 10(3)(b) – understanding and knowledge of building products and methods.

To locate the relevant guidance, the official refers to Appendix 3A and identifies the code **R2-Bp1**.

1. R2 indicates Residential Level 2.
2. Bp refers to Building Products (Regulation 10(3)(b)).
3. 1 denotes the first guidance point under this competency area and level.

The description for **R2-Bp1** outlines the expected knowledge at Level 2 – such as understanding material composition and evaluating the durability of alternative solutions. Residential 2 builds on the foundational knowledge outlined in Residential 1, so officials should already be familiar with the content in R1-Bp1.

This approach allows officials and assessors to quickly locate the relevant guidance, understand the progression of competency expectations, and prepare evidence aligned to the performance indicators. The numbering system supports clarity and consistency across all levels of the NCAS.

Note – The guidance is illustrative only and is not intended to be used as a checklist or prescriptive assessment tool.

Note – Appendix 3A.2 Medium Density Housing follows Appendix 3.A.

Numbering System Table

Residential – numbering				
Regulation	**Res 1**	**Res 2**	**Res 3**[12]	**Reasoning for abbreviation**
Regulation 10(3)(a):	R1-Pr	R2-Pr	R3-Pr	R = Residential P = **Pr**inciples
Regulation 10(3)(b):	R1-Bp	R2-Bp	R3-Bp	R = Residential Bp = **B**uilding **p**roducts
Regulation 10(3)(c):	R1-Br	R2-Br	R3-Br	R = Residential Br = **B**uilding **r**egulations
Regulation 10(3)(d)(i):	R1-P	R2-P	R3-P	R = Residential P = **P**rocessing
Plumbing and drainage processing	R1-Pd	R2-Pd	R3-Pd	R = Residential Pd = **P**lumbing **d**rainage
Regulation 10(3)(d)(ii):	R1-I	R2-I	R3-I	R = Residential I = **I**nspection
Foundations	R1-fd	R2-fd	R3-fd	R = Residential fd = **Foun**d**a**tions
Pre-line	R1-pl	R2-pl	R3-pl	R = Residential pl = **P**re-**l**ine
Final	R1-fn	R2-fn	R3-fn	R = Residential fn = **Fin**al
Guidance for assessors Plumbing and drainage	R1-gp	R2-gp	R3-gp	R = Residential gp = **g**uidance **p**lumbing
Plumbing – Foundation	R1-pf	R2-pf	R3-pf	R = Residential pf = **p**lumbing **f**oundation
Plumbing – Pre-line	R1-pp	R2-pp	R3-pp	R = Residential pp = **p**lumbing **p**re-line
Plumbing – Final	R1-pn	R2-pn	R3-pn	R = Residential Pn = **p**lumbing **f**inal
Regulation 10(3)(d)(iii):	R1-C	R2-C	R3-C	R = Residential C = **C**ertification
Regulation 10(3)(e):	R1-S	R2-S	R3-S	R = Residential S = **S**takeholder
Regulation 10(3)(f):	R1-Ps	R2-Ps	R3-Ps	R = Residential Ps = **P**olicies/ Procedures and systems

12. MDH competencies for the 'Residential 3 MDH extension' are highlighted in Commercial 1 and Commercial 2 (Appendix 3B) by '(MDH)' being added to the above coding (eg C1-Pr4 (MDH)). Indicating that this competency is relevant to the extended area of knowledge and understanding.

Commercial – numbering				
Regulation	**Com 1**	**Com 2**	**Com 3**	**Reasoning for abbreviation**
Regulation 10(3)(a):	C1-Pr	C2-Pr	C3-Pr	C = Commercial P = **Pr**inciples
Regulation 10(3)(b):	C1-Bp	C2-Bp	C3-Bp	C = Commercial Bp = **B**uilding **p**roducts
Regulation 10(3)(c):	C1-Br	C2-Br	C3-Br	C = Commercial Br = **B**uilding **r**egulations
Regulation 10(3)(d)(i):	C1-P	C2-P	C3-P	C = **C**ommercial P = **P**rocessing
Plumbing and drainage processing	C1-Pd	C2-Pd	C3-Pd	C = Commercial Pd = **P**lumbing **d**rainage
Regulation 10(3)(d)(ii):	C1-I	C2-I	C3-I	C = Commercial I = **I**nspection
Foundations	C1-fd	C2-fd	C3-fd	C = Commercial fd = **F**oun**d**ations
Pre-line	C1-pl	C2-pl	C3-pl	C = Commercial pl = **P**re-**l**ine
Final	C1-fn	C2-fn	C3-fn	C = Commercial fn = **Fi**n**a**l
Guidance for assessors Plumbing and drainage	C1-gp	C2-gp	C3-gp	C = Commercial gp = **g**uidance **p**lumbing
Plumbing – Foundation	C1-pf	C2-pf	C3-pf	C = Commercial F = **p**lumbing **f**oundation
Plumbing – Pre-line	C1-pp	C2-pp	C3-pp	C = Commercial PP = **p**lumbing **p**re-line
Plumbing – Final	C1-pn	C2-pn	C3-pn	C = Commercial Pn = **p**lumbing **f**inal
Regulation 10(3)(d)(iii):	C1-C	C2-C	C3-C	C = Commercial C = **C**ertification
Regulation 10(3)(e):	C1-S	C2-S	C3-S	C = Commercial S = **S**takeholder
Regulation 10(3)(f):	C1-Ps	C2-Ps	C3-Ps	C = Commercial Ps = **P**olicies/ Procedures and systems

Large Dam		
Regulation	**Numbering**	**Reasoning for abbreviation**
Design and construction methods	DDC	D = Dam D = Design C = Construction
Regulatory requirements	DRR	D = Dam R = Regulatory R = Requirements
Key technical attributes	DTA	D = Dam T = Technical A = Attributes

Appendix 3A: Residential Competency Requirements

Appendix 3A outlines competency requirements for Residential 1 and extends to Residential 2 and 3. It highlights applicable Regulation 10(3) clauses and notes exceptions to a BCO's knowledgebase that relate to applicable areas of 'higher' and 'advanced' levels of knowledge.

<table>
<tr><th colspan="3">Residential 1 core competency requirements with extensions for Residential 2 and Residential 3</th></tr>
<tr><td colspan="3">Competency level(s)</td></tr>
<tr><td>Residential 1</td><td>Residential 2</td><td>Residential 3</td></tr>
<tr><td>Residential outbuildings and ancillary buildings – as defined by clause A1 of the Building Code. Detached dwellings (use group SH) designed to a common standard (eg NZS 3604, NZS 4229) that are single-storey and have E2/AS1 risk matrix score less than or equal to 6. Importance level 1 and 2 buildings.</td><td>Detached dwellings (use group SH) designed to a common standard (eg NZS 3604, NZS 4229) that are less than or equal to two-storeys and have an E2/AS1 risk matrix score 7-12. Importance level 1 and 2 buildings.</td><td>Detached dwellings (use group SH) or other dwellings (use group SR) that are less than or equal to three-storeys but limited to vertical fire separation and direct egress to the outside. E2/AS1 risk matrix score of 13–20. Importance level 1 and 2 buildings.</td></tr>
<tr><td colspan="3">Regulation 10(3)(a):
Understanding the philosophies and principles of building design and construction.</td></tr>
<tr><td colspan="3">Performance Indicators
1. Comprehends and has satisfactory knowledge of sections 3, 4 and 5 of the Building Act.
2. Comprehends and has satisfactory knowledge of design and construction techniques and construction sequencing for this type of building work.</td></tr>
<tr><td colspan="3">Guidance for assessors and candidates</td></tr>
<tr><td>Residential 1</td><td>Residential 2</td><td>Residential 3</td></tr>
<tr><td>Knowledge areas may include, but are not limited to:</td><td>Knowledge areas may include, but are not limited to:</td><td>Knowledge areas may include, but are not limited to:</td></tr>
<tr><td>Note – for performance indicator 1 there is no obvious step or adjustment in competence as it is considered core knowledge applicable to all residential levels.</td><td></td><td></td></tr>
<tr><td>R1-Pr1
The purpose of the Building Act.</td><td></td><td></td></tr>
<tr><td>R1-Pr2
BCA and TAs functions, duties and powers under the Building Act, particularly as they relate to household units.</td><td></td><td></td></tr>
<tr><td>R1-Pr3
Can discuss the hierarchy of New Zealand building legislation and the various compliance paths provided for under the Building Act.</td><td></td><td></td></tr>
</table>

Residential 1	Residential 2	Residential 3
R1-Pr4 Can discuss building design, construction techniques and sequencing of building work as it relates to this competency level. Understands common design methods employed at this level (ie builds that normally embrace conservative and conventional (low-risk) design methods, pitched roofs, timber or steel frame with low complexity building envelopes).	**R2-Pr1** Demonstrates a higher-level of understanding about building design, construction techniques and sequencing of building work as it relates to this competency level (eg comprising more technical complexity in design and build and often accommodating inter-storey floor systems and suspended decks).	**R3-Pr1** Demonstrates an advanced-level of understanding about building design, construction techniques and sequencing of building work as it relates to this competency level. Can include an array of building shapes, methods, techniques and forms, with a higher degree of technical complexity. Tend to have greater use of SED and as a result more structural complexity requiring greater levels of oversight during the design and build phases.
R1-Pr5 Understands and can assess building work which uses alternate methods of construction (eg pre-fabrication, the modular component manufacturers (MCM) scheme, offsite manufacturing (OSM)). At a core level, has a well-developed understanding of how prefabricated wall frames and trusses are used in modern construction.	**R2-Pr2** Demonstrates a higher-level of understanding in respect of MCM used in the design and build process at this level (ie has a level of understanding beyond 'well-established MCM' (prefabricated trusses and frames) and traditional house relocation or simple transportable homes). Where the BCO is processing, inspecting and certifying moderately complex MCM, has an appreciation and understanding of the end-to-end process employed in MCM from a quality assurance perspective and the different types of MCM that might be employed to construct a Res 2 building.	**R3-Pr2** Demonstrates an advanced-level of understanding as a wider array of building products/methods are typically encountered at this level (eg precast concrete, tilt-slab, laminated veneer lumber (LVL), cross-laminated timber (CLT), structurally insulated panels (SIPs) etc) so knowledge would extend to processing, inspecting or certifying (as is applicable) for applications that included such products/building methods. Where the BCO is processing, inspecting and certifying complex MCM, they should be well versed and have an advanced-level of understanding with respect to commonly used MCM building methodologies – frames, trusses and panels (type 1), volumetric structures (type 2) through to those that relate to whole buildings (type 3)[13]. At this level a BCO should be across all aspects of the design and build process in this context (ie the end-to-end process and quality assurance processes employed to ensure that the MCM can integrate with any traditional site work and building work taking place).

13. 'MCM Types' are taken from the BuiltReady Scheme Rules 2024.

Residential 1	Residential 2	Residential 3
R1-Pr6 Understands construction sequencing and the impact this has on the different types of design and construction employed eg demonstrates an understanding of the build process and how the construction sequence typically plays out from site, site preparation, excavation, foundation through to finishing works etc.		**R3-Pr3** Has an advanced-level of understanding in relation to construction sequencing for of MDH and other relevant methods of construction. Understands how sound transmission and spread of fire are managed for different terraced and multi-unit residential situations and the impact this can have on the build process eg intertenancy walls systems typically adhere to strict methods of construction so to avoid the construction sequence occurring in the wrong manner, which might ultimately compromise a systems fire or acoustic performance properties.
R1-Pr7 Has a basic core understanding of passive buildings and passive house design.		**R3-Pr4** Has an advanced-level of understanding in this area and can assess passive house design applications. Understands the core design and construction principles such as, building orientation, shading, building form, insulation, openings to the building envelope, airtightness, ventilation, solar gain, heating and water use. Understands certification in this context, to a passive house standard ie has an grasp of systems such as the 'Passive House Planning Package' (PHPP), an internationally recognised building energy modelling software package etc.
R1-Pr8 Has a well-rounded understanding of environmental and performance requirements implications that relate to locating and positioning a building on an allotment and in relation to a building's proximity to a legal boundary or from other buildings onsite.		**R3-Pr5** Has an advanced-level of understanding with regard to vertical plane fire separation in a vertical plane inter-tenancy context.

Regulation 10(3)(b): Understanding and knowledge of building products and methods.		
Performance Indicators 3. Comprehends and has satisfactory knowledge of proprietary systems and building products for this type of building work. 4. Demonstrates the ability to research, analyse and assess building methods and products associated with this type of building work.		
Guidance for assessors and candidates		
Residential 1	Residential 2	Residential 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
R1-Bp1 Has an understanding of commonly used building materials, (proprietary (common) building products/methods)) and systems (eg pre-nailed truss and frames, conventional cladding/drained cavity, flashing and bracing systems, timber and light steel building products etc) used in residential building work.	**R2-Bp1** Has a higher-level of understanding with respect to material composition, product performance and demonstrates the ability to identify and evaluate the durability/ performance of alternative solutions as it relates to this category of buildings.	**R3-Bp1** Has an advanced-level of understanding in relation to building product performance, material composition and building methods used for this building category (eg is able to decipher complex technical information, often dealing with alternative solution methodologies). Has a well-developed understanding of when to seek out third-party verification (peer review/cite past determinations, etc) in order to establish Building Code compliance and be satisfied on reasonable grounds (SORG).
R1-Bp2 Has an understanding of building product information requirements (BPIRs) and which building products are 'designated building products for the purposes of the BPIR regulations and sections 9A and 9B of the Building Act.	**R2-Bp2** Has a higher-level of understanding of building products and building methods (and their means of compliance) as they relate to buildings in this category eg inter-storey structural floor systems, exterior cladding systems to 7metres in height etc.	**R3-Bp2** Has an advanced-level of understanding in relation to test methods used to illustrate compliance for these types of buildings (eg façade testing requirements for complex external envelope designs, fire and sound-rated wall assemblies (building methods) used for separating household units/tenancies).
R1-Bp3 Has a well-developed understanding of the Building Act as it relates to building methods for establishing compliance with the Building Code, (section 19 of the Act) and understands SED and alternative solutions in this context.	**R2-Bp3** Has a higher-level of understanding and is able to decipher complex technical information and seek out third-party verification (peer review) when and where required in order to establish Building Code compliance.	**R3-Bp3** Has an advanced-level of understanding in relation to building methods (eg understands the compartmentalisation of cladding systems over multiple levels to ensure durability, drying, drainage and ventilation are achieved).
R1-Bp4 Understands the implications of a building product or building method having a warning or ban issued against it under section 26 of the Building Act. Is aware of any applicable warnings or bans that relate to building products or methods which might be used in residential buildings.		

Residential 1	Residential 2	Residential 3
R1-Bp5 Understands product literature, testing and Verification Methods, appraisals and producer statements.		
R1-Bp6 Understands the regulatory requirements for building methods, products, the CodeMark scheme, as well as other applicable overseas building standards and certification schemes.		
Regulation 10(3)(c): Knowledge and skill in applying the Building Act, the Building Code, and any other applicable regulations under the Building Act.		
Performance Indicators 5. Comprehends and can **apply** knowledge of the application of the Building Act. 6. Comprehends and can **apply** knowledge of the roles and responsibilities of a BCA and TA. 7. Comprehends and can apply knowledge of the **linkage** and **interface** between the ***Resource Management Act 1991*** and the ***Building Act 2004***.		
Guidance for assessors and candidates		
Residential 1	Residential 2	Residential 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicator 7 there is no obvious step or adjustment in competence as it is considered core knowledge applicable to all residential levels.		
R1-Br1 Demonstrates knowledge and skill in applying the building control framework (ie MBIE's regulatory framework 'triangle').		
R1-Br2 Demonstrates knowledge and skill in applying the Building Act specifically: a. the purpose b. the principles, and c. its application.	**R2-Br1** A higher-level of understanding in relation to some of the more technical regulatory settings and in particular sections 67, 72, 75, 112, 113, 115 of the Building Act as they relate to this type of building work. Also being areas that trigger TA consideration and/or approval.	**R3-Br1** Has an advanced-level of understanding with respect to sections 67, 72, 75, 112, 113, 115 of the Building Act as they relates to complex alteration work and buildings undergoing a change of use etc as it relates to this category of building. Being areas that trigger TA consideration and/or approval.
R1-Br3 Demonstrates knowledge and skill in applying the Building Code.	**R2-Br2** Has a higher-level of understanding of the Building Code, its performance basis and the Building Code clauses that typically apply to residential building work.	**R3-Br2** Has an advanced-level of understanding of the Building Code, its performance basis, relevant limits on application and the Building Code clauses that typically apply to residential building work.
R1-Br4 Demonstrates knowledge and skill in applying compliance pathways. Acceptable Solutions, Verification Methods, cited Standards and where applicable alternative solutions.		

Residential 1	Residential 2	Residential 3
R1-Br5 Understands restricted building work (RBW) and how it applies to residential and small to medium apartment buildings. Understands the application of RBW for exempt building work, in both a Schedule 1 and Schedule 1A of the Building Act context ie RBW that relates to general building work and that which is associated with 'small standalone dwellings' (SSDs).		
R1-Br6 Understands Schedule 1 and 1A of the Building Act, including the TA discretionary exemption under clause 2 of Schedule 1.		
R1-Br7 Understands all occupational licensing schemes that operate in the sector (eg licensed building practitioner (LBP), chartered professional engineer (CPEng) schemes).		
R1-Br8 Has a working knowledge of producer statements.	**R2-Br3** Has a higher-level of understanding in relation to producer statement processes as it relates to Residential 2 building work ie inclusive of SED where inter-storey floor systems, 'wet Inservice' decks etc are involved.	**R3-Br3** Has an advanced-level of understanding in relation to producer statement processes as it relates to Residential 3 building work ie inclusive of additional/ more complex SED elements, higher levels of onsite construction monitoring, testing etc.
R1-Br9 Understands the role of MBIE as the central building regulator.		
R1-Br10 Understands the role of territorial authorities (TAs) and regional authorities (RAs).		
R1-Br11 Understands the role of BCAs and 'standalone BCAs'.		
R1-Br12 Has a working knowledge of: a. project information memoranda (PIMs) b. building consents c. inspections d. code compliance certificates (CCCs) e. certificates of acceptance (CoAs) f. compliance schedules g. building warrants of fitness (BWoFs) h. notices to fix (NTFs).		

Residential 1	Residential 2	Residential 3
R1-Br13 Can define the term 'natural hazard' and can reference the applicable requirements for granting or refusing to grant building consents on land that is subject to a natural hazard.		
R1-Br14 Understands the assessment criteria for alterations to and change the use of existing buildings in accordance with sections 112 and sections 115 respectively of the Building Act, including the relocation of an existing household unit or another building from one allotment to another.	**R2-Br4** Has a higher-level of understanding and knowledge in relation to section 112 and MBIE's 'SORG guidance' and relevant determinations as they relate to Residential 2 building work.	**R3-Br4** Has an advanced level of understanding and knowledge in relation to sections 112 and sections 115. Is familiar with MBIE's 'SORG guidance' and relevant determinations as they relate to Residential 3 building work.
R1-Br15 Demonstrates an understanding of the national multiple use building approvals (MultiProof) system that falls within the scope of this competency level and above, as well as product certification and the CodeMark scheme.		
R1-Br16 Understands the regulatory settings for buildings, building work and building products and is aware of the responsibilities of those involved in employing these settings, ie sections 7–9 and sections 11–14 of the Building Act.		
R1-Br17 Understands what conditions can be applied to a building consent: section 67 waivers and modifications, section 72 natural hazards, section 75 building over two allotments, section 90 BCA inspections, section 113 specified intended life. Also understands section 37 requirements that relate to the *Resource Management Act* (RMA) and how this might impact consented building work progressing on site.		
R1-Br18 Understands the different types of inspections undertaken by a BCA (including remote inspections).		
R1-Br19 Understanding and awareness of compliance schedule requirements as they relate to cable cars in a residential setting.		
R1-Br20 If inspecting, understands the TA provisions on inspecting and requirements for entering land in accordance with sections 222–228 of the Building Act.		

Residential 1	Residential 2	Residential 3
R1-Br21 If inspecting, understands the *Minor Variations Regulations* and understands the process for formal amendments to building consents.		
Regulation 10(3)(d)(i): Ability to process applications for building consent.		
Performance Indicators 8. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (building related processing only). 9. Demonstrates an understanding of MultiProof, CodeMark and modular component manufacturing (MCM) that fall within the scope of this competency level.		
Guidance for assessors and candidates		
Residential 1	Residential 2	Residential 3
Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:
Note – for performance indicator 9 there is no obvious step or adjustment in competence as it is considered core knowledge applicable to all residential levels.		
R1-P1 Demonstrate an understanding of MultiProof, CodeMark and MCM schemes that fall within the scope of this competency level.		
R1-P2 Has a working knowledge of commonly cited Standards for B1, B1/AS1, B1/AS3 and B2, NZS 3602, NZS 3604, NZS 3640, NASH Standards and NZS 4229 in relation to residential dwellings. Includes how to determine compliance requirements for corrosion zones, ground- bearing, piles, footings, foundations, reinforcing, concrete strength, fill and compaction, bracing demand and design, sub-floor framing, wall framing, roof structures, timber treatment, load paths, fixings and connections, underlay and wraps, cladding systems, internal linings and durability.	**R2-P1** Has a higher-level of understanding in relation to NZS 3602, NZS 3604, NZS 3640, NASH Standards and NZS 4229 in respect of: a. transfer of load paths b. bracing design c. inter-storey floor construction d. stair openings and other voids e. increased complexity of primary structure f. increased awareness of ground conditions and foundation requirements (eg "TC2").	**R3-P1** Has an advanced-level of understanding in relation to NZS 3602, NZS 3604, NZS 3640, NASH Standards and NZS 4229 in respect of: a. transfer of load paths across multiple-levels b. bracing design across multiple-levels c. multi-level inter-storey floor construction d. increased complexity of primary structure over multiple-levels e. is aware of the 3 metre height limitation in NZS3604 for deck design f. increased awareness of ground conditions and foundation requirements (eg "TC3").

Residential 1	Residential 2	Residential 3
R1-P3 B1/VM1 – has a working knowledge of how this Verification Method and referenced Standards are used for structural design, and B1/VM2 (B1/VM4[14])– as it relates to foundation design.	**R2-P2** Has a higher-level of understanding of SED solutions, including an awareness of construction monitoring, producer statement processes and peer-review where required. With respect to foundation design has a higher-level of understanding of B1/VM2 as this Verification Method covers geotechnical design of foundations.	**R3-P2** Has an advanced of understanding with regard to terraced and adjoined (separate tenancies) buildings and the impact this has on a building's overall structural design. For foundation design has a advanced-level of understanding of B1/VM2 as this Verification Method covers geotechnical design of foundations.
R1-P4 B1/AS1 – has a working knowledge of this Acceptable Solution: a. B1/AS1 2.1.2 understands the implications of foundation design in relation to liquefaction-prone land. b. B1/AS1 9.1 – NASH Standard Part 2: Light Steel Framed Buildings, to align with E2/AS4. c. B1/AS3 as it relates to small chimney design.	**R2-P3** Has a higher-level of understanding in relation to two-storey buildings and their inter-storey floor systems etc.	**R3-P3** Has an advanced-level of understanding in relation to three-storey buildings and peer review (PS2) processes for complex design solutions that depart from MBIE's Acceptable Solutions for B1.
R1-P5 Has a working knowledge of durability requirements B2 and B2/AS1 as they relate to this type of building work (eg 5, 15 and 50 year durability requirements of nominated building elements).	**R2-P4** Has a higher-level of understanding about material composition, product performance, evaluating or comparing similar materials and demonstrates the ability to evaluate the durability of alternative solutions. Is aware of B2/VM1 and how this might be applied in this context.	
R1-P6 Has a working knowledge of compliance with clause C2 – including manufacturer requirements for installation of freestanding and in-built solid fuel heating appliances, clean air requirements, appliance clearances, hearth, insulation barrier, shielding, restraints, flue heights, flashings, finishes and furnishings, ventilation and associated prescribed electrical work (if applicable). Has a working knowledge of C/VM1 and AS/NZS 2918.	**R2-P5** Has a higher-level of understanding as to how such heating appliances might affect a buildings structural behaviour eg when parts of the appliance penetrate or pass through inter-storey floor and diaphragm systems.	
R1-P7 Has a working knowledge of C3 and C/AS1 fire separations from adjacent household units. For clause C3, can apply commonly used fire rating systems for walls built in close proximity to legal boundaries for residential household units and other buildings that are included in this competency level.	**R2-P6** Has a higher-level of understanding and can apply commonly used fire-rating systems for walls built in close proximity of boundaries and achieving compliance with clause C3 and C/AS1 regarding spread of fire.	**R3-P4** Has an advanced-level of awareness and understanding of vertical plane fire separation systems. Can assess complex fire design solutions in a residential context and is conscious and alert to the design interface between a range of specialised practitioners in an inter-tenancy context (eg structural, fire, mechanical, acoustic).

14. Verification Method B1/VM4 First Edition, as amended, can be used to show compliance until 31 July 2026 and can be used for building consent applications submitted before 1 August 2026. It will be viewed as an alternative solution thereafter.

Residential 1	Residential 2	Residential 3
R1-P8 Has a working knowledge of C6 and C/AS1 as they apply to structural fire-rated elements for carports, garages and household units.		**R3-P5** Has an advanced-level of understanding on structural systems and fire rated systems as it relates to protection of other property (eg intertenancy party walls).
R1-P9 Has a working knowledge of access to and from buildings for D1 and D1/AS1 (eg steps, handrails, barriers and non-slip provisions).	**R2-P7** Has a higher-level of understanding of stair requirements for gaining access to different levels of a residential building regarding D1.	
R1-P10 Has an understanding and awareness of compliance schedule requirements as they relate to cable cars in a residential setting.		
	R2-P8 Has the ability to assess domestic passenger-carrying lift or stair-climbing design requirements in accordance with D2 and NZS 4334.	
R1-P11 Has a working knowledge of weathertightness and the external envelope of outbuildings and ancillary buildings as required by E2. a. Has a good technical knowledge of E2/AS1 (eg understands the scope of E2/AS1 and can determine compliance with E2/AS1 and E2/AS4 as it relates to risk). b. Understands the "4 Ds" – Deflection, Drainage, Drying, and Durability in a weathertightness context. c. Has the ability to assess retaining walls and sub-soil drainage to prevent transmission of moisture into a building. d. Understands the relationship between E1 and E2 with respect to surface water and hydrostatic water pressure acting on sub-surface building elements.	**R2-P9** A higher-level of understanding of E2/AS1, E2/VM1, E2/AS2, E2/AS3 and E2/AS4 is demonstrated in respect of: a. building envelope complexity b. assessment of cladding junction design c. penetrations to the envelope d. requirements for rigid air barrier in higher wind zones, and e. below ground (subsurface) construction methods used to protect building elements from moisture entering a building.	**R3-P6** An advanced level of understanding of E2/AS1, E2 /VM1, E2/AS2, E2/AS3 and E2/AS4 is demonstrated in respect of: a. Complex architecturally designed cladding systems and cladding junctions. b. Has the ability to apply knowledge and understanding to assess highly complex building facades, rainscreens and alternative solutions that are subject to higher wind loads that fall within this competency level. c. Below ground (subsurface) construction used to protect building elements (and whole floors) from moisture entering a building.
R1-P12 Has a working knowledge of internal moisture management within buildings as required by E3 and E3/AS1 (eg understands ventilation, temperature, thermal resistance, condensation, impervious surfaces for floor and wall linings) and E3/AS2 as it relates to wet-area membranes for residential buildings.		**R3-P7** An advanced level of understanding of E3 is demonstrated in respect of protection of other property from damage caused by uncontrolled water from one household unit entering another household unit.
R1-P13 Has the ability to identify hazardous agents or contaminants on site as required by F1 and F1/AS1 and knows how to read a PIM and/or check Council hazard files in the absence of a PIM.		

Residential 1	Residential 2	Residential 3
R1-P14 Has a working knowledge of human impact for glazing as required by F2 and F2/AS1 using NZS 4223 and is able to assess the compliance of glazed barriers and identify the required locations for safety glass.		
R1-P15 Understands F3 and is able to assess the health and safety requirements for asbestos and other hazardous building materials.		
R1-P16 Demonstrates an understanding of F4 and F4/AS1 requirements for safeguarding people from falling as required by F4 and F4/AS1 (eg barrier construction, correlation between B1, B2 and F4, SED barriers, B2 implications and swimming pool barrier requirements).	**R2-P10** Has a higher-level understanding of the implications of openings in the building envelope that require consideration in accordance with F4 and F4/AS1.	
R1-P17 Demonstrates an understanding of site safety requirements in accordance with F5 and F5/AS1.		
R1-P18 Requirements of F7, in particular the placement and installation of domestic smoke detectors as required by C/AS1-AS2 and NZS 4514 and NZS 4517 as they relate to residential buildings.	**R2-P11** Has a higher-level understanding of C/AS1-AS2 as it relates to Residential 2 buildings in a two-storey context.	**R3-P8** Has an advanced level of understanding of C/AS1-AS2 as it relates to Residential 3 buildings in a three-storey context (eg as to the application of NZS 4514 for 'multi-level houses').
R1-P19 Has a working knowledge of F9/AS1 Residential pool barriers and F9/AS2 Covers for small heated pools. Has an understanding of Schedule 1(21A) as it relates to installation of a safety cover.		
R1-P20 Has a working knowledge of G1 and G1/AS1 for location, sizing and number of sanitary fixtures.		
R1-P21 Has a working knowledge of G2 and G2/AS1 for spatial laundering requirements.		
R1-P22 Has a working knowledge of spatial, hygiene, storage and preparation requirements for cooking and food as required by G3 and G3/AS1 (eg impervious surfaces, food storage, cooking and refrigeration).		

Residential 1	Residential 2	Residential 3
R1-P23 Has a working knowledge of natural and mechanical ventilation requirements for domestic buildings as required by G4 and G4/AS1 (eg 5 percent floor area/window ratio, sizing of natural venting for occupied spaces, mechanical ventilation for bathrooms/kitchens).	**R2-P12** Has a higher-level of understanding about natural and mechanical ventilation requirements for residential buildings as required by G4, G4/VM1 and G4/AS1.	
		R3-P9 Has an understanding of sound transmission class (STC) and can assess commonly used solutions to determine compliance with G6 and G6/AS1 (Airborne and impact sound) between tenancies/ occupancies and exhibits an understanding of the interface between B1, C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.
R1-P24 Has a working knowledge of the requirements for natural light and visual awareness of the outside environment as required by G7 and G7/AS1 (eg 10 percent floor area/ratio for visual awareness).		
R1-P25 Has a working knowledge of the requirements for providing artificial lighting to enable safe movement as required by G8 and G8/AS1 (eg access routes and minimum lux levels).		
R1-P26 Has a working knowledge of the requirements for certifying compliance with electricity provisions as required by G9, G9/AS1, G9/VM1 and sections 19 and 94(3) of the Building Act.		
R1-P27 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		

Residential 1	Residential 2	Residential 3
R1-P28 Has a working knowledge of the requirements for assessing energy efficiency for housing as required by H1 and using the schedule method[15] in H1/AS1 (ceilings, walls, floors, windows/doors, hot water etc), H1/AS1 and H1/VM1. Good working knowledge of NZS 4218, NZS 4305.	**R2-P13** A higher-level of understanding of H1, H1/AS1 and H1/VM1, NZS 4218 for the thermal envelope and NZS 4305 regarding water storage heaters.	**R3-P10** An advanced understanding of H1, H1/AS1 and H1/VM1, NZS 4218 for the thermal envelope and NZS 4305 as it relates to water storage heaters. a. In relation to solar heat gain, has a well-developed understanding of adequate thermal resistance to the thermal envelope of the building, avoiding excessive window areas (particularly on the east, north and west- facing facades), avoiding excessive skylight areas and selecting glass types with appropriate solar heat gain coefficients (SHGC). b. For large buildings (>300m2) has a well-developed understanding of H1/AS2 or H1/VM2.
R1-P29 Can identify inspection requirements necessary to confirm compliance for this level of building work.		

Performance indicators required for plumbing and drainage compliance:

10. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (plumbing and drainage related processing only).

Guidance for assessors and candidates

Residential 1	Residential 2	Residential 3
Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:
R1-pd1 Has a working knowledge of the requirements for protecting people and other property from adverse effects of surface water as required by E1, E1/VM1 and E1/AS1 (minimum floor heights, design, construction and conveyance of storm water catchment).		
R1-pd2 Has a working knowledge of G1 and G1/AS1 for location, sizing and number of sanitary fixtures.		
R1-pd3 Has a working knowledge of the laundering and spatial requirements to satisfy G2 and G2/AS1.		
R1-pd4 Has a working knowledge of the requirements for certifying compliance with the electricity provisions as required by G9, G9/AS1, G9/VM1 and sections 19 and 94(3) of the Building Act.		

15. Note the schedule method will be removed from H1/AS1 as a mean of compliance on 26 November 2026.

Residential 1	Residential 2	Residential 3
R1-pd5 Has an understanding of requirements for protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services) and G10/AS1.		
R1-pd6 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		
R1-pd7 Understands requirements for specification and installation of domestic water supplies as required by G12, G12/AS1 and G12/VM1 (potable water requirements, hot water supply systems, venting/valving/restraint, design principles – avoid odour, design loading, falls, venting, materials, connections, access and maintenance, and imposed loads). Understands the relationship between G12 and a. B1 in relation to seismic restraint of water storage vessels b. E3 and accidental overflow of free water c. H1, H1/AS1 and systems providing hot water to sanitary fixtures and appliances to achieve compliance with energy efficiency requirements.	**R2-pd1** Has a higher-level of understanding with respect to G12/AS1, G12/AS2, G12/VM1 and AS/NZS 3500 and understanding water pressure at greater building height.	**R3-pd1** Has an advanced-level of understanding with respect to G12/AS1, G12/AS2, G12/VM1 and AS/NZS 3500 and understands the impact of water pressure at greater building height.
R1-pd8 Understands requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS/NZS 3500 Part 2 (system design principles – avoid odour (foul air and gases), design loading, falls, venting, materials, connections, access and maintenance, and imposed loads) a. understanding of onsite disposal foul water (eg AS/NZS 1547).	**R2-pd2** Has a higher-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to two-storey construction (stack systems design principles – avoid odour, design loading, falls, venting, materials, connections, access and maintenance, and imposed loads).	**R3-pd2** Has an advanced-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to three-storey residential (stack systems design principles – avoid odour, design loading, falls, venting, materials, connections, access and maintenance, and imposed loads).
R1-pd9 Has an understanding of hot water energy efficiency as it relates to this building type with regard to H1/AS1 and NZS 4305.		
R1-pd10 Can identify inspection requirements necessary to confirm compliance for this level of building work.		

Regulation 10(3)(d)(ii):
Ability to inspect building work.

Performance Indicators

11. Inspect building work relating to foundation type inspections to establish whether compliance with the Building Code (building only) has been achieved for residential buildings.
12. Inspect building work relating to pre-line type inspections to establish whether compliance with the Building Code (building only) has been achieved for residential buildings.
13. Inspect building work relating to final type inspections (including specified systems) to establish whether compliance with the Building Code (building only) has been achieved for residential buildings.

Guidance for assessors and candidates

Residential 1	Residential 2	Residential 3
Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:
R1-I1 Demonstrated ability to read and interpret plans and specifications, as well as to identify siting of the building as per the site plan.		
R1-I2 Can use technical equipment (eg moisture meters, cameras, thermometers) and administrative resources (checklists, copies of technical information eg NZS 3604) to establish Building Code compliance.		
R1-I3 Has a working knowledge of B1/AS1, B1/AS3, NZS 3604, NZS 3602, NZS 3640, NASH Standards, NZS 3622, NZS 4229 and the Compliance Documents as they relate to residential construction and in particular: a. demonstrates an understanding of MCM and how this interfaces with the onsite inspection process.	**R2-I1** Has a higher-level of understanding of B1/AS1, NZS 3604, NZS 3602, NZS 3640, NASH Standards, NZS 3622, NZS 4229, that is demonstrated in respect of building inspection and: a. transfer of load paths b. bracing design c. interstorey floor construction d. stair openings and other voids e. increased complexity of primary structure f. increased awareness of ground conditions and foundation requirements ("TC2") g. demonstrates an understanding of MCM and how this interfaces with the onsite inspection process at this level.	**R3-I1** Has an advanced-level of understanding of B1/AS1, NZS 3604, NZS 3602, NZS 3640, NASH Standards, NZS 3622, NZS 4229, that is demonstrated in respect of building inspection and: a. transfer of load paths across multiple-levels b. bracing design across multiple-levels c. multi-level inter-storey floor construction d. increased complexity of primary structure over multiple-levels e. increased awareness of ground conditions and foundation requirements ("TC3") f. demonstrates an understanding of MCM and how this interfaces with the onsite inspection process at this level.
R1-I4 Has an understanding of SED solutions derived from B1/VM1, and design features report including an awareness of construction monitoring (CM1-CM5), producer statement processes.	**R2-I2** Has a higher-level of understanding of complex SED solutions, B1/VM1, B1/VM2 (B1/VM4) and design features report including an awareness of construction monitoring (CM1-CM5), producer statement processes.	**R3-I2** Has an advanced-level of understanding of complex SED solutions, B1/VM1, B1/VM2, (B1/VM4) and design features report including an awareness of construction monitoring (CM1-CM5), producer statement processes and how this interfaces with the inspection function they are performing.

Residential 1	Residential 2	Residential 3
R1-I5 Has an awareness of requirements for construction producer statements, construction monitoring and construction review (PS3 and 4).	**R2-I3** Has an awareness of requirements (PS3 and PS4) for complex design solutions.	**R3-I3** Has a strong awareness of requirements (PS3 and PS4) for complex design solutions and/or alternative solutions.
R1-I6 Where applicable can perform remote (virtual) inspections (RI) and follow the BCA's policy, procedures and systems in relation to this type of inspection. Is aware of MBIE's guidance in relation to RI. Has received dedicated training on RI in relation to the technology and application of the software involved.		
R1-I7 Understands access requirements to different levels of residential buildings and can inspect (eg stair/ramp, slip resistance) in accordance with D1 and D1/AS1.		
R1-I8 Has an understanding and awareness of compliance schedule requirements as they relate to cable cars in a residential setting.		
R1-I9 Has the ability to assess (inspect) passenger-carrying lift or stair-climbing design requirements in accordance with D2 and NZS 4334.		
R1-I10 Has an understanding of E1/AS1, E1/AS2, and E1/VM1 with respect to drainage solutions (and related storage vessels) for volumes of surface water flow on roof, deck and balcony areas, as well as over-land flow paths.		
R1-I11 Has a working knowledge of weathertightness and the external envelope of outbuildings and ancillary buildings as required by E2. a. Has a good technical knowledge of E2/AS1 (eg understands the scope of E2/AS1 and can determine compliance with E2/AS1 and E2/AS4 as it relates to a buildings envelope).	**R2-I4** A higher-level of understanding of E2/AS1, E2 /VM1, E2/AS2, E2/AS3, and E2/AS4 is demonstrated in respect of: a. envelope complexity, mixed cladding systems b. assessment of cladding junction design c. penetrations to the envelope d. requirements for rigid air barrier in relation to higher wind loads, and e. has the ability to inspect retaining walls and sub-surface drainage, protection, waterproofing, etc to prevent transmission of moisture into a building.	**R3-I4** An advanced level of understanding of E2/AS1, E2/VM1, E2/AS2, E2/AS3 and E2/AS4 is demonstrated in respect of: a. complex architecturally designed cladding systems and cladding junctions b. has the ability to apply knowledge and understanding to inspect highly complex building facades, rainscreens that are subject to higher wind loads that fall within this competency level, and c. below ground (subsurface) construction methods used to protect building elements from moisture entering a building.

Residential 1	Residential 2	Residential 3
R1-I12 Has a working knowledge of internal moisture management within buildings as required by E3, E3/AS1 and E3/AS2 (eg understands ventilation, temperature, thermal resistance, condensation, impervious surfaces for floor and wall linings).		**R3-I5** An advanced level of understanding of E3, E3/AS1 and E3/AS2 is demonstrated in respect of protection of other property from damage caused by uncontrolled water from one household unit entering another household unit.
R1-I13 Has the ability to identify hazardous agents or contaminants on site as required by F1 and F1/AS1 and knows how to read a PIM and/or check Council hazard files in the absence of a PIM.		
R1-I14 Has a working knowledge of human impact for glazing as required by F2 and F2/AS1 using NZS 4223 and is able to assess the compliance of glazed barriers and identify the required locations for safety glass.		
R1-I15 Understands F3 and is able to assess the health and safety requirements for asbestos and other hazardous building materials.		
R1-I16 Has an understanding of the implications of openings in the building envelope that require consideration in accordance with F4 and F4/AS1.		
R1-I17 Demonstrates an understanding of site safety requirements in accordance with F5 and F5/AS1.		
R1-I18 Requirements of F7, in particular the placement and installation of domestic smoke detectors as required by C/AS1-AS2 and NZS 4514 and NZS 4517 as they relate to residential buildings.	**R2-I5** Has a higher-level of understanding in relation to C/AS1-AS2 as it relates to Residential 2 buildings in a two-storey context.	**R3-I6** Has an advanced level of understanding as it relates to Residential 3 buildings in a three-storey context eg as to the application of NZS 4514 for 'multi-level houses'.
R1-I19 Has a working knowledge of F9, F9/AS1 Residential pool barriers and F9/AS2 Covers for small heated pools, **and** a. Schedule 1(21A) as it relates to installation of a safety cover. b. The Fencing of Swimming Pools Act 1987.		
R1-I20 Has a working knowledge of G1 and G1/AS1 for location, sizing and number of sanitary fixtures.		

Residential 1	Residential 2	Residential 3
R1-I21 Has a working knowledge of G2 and G2/AS1 for spatial laundering requirements.		
R1-I22 Has a working knowledge of spatial, hygiene, storage and preparation requirements for cooking and food as required by G3 and G3/AS1 (eg impervious surfaces, food storage, cooking and refrigeration).		
R1-I23 Has a working knowledge of natural and mechanical ventilation requirements for domestic buildings as required by G4 and G4/AS1 (eg 5 percent floor area/window ratio, sizing of natural venting for occupied spaces, mechanical ventilation for bathrooms/kitchens).		
		R3-I7 Has an advanced level of understanding in relation to STC and IIC performance requirements to determine compliance with G6 and G6/AS1 Airborne and Impact Sound. As it relates to inter-tenancy occupancies and exhibits a heightened understanding of the interface between C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.
R1-I24 Has a working knowledge of the requirements for natural light and visual awareness of the outside environment as required by G7, G7/AS1 (eg 10 percent floor area/ratio for visual awareness) and G7/VM1.		
R1-I25 Has a working knowledge of the requirements for providing artificial lighting to enable safe movement as required by G8 and G8/AS1 (eg access routes and minimum lux levels).		
R1-I26 Has a working knowledge of the requirements for certifying compliance with electricity provisions as required by G9, G9/AS1, G9/VM1 and sections 19 and 94(3) of the Building Act.		
R1-I27 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		

Residential 1	Residential 2	Residential 3
R1-I28 Has a working knowledge of the requirements for inspecting energy efficiency for housing as required by H1 and using the schedule method in H1/AS1 (ceilings, walls, windows/ doors, hot water etc), H1/AS1 and H1/VM1. Good working knowledge of NZS 4218, NZS 4305.		
R1-I29 Has working knowledge of installing bulk thermal insulation in residential buildings as required by NZS 4246.		
R1fd. Foundations		
R1-fd1 Has an understanding of corrosion zones, concrete strength requirements (different zones and different foundation types), fixing materials and is able to apply this knowledge when inspecting.		
R1-fd2 Understands and can inspect: a. setout and siting (including distance from boundary and reduced levels), and b. matters relating to fill, blinding, compaction and ground-bearing.		
R1-fd3 Understands requirements for pile foundations – types (including bracing types), sizes and dimensions (ground clearance, max heights, foundation depths, etc), fixings for different pile types, treatment and identification, how bracing is calculated for subfloors, point load piles when inspecting.	**R2-fd1** Has a higher-level of understanding and is able to inspect elevated suspended timber floor (eg pole foundations or elevated wet in-service first level decks) systems up to two storeys in height.	**R3-fd1** Has an advanced level of understanding and is able to inspect elevated suspended timber floor (eg pole foundations or elevated wet in-service first second level decks) systems up to three storeys in height. Is aware of the 3 metre height limitation in NZS3604 for deck design.
R1-fd4 Understands requirements for concrete foundations (includes concrete masonry) – reinforcing (laps and size), reinforcing type (identification of deformed and round, high tensile or normal, mesh and mesh support), pipe penetrations, point load pads, bond beams, wash outs, 'A', 'B' and 'C' grade masonry when inspecting.	**R2-fd2** Has a higher-level understanding in relation to concrete foundations (including concrete masonry) and can inspect buildings up to two storeys in height. Understands the 'plan floor area' limitations in NZS3604 for concrete and masonry walls supporting a lower storey in a two-storey context.	**R3-fd2** Has an advanced level understanding in relation to concrete foundations (including concrete masonry) and can inspect buildings up to three storeys in height. Understands the 'plan floor area' limitations in NZS3604 for concrete and masonry walls supporting a lower storey in the three-storey context.

Residential 1	Residential 2	Residential 3
R1-fd5 Understands requirements for concrete slabs – reinforcing (laps, size, supplementary reinforcing requirements, cover), control joint and slab size limitations, pipe penetrations, thickness and thickenings of slab, DPM when inspecting.		
R1-fd6 Understands third-party specialist inputs including producer statements, geotechnical reports (specialist engineering input), compaction certificates, concrete dockets when inspecting.		
R1pl. Pre-line		
R1-pl1 Understands requirements for timber floor systems when inspecting.	See extension for R1-fd4.	See extension for R1-fd4.
R1-pl2 Understands requirements for framing and truss – size span and spacing, timber grade and treatment, load paths, moisture content, fixings and connections, truss design and layout information, penetrations, bracing systems and fixings when inspecting.		**R3-pl1** Has an advanced level of understanding of requirements for inter-tenancy party walls in relation to spread of fire, protection of other properties and sound transmission when inspecting.
R1-pl3 Understands requirements for claddings s – underlays/ wraps, wind barriers and rigid air barriers, fixings, penetrations and flashings, sill tapes, air seals, cavity systems, direct fix systems, penetrations, brick veneer requirements when inspecting.		**R3-pl2** Has an advanced level of understanding in relation to: a. drained and vented wall cavity systems to E2/AS1 b. compartmentalisation of continuous drained and vented cavity systems where they extend beyond two continuous stories (E2/AS1 9.1.9.4 and Figure 70), and c. inspecting cladding systems that are beyond the scope of E2/AS1 (alternative solutions).
R1-pl4 Understands requirements for both external and internal membrane systems a) shower and wet area membrane systems eg E3/AS1, E3/AS2 b) roof and deck requirements, including substrates, penetrations, fall and overflows eg E2/AS1.		**R3-pl3** An advanced-level of understanding of E3 is demonstrated in respect of protection of other property from damage caused by uncontrolled water from one household unit entering another household unit when inspecting.

Residential 1	Residential 2	Residential 3
R1-pI5 Understands requirements for insulation installation – type, rating, installation requirements (refer to NZS 4246, Energy efficiency – Installing bulk thermal insulation in residential buildings) when inspecting.		
R1fn. Final		
R1-fn1 Understands access to and within the building – subfloor and ceiling, steps, stairs installation – tread, riser, handrails, barriers non-slip provisions when inspecting.		
R1-fn2 Understands requirements for internal linings and surfaces, including impervious surface requirements, waterproof membranes, water splash areas when inspecting.		
R1-fn3 Understands requirements for smoke detectors – placement and location when inspecting.	Refer to extension for R1-I18.	Refer to extension for R1-I18.
R1-fn4 Understands requirements for ventilation – mechanical and natural when inspecting.		
R1-fn5 Understands requirements for fire-rated boundary walls and other building components when inspecting.		**R3-fn1** Has a strong awareness of requirements for inter-tenancy party walls in relation to spread of fire, protection of other properties and sound transmission when inspecting.
R1-fn6 Understands requirements for glazing, safety glass identification, locations when inspecting.		
R1-fn7 Understands requirements for finished ground level and ground clearances to claddings and floor levels when inspecting.	**R2-fn1** Has a higher-level of understanding and can inspect level-entry details, door thresholds and other similar upper-level enclosed decks.	
R1-fn8 Understands requirements for third party verification (eg producer statements, energy work certificates) when inspecting.	Refer to extension for R1-I5.	Refer to extension for R1-I5.

Residential 1	Residential 2	Residential 3
R1-fn9 Understands requirements and can follow manufacturer requirements for installation of freestanding and in-built solid fuel heating appliances, requirements for: appliance clearances, hearth, insulation barrier, shielding, restraints, flue heights, flashings, finishes and furnishings, ventilation and associated prescribed electrical work (if applicable) when inspecting.	Refer to extension for R1-P6.	
R1-fn10 Understands requirements for identification and management of risk from hazardous agents or contaminants on site when inspecting.		
R1-fn11 Is able to identify and inspect when external technical assistance is required and can outsource work for technical review when required.		
Performance indicators required for plumbing and drainage compliance: 14. Inspect building work to establish whether compliance with the Building Code (plumbing and drainage related inspections only) has been achieved for residential buildings.		
Guidance for assessors and candidates plumbing and drainage		
Residential 1	Residential 2	Residential 3
Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:
R1-gp1 Demonstrate an understanding of MultiProof, CodeMark, overseas certification schemes, building product standards and modular component manufacturer (MCM) schemes that fall within the scope of this competency level.		
R1-gp2 Demonstrated ability to read and interpret plans and specifications. Can establish that the building work (sanitary plumbing and drainage) is in accordance with the consented plans and specifications.	**R2-gp1** Has a higher-level of understanding and is able to interpret technically complex plans and specifications relating to sanitary plumbing and drainage. Is able to inspect building work is in accordance with the consented plans and specifications at this competency level.	**R3-gp1** Has an advanced-level of understanding and is able to interpret technically complex, multi-layered plans and specifications relating to sanitary plumbing and drainage. Is able to inspect building work is in accordance with the consented plans and specifications at this competency level.

Residential 1	Residential 2	Residential 3
R1-gp3 Is able to use technical equipment (eg pressure testing, cameras, tablets, thermometers) and administrative resources (checklists and copies of technical information) to establish compliance against the consented documents.		
R1-gp4 Has an understanding of specified systems and compliance schedule matters in an inspection context.		
R1-gp5 Has an understanding of the requirement for observation of building elements by experts, such as chartered professional engineers (eg hydraulic engineer, drainage engineer).	**R2-gp2** Where applicable, has a higher-level of understanding with regard to the monitoring, inspection, testing, commissioning and verification processes that apply to complex or specifically designed plumbing or drainage systems in a residential context.	
R1-gp6 Has a working knowledge of the requirements for protecting people and other property from adverse effects of surface water as required by E1, E1/AS1 and E1/VM1 (minimum floor heights, design, construction and conveyance of storm water catchment).	**R2-gp3** Has a higher level of understanding of E1/AS1, E1/AS2, and E1/VM1 with respect to complex drainage solutions (and related storage vessels) for dealing with larger volumes and high velocity water flow for roof, deck and balcony areas.	
R1-gp7 Has a working knowledge of G1 and G1/AS1 for location, sizing and number of sanitary fixtures.		
R1-gp8 Has a working knowledge of the laundering and spatial requirements to satisfy G2 and G2/AS1.		
R1-gp9 Has a working knowledge of the requirements for certifying compliance with electricity provisions as required by G9, G9/AS1. G9/VM1 and sections 19 and 94(3) of the Building Act.		
R1-gp10 Understands requirements for protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services) and G10/AS1.		
R1-gp11 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		

Residential 1	Residential 2	Residential 3
R1-gp12 Understands requirements for specification and installation of domestic water supplies as required by G12, G12/AS1 and G12/VM1 (potable water requirements, hot water supply systems, venting/valving/restraint, design principles – avoid odour, design loading, falls, venting, materials, connections, access and maintenance, and imposed loads). Understands the relationship between G12 and a. B1 in relation to seismic restraint of water storage vessels b. E3 and accidental overflow of free water c. H1, H1/AS1 and systems providing hot water to sanitary fixtures and appliances to achieve compliance with energy efficiency requirements.	**R2-gp4** Has a higher-level of understanding with respect to G12/AS1, G12/AS2, G12/VM1,AS/NZS 3500 and understanding water pressure at greater building height.	**R3-gp2** Has an advanced-level of understanding with respect to G12/AS1, G12/AS2, G12/VM1,AS/NZS 3500 and understanding water pressure at greater building height.
R1-gp13 Understands requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS/NZS 3500 Part 2 (system design principles – avoid odour (foul air and gases), design loading, falls, venting, materials, connections, access and maintenance, and imposed loads). a. Understands onsite disposal foul water (eg AS/NZS 1547).	**R2-gp5** Has a higher-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to two-storey construction (stack systems design principles – avoid odour, design loading, falls, venting, materials, connections, access and maintenance, and imposed loads).	**R3-gp3** Has an advanced-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to three-storey residential buildings (stack systems design principles – avoid odour, design loading, falls, venting, materials, connections, access and maintenance, and imposed loads).
R1-gp14 Has an understanding of hot water energy efficiency as it relates to this building type with regard to H1/AS1 and NZS 4305.		
R1-gp15 Where applicable can perform remote (virtual) inspections (RI) and follow the BCA's policy, procedures and systems in relation to this type of inspection. Is aware of MBIE's guidance in relation to RI. Has received dedicated training on RI in relation to the technology and application of the software involved.		
R1-gp16 Is able to use technical equipment (eg pressure testing, cameras, tablets, thermometers) and administrative resources (checklists and copies of technical information) to establish compliance against the consented documents including plumbing and drainage inspection as well.		

Residential 1	Residential 2	Residential 3
R1pf. Foundations		
R1-pf1 Has an understanding of pipe material, gradients, size, bedding, backfill, protection, insulation, access points, jointing and sleeving, testing, supports, changes of direction, conveyance to approved outfalls and bridging of drains.	**R2-pf1** Has a higher-level of understanding regarding pipe material, gradients, size, bedding, backfill, protection, insulation, access points, jointing and sleeving, testing, supports, changes of direction, conveyance to approved outfalls and bridging of drains. This understanding would relate to pipes and drains etc traversing different levels in buildings ie pipes and drains that are subject to greater falls and that might pass through retaining walls and foundations and are subject to subsurface hydrostatic pressure and bring in clause E1 and E2 performance considerations.	
R1-pf2 Has an understanding of HW relief drain and discharge outlet and drain access points.		
R1-pf3 Understands requirements for producer statements.		
R1pp. Pre-line		
R1-pp1 Has an understanding of pipe materials, thermal movement, sizing, compatibility, insulation, testing, penetrations through envelope, roof flashings, elevated drainage principles, waste pipes, venting systems.	**R2-pp1** Has a higher-level of understanding of pipe materials, thermal movement, sizing, compatibility, insulation, testing, penetrations through envelope, roof flashings, soil stacks (graded), elevated drainage principles (mechanically pumped systems), waste pipes, venting systems as it relates to buildings in excess of one storey.	
R1-pp2 Has an understanding of hot water storage systems and cold-water expansion relief drain discharge outfall point.		
R1-pp3 Has an understanding of hot water supply: a. mains, low-pressure, wet-back, solar b. tank supply – structural support/safe tray/overflow/ seismic restraint c. solar PV systems – structural support – penetrations and third-party verification (ROI) requirements d. wet-back – open venting of HWC exhaust e. network utility cold water supply connections.		

Residential 1	Residential 2	Residential 3
R1-pp4 Has an understanding of plumbing and drainage: a. maintenance of water trap seals – floor waste gullies/gully traps, sewer surcharge gully b. venting (open or air admittance valves) c. pipe inspection points, protection including pipe, materials, jointing, bedding, outfall, testing d. septic tank/sewer (NUO)/other soakage system SW e. rainwater tank supply (potable)/overflow within consented property/pump/ gravity (air-locks) f. network utility cold water supply connections.		
R1pn. Final		
R1-pn1 Has an understanding of HWC seismic restraint, hot and cold-water valves, tempering device, cold water expansion relief, tundish, safe tray.		
R1-pn2 Has an understanding of HWC water supply temperature checks (personal hygiene, legionella).		
R1-pn3 Has an understanding of wet- back/HWC height above wood burner, flow and return pipe insulation, exhaust vent – pipe penetration flashing.		
R1-pn4 Has an understanding of solar relief valve discharge position, structural support, position, pipe insulation, installation same as building consent, penetrations flashed.		
R1-pn5 Can test sanitary fixtures trap seal retention.		
R1-pn6 Has an understanding of equipotential bonding.		
R1-pn7 Has an understanding of gully dish/grating height, waste pipe connections to gully riser or gully dish, surface water ingress.		

Residential 1	Residential 2	Residential 3
R1-pn8 Has an understanding of pipe penetrations as they relate to the building envelope and weathertightness.		
R1-pn9 Has an understanding of main drain vents.	**R2-pn1** Has a higher-level of understanding of main drain wastewater and stack vents for buildings in excess of one storey.	
R1-pn10 Has an understanding of drainage as-built plan, amendments and or minor variations to plans/specifications.		
R1-pn11 Has an understanding of backflow prevention for residential pools and hose taps (as applicable).		
R1-pn12 Can identify boundary fire walls and determine compliance for pipe penetrations.		
Regulation 10(3)(d)(iii): Ability to certify building work.		
Performance Indicators 15. Can issue certification (building consent or code compliance certificate) for this type of building work.		
Guidance for assessors and candidates		
Residential 1	Residential 2	Residential 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
R1-C1 Candidate can compile or review technical information received during the processing of a building consent or information received during the inspections/construction process and determine and record the outcome to issue, suspend, request further information and/or refuse to issue a building consent or code compliance certificate (within their authority).	**R2-C1** Has a higher-level of understanding and can handle, coordinate, file and process large volumes of complex technical information from application through to the issuance of a code compliance certificate as it relates to buildings over two stories in height.	
R1-C2 Has a well-developed and demonstrated understanding of what is means to be satisfied on reasonable grounds in accordance with section 94 of the Building Act.		

Residential 1	Residential 2	Residential 3
		R3-C1 Has an advanced-level of understanding of complex SED solutions and the interrelated construction monitoring, producer statement processes that are used to demonstrate compliance with the Building Code eg as it relates to inter- tenancy occupancies and exhibits a heightened understanding of the interface between clause B1, C3 and G6, particularly in relation to penetrations to fire and sound-rated structural party walls.
Regulation 10(3)(e): Ability to communicate with internal and external persons.		
Performance Indicators 16. Communicates with internal and external customers. 17. Can use information technology 18. Demonstrates good active listening, questioning and assertiveness skills in dealing with day-to-day tasks and responsibilities.		
Guidance for assessors and candidates		
Residential 1	Residential 2	Residential 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicators 17 and 18 there is no obvious step or adjustment in competence.		
R1-S1 Can correctly prepare letters, memos and short reports (being reviewed by senior staff, where required).		
R1-S2 Appears confident and has a good understanding of building-related subject matter when dealing with customers and colleagues.	**R2-S1** Demonstrates a higher-level of understanding and can clearly articulate findings and provide feedback to fellow staff members, the public and building sector professionals, presents a convincing and rational argument in support of decisions made.	
R1-S3 Can communicate effectively with other team members, consent applicants and members of the public.	**R2-S2** Has the ability and necessary skill to communicate at a higher-level with building sector professionals and other technical areas within the BCA and TA.	
R1-S4 Can accurately input written/ electronic data on internal forms, checklists, databases etc and completes prescribed forms in accordance with the *Building (Forms) Regulations 2004*.	**R2-S3** Has a higher-level of understanding and can accurately interpret building consent correspondence. Is able to compile accurate, clear and readable written responses such as requests for further information or notices to fix etc.	

Regulation 10(3)(f): Ability to comply with the BCA's policies, procedures and systems.		
Performance Indicators 19. Observes the BCA's policies, procedures and systems for this type of building work.		
Guidance for assessors and candidates		
Residential 1	Residential 2	Residential 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicator 19 there is no obvious step or adjustment in competence.		
R1-Ps1 Has an ability to accurately and carefully follow established policies, procedures and systems for completing work tasks in relation to building control functions.		
R1-Ps2 Has a well-developed understanding of the BCA's policies, procedures and systems as they directly relate to the candidate's core role(s) within the BCA eg processing, inspections, certification, technical leadership etc.		

Appendix 3A.2 MDH

The table below references guidance that relates to the 'MDH extension', which accounts for four-storey MDH that is normally beyond the scope of the Residential 3 competency. This is where the likes of:

- vertical and horizontal plane fire and acoustic separation (inter-tenancy walls and floor systems) might be applicable
- a higher degree or familiarity with specified systems is required
- greater use of active ventilation and more complex integration of building services might be applicable
- a shift in the standard of energy efficiency often applies
- building façades adjustments ie design of cladding systems beyond 3 levels, and
- a higher prevalence of SED is generally encountered.

Rather than repeating the relevant MDH competencies from Commercial 1 and Commercial 2, verbatim hyperlinks are provided below to the applicable areas of the commercial guidance in Appendix 3B.

The explanation of the numbering used for the MDH extension is located in the Numbering system section of this guidance. This is because the numbering does not introduce new competencies specific to Appendix 3B but explains how the existing competency numbering framework is applied when Commercial 1 and Commercial 2 competencies are referenced for the MDH context. Placing this explanation within the Numbering system section avoids duplication and supports consistent interpretation of the numbering across the guidance.

Residential – Numbering (MDH extension competencies)			
Regulation	**Com 1**	**Com 2**	**Reasoning for abbreviation**
Regulation 10(3)(a):	C1-Pr4 (MDH) C1-Pr5 (MDH) C1-Pr6 (MDH) C1-Pr7 (MDH) C1-Pr9 (MDH)	C2-Pr1 (MDH) C2-Pr2 (MDH) C2-Pr3 (MDH) C2-Pr4 MDH) C2-Pr5 (MDH)	C = **C**ommercial P = **Pr**inciples
Regulation 10(3)(b):	C1-Bp5 (MDH)	C2-Bp4 (MDH)	C = **C**ommercial Bp = **B**uilding products
Regulation 10(3)(c):	C1-Br26 (MDH)	C2-Br9 (MDH)	C = **C**ommercial Br = **B**uilding **r**egulations
Regulation 10(3)(d)(i):	C1-P2 (MDH) C1-P3 (MDH) C1-P7 (MDH) C1-P8 (MDH) C1-P9 (MDH) C1-P11 (MDH) C1-P13 (MDH) C1-P14 (MDH) C1-P22 (MDH) C1-P27 (MDH) C1-P29 (MDH) C1-P35 (MDH) C1-P37 (MDH)	C2-P1 (MDH) C2-P10 (MDH) C2-P11 (MDH)	R = **R**esidential P = **P**rocessing
Plumbing and drainage processing	C1-pd5 (MDH) C1-pd11 (MDH)		C = **C**ommercial Pd = **P**lumbing **d**rainage

Regulation	Com 1	Com 2	Reasoning for abbreviation
Regulation 10(3)(d)(ii):	C1-I4 (MDH) C1-I6 (MDH) C1-I7 (MDH) C1-I9 (MDH) C1-I11 (MDH) C1-I12 (MDH) C1-I19 (MDH) C1-I25 (MDH) C1-I27 (MDH) C1-I33 (MDH)	C2-I2 (MDH)	R = **R**esidential I = **I**nspection
Foundations		C2-fd1 (MDH) C2-fd2 (MDH)	C = **C**ommercial fd = **F**oun**d**ations
Pre-line	C1-pl3 (MDH) C1-pl5 (MDH) C1-pl6 (MDH)	C2-pl1 (MDH) C2-pl2 (MDH)	C = **C**ommercial pl = **P**re-**l**ine
Final	C1-fn7 (MDH) C1-fn8 (MDH) C1-fn11 (MDH)		C = **C**ommercial fn = **F**inal
Guidance for assessors Plumbing and drainage	C1-gp2 (MDH) C1-gp4 (MDH) C1-gp12 (MDH) C1-gp16 (MDH)	C2-gp9 (MDH)	C = Commercial gp = **g**uidance **p**lumbing
Plumbing – Foundation			C = Commercial F = **p**lumbing **f**oundation
Plumbing – Pre-line	C1-pp1 (MDH)		C = Commercial PP = **p**lumbing **p**re-line
Plumbing – Final	C1-pn10 (MDH)	C2-pn3 (MDH)	C = Commercial Pn = **p**lumbing **f**inal
Regulation 10(3)(d)(iii):	C1-C4 (MDH)		C = Commercial C = **C**ertification
Regulation 10(3)(d)(e):			C = Commercial S = **S**takeholder
Regulation 10(3)(d)(f):			C = Commercial Ps = **P**olicies/ Procedures and systems

Appendix 3B: Commercial competency requirements

Appendix 3B outlines competency requirements for Commercial 1 and extends to Commercial 2 and 3. It highlights applicable Regulation 10(3) clauses and notes exceptions to a BCOs knowledgebase that relate to applicable areas of 'higher' and 'advanced' levels of knowledge.

Note – 'MDH' relates to a relevant competency for medium density housing.

Commercial 1 core competency requirements with extensions for Commercial 2 and Commercial 3		
Competency level(s)		
Commercial 1	Commercial 2	Commercial 3
Commercial, industrial and communal non-residential buildings and their associated outbuildings and ancillary buildings equal to or less than two-storeys and an occupancy load of equal to or less than 100 people or residential buildings (use groups SR or SA) up to two-storeys and with horizontal fire separation. Importance level 1 and 2 buildings.	Commercial, industrial and communal non-residential buildings equal to or less than four-storeys and an occupancy load of equal to or less than 500 people or use groups (SC or SD). Up to importance level 3 and including some importance level 4 buildings dependent on occupant load, 'building type' and building height.	All uses of buildings that are over four-storeys high or contain over 500 occupants or use groups (SC or SD) greater than four-storeys. Up to and including importance level 5 buildings.
Regulation 10(3)(a): Understanding the philosophies and principles of building design and construction.		
Performance Indicators 1. Comprehends and has satisfactory knowledge of sections 3, 4 and 5 of the Building Act. 2. Comprehends and has satisfactory knowledge of design and construction techniques and construction sequencing for this type of building work.		
Guidance for assessors and candidates		
Commercial 1	Commercial 2	Commercial 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicator 1 there is no obvious step or adjustment in competence as it is considered core knowledge applicable to all commercial levels.		
C1-Pr1 The purpose of the Building Act.		
C1-Pr2 BCA and TAs functions, duties and powers under the Building Act, particularly as they relate to household units in duplex and apartment settings and commercial and industrial use buildings.		
C1-Pr3 Can discuss the hierarchy of New Zealand building legislation and the various compliance paths provided for under the Building Act.		

Commercial 1	Commercial 2	Commercial 3
C1-Pr4 **MDH** Can discuss building design, construction techniques and sequencing of building work and understands and can assess building work which uses alternate methods of construction (eg pre-fabrication, modular component manufacturer (MCM), offsite manufacturing (OSM) as it relates to this competency level. At a core level, has a well- developed understanding of how prefabricated wall frames and trusses, tilt panels and other commonly employed prefabricated building elements are used in modern construction.	**C2-Pr1** **MDH** Demonstrates a higher-level of understanding about building design, construction techniques and sequencing of building work as it relates to this competency level. For MCM/OSM. Where the BCO is processing, inspecting or certifying complex modular components, they should be well versed and have a higher-level of understanding with respect to commonly used MCM building methodologies ie frames, trusses and panels (type 1), volumetric structures (type 2) through to those that relate to whole buildings (type 3)[16]. Has an appreciation and understanding of the end-to-end process employed in MCM from a quality assurance perspective and the different types of MCM that might be employed to construct a Com 2 building.	**C3-Pr1** Demonstrates an advanced-level of understanding as a wider array of building products/methods are typically encountered at this level (eg precast concrete, tilt-slab, laminated veneer lumber (LVL), cross-laminated timber (CLT), structurally insulated panels (SIPs) etc) so knowledge would extend to processing, inspecting or certifying (as is applicable) for applications that include such products/building methods. Where the BCO is processing, inspecting and certifying complex modular components, they should be well versed and have an advanced-level of understanding with respect to commonly used MCM building methodologies ie frames, trusses and panels (type 1), volumetric structures (type 2) through to those that relate to whole buildings (type 3). At this level a BCO should be across all aspects of the design and build process in this context ie the end- to-end process, quality assurance processes employed to ensure that the MCM can integrate with any traditional site work and building work taking place.
C1-Pr5 **MDH** Has an understanding of common commercial and industrial building methods (eg engineered concrete, pre-cast/pre-stressed, tilt-slab, engineered steel-frame, cross-laminated timber (CLT), laminated veneer lumber (LVL) etc).	**C2-Pr2** **MDH** Has a higher-level understanding of common commercial and industrial building methods (eg engineered concrete, pre-cast/pre-stressed, tilt-slab, engineered steel-frame, CLT, LVL, curtain wall systems etc).	**C3-Pr2** Has an advanced understanding of common commercial and industrial building methods (eg engineered concrete, pre- cast/ pre-stressed, tilt-slab, engineered steel-frame, CLT, LVL etc). Understands the constraints and limitations of various construction systems used in high-rise commercial buildings (eg when assessing the fire performance of aluminium composite panels (ACPs) as it relates to Building Code clause C3 Fire affecting areas beyond the fire source, in particular the performance of subclauses C3.5 – C3.7 etc).

16. 'MCM Types' are taken from the BuiltReady Scheme Rules 2024.

Commercial 1	Commercial 2	Commercial 3
C1-Pr6 MDH Has an understanding of medium-density housing (MDH) building techniques and the related methods of construction.	**C2-Pr3** MDH Has a higher-level of understanding of medium- and high-density housing techniques and the related methods of construction. Understands how sound transmission and spread of fire are managed for different residential multi-unit (large- scale apartment) situations.	**C3-Pr3** Has an advanced understanding of a wider array of building products/methods that are typically encountered in high-rise commercial construction (eg structurally glazed or unitised curtain wall systems, multi-storey steel-frame and concrete construction methods, bulk and high-rise CLT) and the compliance issues associated with consenting such products and systems ie thermal expansion, fire safety etc.
C1-Pr7 MDH Has an understanding of how sound transmission and spread of fire are managed for different residential multi-unit situations.	**C2-Pr4** MDH Has a higher-level of understanding of vertical plane and horizontal plane fire separations in an inter-tenancy context. Both for vertical and horizontal plane applications.	
C1-Pr8 Has an understanding of construction sequencing and the impact this has on the different types of design and construction that are employed.	**C2-Pr5** MDH Has a higher level of understanding of construction sequencing, the interface between different sub trades, multi-staged construction and the impact this has on the different types of design and construction (eg employing OSM building elements in the design and build, and the relationship this type of construction method has with specified systems and other building services).	
C1-Pr9 MDH Has an understanding of environmental and performance requirement implications that relate to locating and positioning a commercial or industrial building on an allotment and in relation to a building's proximity to a legal boundary (eg referring here to Building Code clause C3 and the likes of performance indicator C1-Pr5).		

Regulation 10(3)(b):
Understanding and knowledge of building products and methods.

Performance Indicators

3. Comprehends and has satisfactory knowledge of proprietary systems and building products for this type of building work.
4. Demonstrates the ability to research, analyse and assess building methods and products associated with this type of building work.

Guidance for assessors and candidates

Commercial 1	Commercial 2	Commercial 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
C1-Bp1 Has an understanding of commonly used building materials and systems (eg pre-nailed truss and frames, conventional cladding, flashing and bracing systems) used in residential, commercial and industrial buildings.	**C2-Bp1** Has a higher-level of understanding with respect to material composition, product performance and demonstrates the ability to identify and evaluate the durability and performance of alternative solutions as they relate to this category of buildings.	**C3-Bp1** Has an advanced-level of understanding in relation to building product performance, material composition and building methods used for this building category (eg is able to decipher complex technical information, often dealing with alternative solution methodologies). Has a strong understanding of when to seek out third-party verification (peer review/reference past determinations etc) to establish Building Code compliance.
C1-Bp2 Has an understanding of building product information requirements (BPIRs) and which building products are 'designated building products' for the purposes of the BPIR regulations.	**C2-Bp2** Has a higher-level of understanding and is able to decipher complex technical information and seek out third-party verification (peer review) when and where required in order to establish Building Code compliance.	**C3-Bp2** Has an advanced-level of understanding in relation to test methods used to illustrate compliance for these types of buildings (eg façade testing requirements for buildings above 25 metres in height).
C1-Bp3 Has an understanding of section 19 of the Building Act as it relates to building methods for establishing compliance with the Building Code.	**C2-Bp3** Has a higher-level of understanding with respect to how Building Code compliance is established by way of section 19 of the Building Act. In this context has a wider appreciation of the of building products/methods that are typically encountered at this competency level (eg precast concrete, tilt-slab, LVL, CLT, structurally insulated panels (SIPs), curtain walling, multiple and interfaced specified systems etc).	
C1-Bp4 Has an understanding of the implications of a building product or building method having a warning or ban issued against it under section 26 of the Building Act. Is aware of any applicable warnings or bans that relate to building products or methods which might be used in commercial and industrial buildings.		

Commercial 1	Commercial 2	Commercial 3
C1-Bp5 MDH Has an understanding of building product literature, building methods, testing and Verification Methods, appraisals and producer statements.	**C2-Bp4** MDH Has a higher-level of understanding in relation to test methods used to illustrate compliance for these types of buildings (eg C/VM2 National Fire Protection Association (NFPA) 285 testing for exterior wall assemblies containing combustible components, applicable cladding façade standards such as AS/NZS 4284:2008).	
C1-Bp6 Has an understanding of the regulatory requirements for building methods, products and for the modular component manufacturer (MCM) and CodeMark schemes, and other applicable overseas building standards and certification schemes.		
Regulation 10(3)(c): Knowledge and skill in applying the Building Act, the Building Code, and any other applicable regulations under the Building Act.		
Performance Indicators 5. Comprehends and can **apply** knowledge of the application of the Building Act. 6. Comprehends and can **apply** knowledge of the roles and responsibilities of a BCA and TA. 7. Comprehends and can apply knowledge of the **linkage** and **interface** between the ***Resource Management Act 1991*** and the ***Building Act 2004***.		
Guidance for assessors and candidates		
Commercial 1	Commercial 2	Commercial 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicators 6 and 7 there is no obvious step or adjustment in competence as it is considered core knowledge applicable to all commercial levels.		
C1-Br1 Demonstrates knowledge and skill in applying the building control framework (ie MBIE's regulatory framework 'triangle').		
C1-Br2 Demonstrates knowledge and skill in applying the Building Act specifically: a. the purpose b. the principles, and c. its application.	**C2-Br1** Has a higher-level of understanding in relation to some of the core regulatory settings and in particular sections 67, 72, 75, 112, 113, 115/115A, 116A, 118 and 119 of the Building Act as they relate to this type of building work.	**C3-Br1** Has an advanced-level of understanding with respect to sections 67, 72, 75, 112, 113, 115/115A, 116A, 118 and 119 of the Building Act as they relate to new building work or complex alterations and buildings undergoing a change of use etc.

Commercial 1	Commercial 2	Commercial 3
C1-Br3 Demonstrates knowledge and skill in applying the Building Code.	**C2-Br2** Has a higher-level of understanding of the 'Building Code system', its performance basis and the Building Code clauses that typically apply to commercial building work (eg may be conveyed by processing an application to waive or modify the Building Code in a complex design application at this competency level).	**C3-Br2** Has an advanced-level of understanding of the 'Building Code system', its performance basis, relevant limits on application and the Building Code clauses that typically apply to commercial building work (eg this may be conveyed in seeking a determination or peer-review/ expert opinion as to the Building Code compliance of a complex design solution being employed at this competency level).
C1-Br4 Demonstrates knowledge and skill in applying different 'compliance pathways' (ie section 19 of the Building Act).	See extension for C1-Bp3.	
C1-Br5 Has a working knowledge of producer statements.	**C2-Br3** Has a higher-level of understanding in relation to producer statement processes as they relate to Commercial 2 building work.	**C3-Br3** Has an advanced-level of understanding in relation to producer statement processes as they relate to Commercial 3 building work.
C1-Br6 Understands the role of MBIE as the central building regulator.		
C1-Br7 Understands the role of the territorial authorities (TAs) and regional authorities (RAs).		
C1-Br8 Understands the role of BCAs and 'standalone BCAs'.		
C1-Br9 Has a working knowledge of: a. project information memoranda (PIMs) b. building consents c. inspections (including remote) d. code compliance certificates (CCCs) e. certificates of acceptance (CoAs) f. compliance schedules g. building warrants of fitness (BWoFs) h. certificates for public use (CPUs) i. notices to fix (NTFs).	**C2-Br4** Due to the scale of some Com 2 and Com 3 projects, a higher-level of understanding in relation to 'staged consenting' in accordance with section 44(2) of the Building Act would be desirable. With respect to compliance schedules also see C1-Br26, C2-Br8 and C3-Br4.	
C1-Br10 Has a well-developed understanding of the definition of building work and building as defined in section 8 of the Building Act.		

Commercial 1	Commercial 2	Commercial 3
C1-Br11 Understands Schedule 1 of the Building Act (building work not requiring a building consent), including the TA discretionary exemption under clause 2.		
C1-Br12 Understands all occupational licensing schemes that operate in the sector (eg licensed building practitioner (LBP), chartered professional engineer (CPEng)).		
C1-Br13 Understands section 37 requirements and how planning requirements interface with the building consent process.		
C1-Br14 Understanding how to apply the following conditions when granting a consent: a. section 67 waivers and modifications b. section 72 natural hazards c. section 75 building over two allotments d. section 90 inspections e. section 113 specified intended life	**C2-Br5** Has a higher-level of understanding in relation to section 67 of the Building Act as it relates to granting a building consent that is subject to a waiver or modification of the Building Code, as it relates to building work at this level.	
C1-Br15 Demonstrates an understanding of the type of national multiple use building approvals (MultiProof) that fall within the scope of this competency level.		
C1-Br16 Can define the term 'natural hazard' and can reference the applicable requirements for granting or refusing to grant building consents on land that is subject to a natural hazard.		
C1-Br17 Can describe the legislative process for building over two or more allotments (eg sections 75 and 76 of the Building Act).		
C1-Br18 Demonstrates an understanding of section 112 as it relates to additions and alterations to existing buildings of this type. Is aware of MBIE's guidance document 'Satisfied on reasonable grounds' (SORG) and the core principles it covers.	**C2-Br6** Has a higher-level of understanding and knowledge in relation to section 112 of the Building Act, particularly in relation to section 112(2) and MBIE's SORG guidance and relevant determinations that relate to this or the next competency level.	
C1-Br19 Has a working knowledge of waivers and modifications and can provide an overview of how a TA grants a waiver or modification of the Building Code.		

Commercial 1	Commercial 2	Commercial 3
C1-Br20 Can explain how the classified uses and the change the use provisions are used in the legislation.		
C1-Br21 Can explain and interpret building legislation and demonstrates thorough understanding of key sections of the Building Act and related regulations (eg sections 7–9 and 11-14 of the Building Act and Building Code clauses A1 Classified uses, A2 Interpretation and A3 building importance levels).		
C1-Br22 Has an understanding of NZS 4121 and the limits on the application of the Building Code for industrial and existing commercial buildings.		
C1-Br23 Demonstrates a clear knowledge of the provision for access and facilities for people with disabilities in accordance with sections 117-120 and Schedule 2 of the Building Act.	**C2-Br7** Has a higher-level of knowledge of the provision for access and facilities for people with disabilities in accordance with sections 117–120 and Schedule 2 of the Building Act.	
C1-Br24 Has knowledge of the Hazardous Substances and New Organisms Act (HSNO) and the processes to follow.	**C2-Br8** Has a higher-level of knowledge of the HSNO Act and the processes for compliance with F3, F3/VM1 and G14/VM1.	
C1-Br25 Demonstrates knowledge of when to refer applications to Fire and Emergency New Zealand (FENZ) in accordance with section 46 of the Building Act.		
C1-Br26 MDH Can apply knowledge of specified systems and compliance schedule requirements in accordance with sections 100-111 of the Building Act.	**C2-Br9** MDH Has a higher-level of understanding of compliance schedule matters and specified system technical considerations as they relate to these types of buildings.	**C3-Br4** Has an advanced-level of understanding of compliance schedule matters, specified systems and the related technical considerations as they link to these types of buildings (eg is able to consider and assess interfacing of multiple specified systems in complex, high-rise and/or high-occupancy buildings).
C1-Br27 Understands owners' requirements in relation to BWoFs in accordance with sections 108-111 of the Building Act.		
C1-Br28 Understands alterations to a building that are subject to an earthquake-prone notice in accordance with section 133AT.	**C2-Br10** Has a high-level of knowledge in relation to section 133AT of the Building Act and is familiar with the term 'substantial alteration'. Understands the impact of this criteria on a building that falls within this competency level.	**C3-Br5** Has an advanced-level of knowledge in relation to section 133AT of the Building Act and is familiar with the term 'substantial alteration'. Understands the impact of this criteria on a building that falls within this competency level.

Commercial 1	Commercial 2	Commercial 3
C1-Br29 Can demonstrate knowledge of change of use requirements in accordance with sections 114-115 of the Building Act and the Building (Specified Systems, Change the Use, and Earthquake- prone Buildings) Regulations 2005.	**C2-Br11** Has a higher level of understanding of the change of use requirements and in particular section 115(a) as it relates to the incorporation of one or more household units where they did not exist before.	
C1-Br30 Understands requirements to issue a notice to fix (NTF) in accordance with sections 163–168 of the Building Act and the BCA's policies and procedures (within their authority).		
C1-Br31 Can demonstrate an understanding of the determinations process in accordance with sections 176–190 of the Building Act.		
C1-Br32 Can demonstrate an understanding of certificates for public use (CPUs) and where they are required in accordance with sections 362W–363 of the Building Act.		
C1-Br33 If inspecting, understands the Building (Minor Variations) Regulations 2009 and the process for formal amendments to building consents.		
C1-Br34 Understands the provision for inspections by a BCA as described in section 90 of the Building Act. If inspecting, the provisions on inspecting and requirements for entering land in accordance with sections 222–228 of the Building Act.		

Regulation 10(3)(d)(i):
Ability to process applications for building consent.

Performance Indicators

8. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (building related processing only).
9. Demonstrate an understanding of MultiProof, CodeMark and modular component manufacturing (MCM) that fall within the scope of this competency level.

Guidance for assessors and candidates

Commercial 1	Commercial 2	Commercial 3
Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:
Note – for performance indicator 9 there is no obvious step or adjustment in competence as it is considered core knowledge applicable to all commercial levels.		
C1-P1 Demonstrate an understanding of MultiProof, CodeMark and modular component manufacturer (MCM) schemes that fall within the scope of this competency level. Refer to C1-Pr4 (MDH) for further requirements for MCM/OSM.	Refer to C2-Pr1 (MDH) for further requirements for MCM/OSM.	Also refer to C3-Pr1 for MCM/OSM.
C1-P2 **MDH** Has a working knowledge of commonly cited Standards for clauses B1 and B2, NZS 3602, NZS 3604, NZS 3640, NASH Standards and NZS 4229, AS/NZS 1170 and B1/AS1, B1/VM1, B1/VM2, (B1/VM4) as they relate to commercial construction. Understands how: a. To determine compliance requirements for corrosion zones, ground bearing, piles, footings, foundations, reinforcing, concrete strength, fill and compaction, bracing demand and design, subfloor framing, wall framing, roof structures, timber treatment, load paths, fixings and connections, underlay and wraps, cladding systems, internal linings and durability. b. Has a higher-level of understanding of complex SED solutions, and design features reports including an awareness of construction monitoring (CM1-CM5), producer statement processes.	**C2-P1** **MDH** Has a higher-level of understanding of B1/VM1, B1/VM2, (B1/VM4) and when to seek a peer-review (PS2) for complex specific engineered design (SED) solutions in accordance with the BCA's policies and procedures. Also, can assess, engage, and manage the requirement to obtain expert opinion, advice, peer-review and who should provide this for this type of construction.	**C3-P1** Has an advanced-level of understanding and is able to assess large-scale (high-rise/technically complex) projects with high-occupancy and a greater level of risk to life safety (eg predominantly importance level 4 buildings and including higher risk or 'specialist use group buildings' such as SC and SD).

Commercial 1	Commercial 2	Commercial 3
C1-P3 MDH B1, B1/VM1 – has a working knowledge of how this Verification Method and referenced Standards are used for structural design, B1/VM2 – as it relates to foundation design.	**C2-P2** A higher-level of understanding with regard to building importance levels and the interrelated serviceable limit state (SLS) and ultimate limit state (ULS) criteria.	**C3-P2** Has an advanced understanding of the B1 seismic requirements for new buildings and the interrelated regulatory obligations that relate to buildings which are being altered that fall within this building category.
C1-P4 Has the ability to assess proprietary and/or specifically designed racking systems.		
C1-P5 Understands NZS 4219 and related standards that apply to the design, construction and installation of seismic restraints for building elements (eg air-handling units, tanks, cabinets, and pipe and duct work).	**C2-P3** Has a higher-level of understanding of NZS 4219 and related standards that apply to the design, construction and installation of seismic restraints for '2nd fix building elements' (eg suspended ceilings, air handling units, tanks, cabinets and pipe and duct work).	
C1-P6 Has a working knowledge of B2, B2/AS1 and B2/VM1 as they relate to 5, 15 and 50 year durability requirement of nominated building elements.	**C2-P4** Has a higher level of understanding and awareness of requirements for peer-review for complex design solutions and/or alternative solutions.	**C3-P3** Has an advanced-level of understanding with respect to material composition, product performance and demonstrates the ability to identify and evaluate the durability and performance of building materials (including methods and systems) being offered up as an alternative solution.
C1-P7 MDH Can identify issues relating to the Acceptable Solution for fire compliance for this type of building work by identifying the design sequence referred to in C/AS1 and C/AS2. a. Can determine fire safety systems for buildings with different risk groups to achieve compliance with clause C performance criteria, and C/AS1 and C/AS2, in relation to means of escape and protection of other property. b. Has a working knowledge of C/VM2.	**C2-P5** Has a higher-level understanding of C/AS2 and C/VM2 design process (including the fire engineering brief (FEB) process). Has an ability to assess the quality of the fire design documentation and be able to gather appropriate information to demonstrate compliance with C/VM2 and C1-C6.	**C3-P4** Has an advanced-level of understanding of C/AS2 and C/VM2 as they relate to buildings and building work that fall within this category.

Commercial 1	Commercial 2	Commercial 3
C1-P8 MDH Can apply commonly used fire-rating systems and detailing for internal walls built between firecells, and external walls built in close proximity to boundaries, to achieve compliance with clause C3 (Fire affecting areas beyond the fire source) and C/AS1 and C/AS2. Has a working knowledge of the interface between C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.	**C2-P6** Exhibits a higher-level of understanding of the interface between C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.	
C1-P9 MDH Can determine appropriate fire-rating and assess detailing for structural elements to achieve compliance with C6 (Structural stability), C/AS1 and AS2 for household units and other buildings within the scope of this competency. Has an understanding of the relationship between clauses B1 and C6 of the Building Code and the relationship structural systems have with firefighting. Ensuring safe access to floors for the purpose of conducting firefighting and rescue operations.	**C2-P7** Has a higher level of knowledge and understanding to assess complex fire design solutions and is aware of the interface between a range of professional design processes (eg structural, fire, mechanical, hydraulic, material, chemical) as it relates to Commercial 2 buildings.	**C3-P5** Has an advanced-level of knowledge to assess highly-complex fire design solutions and is aware of the interface and related responsibilities between a range of design professionals (eg structural, fire, mechanical, hydraulic, material, chemical) as it relates to Commercial 3 buildings.
C1-P10 Can assess accessibility to enable safe and easy movement of people as required by D1, D1/ VM1, D1/AS1 and NZS 4121 (eg steps, handrails, ramps, non-slip provisions, and understands safe stair geometry and construction).	**C2-P8** Has a higher level of understanding in relation to D1, D1/VM1, D1/AS1 and NZS 4121 (eg steps, handrails, ramps, non-slip provisions, and understands safe stair geometry and construction).	
C1-P11 MDH Can assess mechanical installations for D2, D2/AS1, D2/AS2 and D2/AS3, NZS 4332, NZS 4121 and EN81 Part 1 and 2 (passenger and service lifts).	**C2-P9** Has a higher-level of understanding in respect to D2, D2/AS1, D2/AS2, NZS 4121, NZS 4332 and EN81 Part 1 and 2 (passenger and service lifts).	**C3-P6** Has an advanced-level of knowledge with respect to D2, D2/AS1, D2/AS2, D2/AS3, NZS 4121, NZS 4332 and EN81 Part 1 and 2 (passenger and service lifts) for buildings with large or significant occupant movement or for situations where buildings have been compartmentalised to manage traffic flow within a building or group of buildings.
C1-P12 Has an understanding of D2/AS3: Escalators and Moving Walks, in accordance with EN115 when assessing an application that includes an escalator or moving walk.		

Commercial 1	Commercial 2	Commercial 3
C1-P13 MDH Can apply weathertightness principles and knowledge to assess compliance with E2 (External moisture) including: a. Identifying the differences between the Acceptable Solution and specific design (eg complex junctions, flashing requirements, technical knowledge of cladding systems, vented cavity systems). b. Assessing specifically designed cladding systems (outside the scope and limitations of E2/AS1) and E2/AS4. c. Identifying E2/VM1, E2/VM2 and AS/NZS 4284 limitations eg relevant building height restrictions d. Has the ability to assess retaining walls and sub-soil drainage to prevent transmission of moisture into a building e. Understands the relationship between E1 and E2 with respect to surface water and hydrostatic water pressure acting on sub-surface building elements.	**C2-P10** MDH A higher-level of understanding of: a. E2/VM2 (for cavity-based cladding systems on buildings up to 25 metres in height) and including knowledge of the BRANZ EM7 cladding system test method referenced by and forming the basis of E2/VM2. b. The relationship between E1 and E2 with respect to surface water and hydrostatic water pressure acting on sub-surface building elements eg drainage, tanking and protection of below ground carparks, basements, plant rooms etc.	**C3-P7** Has an advanced-level of knowledge and understanding to assess: a. Highly-complex and high-rise commercial, industrial and residential building facades, curtainwall systems, rainscreens etc, that are subject to greater environmental loadings including water penetration and air infiltration, which fall within this competency level. b. Understands the interrelationship and interface between clause C3 and E2 in a multistorey/high-rise context.
C1-P14 MDH Has an understanding of internal moisture management within buildings as required by E3 and E3/AS1, E3/AS2 (eg understands ventilation, temperature in relation to clause G5, thermal resistance, condensation, impervious surfaces for floor and wall linings, and protection of other properties).	**C2-P11** MDH Has a higher-level of understanding of E3 in respect of protection of other property from damage caused by uncontrolled water from one household unit entering another household unit. Understands where building work involving internal wet-area membrane systems need to include a floor waste ie in locations where accidental overflow could damage an adjoining household unit or other property.	
C1-P15 Has an understanding of hazardous agents or contaminants on site as required by F1,F1/AS1 and F1/VM1. Knows how to read a PIM and check hazard files or other sources of data (eg ArcGIS) in the absence of a PIM.		

Commercial 1	Commercial 2	Commercial 3
C1-P16 Has an understanding of: a. F2 and F2/AS1 using NZS 4223 and is able to assess the compliance of glazed barriers and identify the required locations for safety glass, manifestation of glass etc for commercial buildings b. Understands and is able to assess the health and safety requirements for asbestos and other hazardous building materials.		
C1-P17 Has an understanding of F3, F3/VM1 (interface with HSNO Act and storage of hazardous substances in buildings) and F3/ AS1 (depot construction, building's component-doors, windows venting of gas storage etc) and understands the interface between G4 (as specified systems) and F8.	**C2-P12** Has a higher-level of understanding of clause F3 as it relates to buildings at this competency level. Has an appreciation of the interface with means of egress in Building Code clauses C1 to C6 Protection from fire as it applies to F3/VM1.	
C1-P18 Has an understanding of requirements for safeguarding people from falling as required by F4 and F4/AS1 (barrier construction, barrier height and the correlation between B1, B2 and F4, SED barriers, B2 implications and swimming pool barrier requirements in accordance with F9), F9/AS1 (Residential pool barriers) and F9/AS2 (Covers for small heated pools). Understands minimum barrier heights that apply to buildings other than housing ie 1100mm.		
C1-P19 Has an understanding of Schedule 1(21A) as it relates to installation of safety covers.		
C1-P20 Has an understanding of site safety requirements and can determine: a. site hazards and understands compliance requirements for managing these in accordance with F5 and F5/AS1, and b. the interface between B1 and F5 for safe gantry construction as they relate to medium- and large-scale building projects.		
C1-P21 Has an understanding of F6, F6/VM1 (acceptable luminance in buildings) and F6/AS1 (lighting for emergencies) and understands the interface with F8 (as specified systems).		

Commercial 1	Commercial 2	Commercial 3
C1-P22 **MDH** Has an understanding of F7 and F7/AS1 and has a good level of understanding of NZS 4512 Fire detection and alarm systems in buildings) and NZS 4541 (Automatic fire sprinkler systems).	**C2-P13** Has a higher-level of understanding in respect of the types of warning systems (NZS 4512 (Fire detection and alarm systems in buildings)) and (NZS 4541 (Automatic fire sprinkler systems)) that relate to the types of buildings within this competency level.	**C3-P8** Has an advanced-level of understanding and knowledge in respect of specified systems and the interface between various specified systems (eg interconnection between lift, automatic doors and other early warning systems and the building management system).
C1-P23 Has an understanding of F8 and F8/AS1 (photoluminescent (PL), luminance, sign layout, size, proportions, colours, wording etc) and understands the interface with F6 (as specified systems).		
C1-P24 Has an understanding of G1 and G1/AS1 for location, calculation of sizing and number of sanitary fixtures. Has an appreciation of the relationship between G1 and Building Code clauses D1 Access Routes and F8 Signs.	Also refer to C1-pd2.	Also refer to C1-pd2.
C1-P25 Has an understanding of G2 and G2/AS1 for spatial laundering requirements.		
C1-P26 Has an understanding of G3 and G3/AS1 (eg impervious surfaces, food storage, cooking and refrigeration).		
C1-P27 **MDH** Has an understanding of natural and mechanical ventilation requirements for residential, commercial and industrial buildings as required by G4, G4/AS1 and G4/VM1.	**C2-P14** Has a higher-level of understanding in relation to natural and mechanical ventilation requirements for residential, commercial and industrial buildings as required by G4, G4/AS1 and G4/VM1.	
C1-P28 Has an understanding of G5, G5/AS1, NZS 4121 and Schedule 2 of the Building Act with regards to accessibility including counters, heating, listening systems and temperature control for certain building uses.	**C2-P15** A higher-level of understanding with respect to a. NZS 4121 and Schedule 2 of the Building Act with regard to access and facilities for people with disabilities. b. The limits on applications with respect to clause G5 as it relates to enhanced hearing systems (eg assembly spaces occupied by more than 250 people), controlled interior temperature, accessible counters.	

Commercial 1	Commercial 2	Commercial 3
C1-P29 **MDH** Has an understanding and can define sound transmission class (STC) and impact insulation class (IIC) and assess commonly used solutions to determine compliance with G6, G6/AS1 and G6/VM1 (Airborne and impact sound) between occupancies and exhibits an understanding of the interface between C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.	**C2-P16** Has a higher level of understanding of: a. complex floor, wall and ceiling assemblies to prevent sound transmission b. physical separation of building elements, noise control installations, air tightness and sealing of joints and penetration associated with building services, and c. plumbing reticulation passing through noise control building elements.	
C1-P30 Can assess natural light and visual awareness of the outside environment as required by G7, G7/AS1 and G7/VM1.		
C1-P31 Has an understanding of requirements for providing artificial lighting to enable safe movement as required by G8 and G8/AS1 (eg access routes and minimum lux levels). Has an awareness of G8/VM1 as it relates to measurement of illuminance in accordance with NZS 6703.		
C1-P32 Has an understanding of a. requirements for certifying compliance with electricity provisions as required by G9, G9/AS1, G9/VM1 and sections 19 and 94(3) of the Building Act b. the interrelationship with Building Code clause D1 for Schedule 2 buildings, and c. including the relationship with specified systems, other building systems and electrical systems that rely on electricity as an energy source.		
C1-P33 Understands the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		
C1-P34 Understands the requirement to store solid waste for this type of building work in accordance with G15 (Solid waste) and G15/AS1 in relation to D1 and G4.		

Commercial 1	Commercial 2	Commercial 3
C1-P35 MDH Understands the requirements for assessing energy efficiency and thermal resistance for small and medium commercial and residential buildings as required by H1, H1/AS1, H1/AS2, H1/VM1, H1/VM2 and H1/VM3 as it relates to HVAC systems.	**C2-P17** Has a higher-level of understanding for assessing energy efficiency for medium and large commercial and residential buildings (ie for buildings and building work that fall within this competency level) as required by H1, H1/AS1, H1/AS2, H1/VM1, H1/ VM2 and H1/VM3 as it relates to HVAC systems.	
C1-P36 Can identify inspection requirements necessary to confirm compliance for this level of building work (including remote).		
C1-P37 MDH Demonstrates an understanding for the provision of compliance schedule information that meets the requirements of section 103 of the Building Act. Also understands the requirement for third-party verification, commissioning and certification by accredited inspection bodies etc.	**C2-P18** A higher-level of understanding in respect of the specified systems and the interface between various specified systems (eg interconnection between lift, automatic doors and early warning systems and the building management system (BMS)).	**C3-P9** Has an advanced-level of understanding of specified systems and the interface of specified systems that relate to the buildings within the scope of this competency level (eg fire safety systems such as escape route pressurisation systems, emergency warning intercommunication systems, riser mains for fire fighting and/ or specified systems that are used in larger buildings such as building maintenance units).
C1-P38 Has a sound comprehension of their individual limitations and the wider BCA's internal technical capability. Is able to identify when external technical assistance is required for alternative solutions and can outsource work for technical review when required.		

Performance Indicators

10. Process building consent applications (plans and specifications) to establish compliance with the Building Code for this type of building work (plumbing and drainage related processing only).

Guidance for assessors and candidates for plumbing and drainage

Commercial 1	Commercial 2	Commercial 3
Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:	Knowledge areas **for processing** may include, but are not limited to:
C1-pd1 Requirements for protecting people and other property from adverse effects of surface water as required by E1, E1/AS1, E1/VM1, E1/AS2 and AS/NZS 3500 Part 3 (minimum floor heights, design, construction and conveyance of storm water catchment).	**C2-pd1** Has a higher-level of understanding of E1/AS1, AS2, and VM1 with respect to: a. complex drainage solutions (and related storage vessels) for dealing with larger volumes and high velocity water flow for roof, deck and balcony areas, and b. surface water control on high-rise buildings which may include siphonic roof and deck drainage systems as opposed to conventional gravity-fed systems.	**C3-pd1** Has an advanced-level of understanding of E1/AS1, AS2 and VM1 with respect to complex and alternative drainage solutions dealing with large volumes and high velocity for roof, deck and balcony areas (eg ethylene tetrafluoroethylene transparent roof cladding systems on stadiums and the like).

Commercial 1	Commercial 2	Commercial 3
C1-pd2 Can assess compliance with G1 and G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121.	**C2-pd2** Has a higher-level of understanding of compliance with G1 and G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121 and the implications that relate to the given building use(s) and occupancy.	**C3-pd2** Has an advanced-level of understanding of compliance with G1 and G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121 and the implications that relate to the given building use(s) and occupancy (eg large tertiary hospital complex).
C1-pd3 Understands laundering and spatial requirements, service connections and number of facilities etc to satisfy G2 and G2/AS1. Understands the interface with D1, NZS 4121 and G4.		
C1-pd4 Has a working knowledge of the requirements for certifying compliance with electricity provisions as required by G9, G9/AS1, G9/VM1 and sections 19 and 94(3) of the Building Act.		
C1-pd5 **MDH** Understands requirements for protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services) Also: a. provide a pathway to determine compliance (eg producer statement, peer- review in accordance with the BCA's policies and procedures), and b. can identify fire-rated or sound- rated walls (ie through the floor or the walls) to determine the compliance path for plumbing and drainage piping penetrating these walls.	**C2-pd3** Has a higher-level of understanding of protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services), and the implications that relate to the given building use(s) and occupancy (eg hospitals and other care facilities).	
C1-pd6 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		
C1-pd7 Understands requirements for specification and installation of commercial water supplies as required by G12, G12/AS1, G12/AS2, G12/AS3, G12/VM1 and AS/NZS 3500 Part 1 for this type of construction (identifying non-potable water pipes and outlets, temperature requirements, cross connection hazards and backflow protection devices).	**C2-pd4** Has a higher-level of understanding with respect to G12/AS1, G12/AS2, G12/AS3, G12/VM1 and AS/NZS 3500 Part 1 in relation to atmospheric pressure (head) and the hydraulic system design as it relates to buildings up to four-storeys.	**C3-pd3** Has an advanced-level of understanding with respect to G12/AS1, G12/AS2, G12/AS3, G12/VM1 and AS/NZS 3500 Part 1 in relation to atmospheric pressure (head) and the hydraulic system design as it relates to buildings over four-storeys.

Commercial 1	Commercial 2	Commercial 3
C1-pd8 Understands requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1, G13/AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to two-storey residential, commercial and industrial construction (system design principles – avoid odour (foul air and gases), grease traps, design loading, falls, venting, materials, connections, access and maintenance and imposed loads) a. understanding of onsite disposal of foul water AS/NZS 1547.	**C2-pd5** Has a higher-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1, G13/AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to up to four-storey residential and commercial construction. System design principles – avoid odour (foul air and gases), grease traps, design loading, falls, venting, materials, connections, access and maintenance and imposed loads.	**C3-pd4** Has an advanced-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 G13/AS2, G13/VM1 and AS/NZS 3500 Part 2 as they relate to over four-storey residential and commercial construction. System design principles – avoid odour (foul air and gases), grease traps, design loading, falls, venting, materials, connections, access and maintenance and imposed loads.
C1-pd9 Has an understanding in relation to the collection, storage, treatment and disposal of industrial liquid waste in accordance with G14, G14/ AS1 and G14/VM1. Understands the treatment and disposal methods illustrated in Figure 1 of G14/VM1 and the inter-relationships with other relevant Building Code clause(s).		
C1-pd10 Has an understanding of solid waste in particular in relation to clauses C3, G4, G6, G12, G13, G15 and G15/AS1.		
C1-pd11 **MDH** Has an understanding of hot water energy efficiency as it relates to this building type with regard to H1, H1/AS1, H1/AS2 and H1/VM1-VM3.		

Regulation 10(3)(d)(ii):
Ability to inspect building work.

Performance Indicators

11. Inspect building work relating to foundation type inspections to establish whether compliance with the Building Code (building only) has been achieved for commercial buildings.
12. Inspect building work relating to pre-line type inspections to establish whether compliance with the Building Code (building only) has been achieved for commercial buildings.
13. Inspect building work relating to final type inspections (including specified systems) to establish whether compliance with the Building Code (building only) has been achieved for commercial buildings.

Guidance for assessors and candidates

Commercial 1	Commercial 2	Commercial 3
Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:
C1-I1 Demonstrate an understanding of MultiProof, CodeMark and modular component manufacturer (MCM) schemes that fall within the scope of this competency level. For MCM inspections: a. Where applicable can perform remote (virtual) inspections (RI) and follow the BCA's policies, procedures and systems in relation to this type of inspection. b. Is aware of MBIE guidance in relation to RI and has received dedicated training on RI in relation to the technology and application of the software involved.		
C1-I2 Demonstrated ability to read and interpret plans and specifications. Demonstrates the ability to identify siting of building as per the site plan. Consideration of minor variations and/or amendments to consent.		
C1-I3 Is able to use technical equipment (eg moisture meters, cameras, thermometers) and administrative resources (checklists and copies of technical information) to establish compliance against the consented documents.		
C1-I4 MDH Has an understanding in respect of specified systems and the interface between various specified systems (eg interconnection between lift, automatic doors and emergency warning systems and the building management system). Understands which systems require commissioning by installers and inspection by accredited inspection bodies.	**C2-I1** Has a higher-level of understanding with respect to buildings that contain multiple and interfaced specified systems ie those that pose a greater risk to life in the event of fire eg sleep purpose group buildings.	**C3-I1** Has an advanced-level of understanding and knowledge in respect of the specified systems in high-rise and/or complex buildings eg SR, SD or SC use groups.

Commercial 1	Commercial 2	Commercial 3
C1-I5 Has an understanding of the requirement for third-party verification, observation of building elements by experts, such as chartered professional engineers and accredited inspection bodies etc.		
C1-I6 MDH Has a working knowledge of commonly cited Standards for clauses B1 and B2, NZS 3602, NZS 3604, NZS 3640, NASH Standards and NZS 4229 AS/NZS 1170 and B1/AS1, B1/VM1, B1/VM2, (B1/VM4) as they relate to commercial construction. Understands how a. To determine compliance requirements for corrosion zones, ground bearing, piles, footings, foundations, reinforcing, concrete strength, fill and compaction, bracing demand and design, subfloor framing, wall framing, roof structures, timber treatment, load paths, fixings and connections, underlay and wraps, cladding systems, internal linings and durability. b. Has a higher-level of understanding of complex SED solutions, and design features reports including an awareness of construction monitoring (CM1-CM5), producer statement processes.	**C2-I2** MDH Has a higher-level of understanding of B1/VM1, B1/VM2, (B1/VM4) and when to seek construction documents (eg PS3) for complex SED solutions in accordance with the BCA's policies and procedures.	**C3-I2** Has an advanced-level of understanding and is able to assess large-scale (high-rise/technically complex) projects with high-occupancy and a greater level of risk to life safety (eg predominantly importance level 3 and 4 buildings and including higher risk or 'specialist use group buildings' such as SC and SD).
C1-I7 MDH Has an understanding of: a. Acceptable Solutions, Verification Methodsand alternative solutions. b. Design features reports including an awareness of construction monitoring (CM1-CM5). c. Producer statement processes as it relates to commercial design and construction (eg PS3, PS4 and commissioning certificates). d. Can inspect commonly used fire-rating systems and detailing for internal walls built between firecells, and external walls built in close proximity to boundaries to achieve compliance with clause C3 (Fire affecting areas beyond the fire source), C/AS1 and C/AS2. e. Has a working knowledge of the interface between C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.	**C2-I3** Has a higher-level of knowledge and understanding in relation to complex fire design solutions and is aware of the interface between a range of professional design documents (eg structural, geotechnical, fire, mechanical, hydraulic, material, chemical).	**C3-I3** Has an advanced-level of understanding of the C/VM2 design process (including the FEB process), is able to review and follow fire design documentation, and is able to gather appropriate information to demonstrate compliance with C/VM2 and C1-C6.

Commercial 1	Commercial 2	Commercial 3
C1-I8 Can inspect in accordance with the consented documents to ensure: a. The safe and easy movement of people to and within the building as required by D1, D1/AS1, D1/VM1 and NZS 4121 (eg steps, handrails, ramps, non-slip provisions, and understands safe stair geometry and construction).	**C2-I4** Has a higher-level of understanding in relation to D1, D1/AS1, D1/VM1 and NZS 4121 (eg steps, handrails, ramps, non-slip provisions, and understands safe stair geometry and construction).	
C1-I9 **MDH** Has an understanding in respect to: a. D2, D2/AS1 and D2/AS2, NZS 4121 including EN 81 Part 1 and 2 (Passenger and service lifts). b. D2/AS3 (Escalators and moving walks) in accordance with EN 115 when inspecting an escalator or moving walk.	**C2-I5** Has a higher-level of understanding in respect to: a. D2, D2/AS1 and D2/AS2, NZS 4121 including EN 81 Part 1 and 2 (Passenger and service lifts) b. Lift and escalator installation, certification, commissioning requirements and signage obligations associated with systems operation.	**C3-I4** Has an advanced-level of understanding in respect to D2, D2/AS1 and D2/AS2, NZS 4121 including EN 81 Part 1 and 2 (Passenger and service lifts) as these requirements relate to complex buildings over four-storeys in height, as well as D2/AS3 and EN 115 in relation to escalators and moving walks.
C1-I10 Has an understanding of E1/AS1, E1/AS2, and E1/VM1 with respect to drainage solutions (and related storage vessels) for volumes of surface water flow on roof, deck and balcony areas, as well as over-land flow paths.		
C1-I11 **MDH** Has an understanding of E2/AS1, E2/VM1, E2/AS2, E2/AS3 and E2/AS4 and can apply this knowledge when inspecting: a. architecturally designed cladding systems and cladding junctions b. complex building facades, rainscreens that are subject to higher wind loads that fall within this competency level, and c. subsurface drainage and moisture transmission protection eg waterproofing to below ground retaining walls.	**C2-I6** Has a higher-level of understanding of E2/VM2 (for cavity-based cladding systems on buildings up to 25 metres in height) including: a. knowledge of the BRANZ EM7 cladding system test method (referenced by and forming the basis of E2/VM2) b. AS/NZS 4284 as this relates to specifically designed building facades, environmental loading, water penetration, air infiltration and structural tests c. complex junctions, flashing detailing, and has sound technical knowledge of structural cladding and cavity systems and rain screens d. is able to inspect specifically designed cladding systems and curtain walls in accordance with the consented documents e. below ground drainage systems and where subsurface hydrostatic water pressure (the water table, capillary action, soil type etc) is acting at pressure on building elements (eg, shoring, temporary protection, permanent protection, drainage, tanking).	**C3-I5** Has an advanced-level of knowledge and understanding of E2/VM2 and AS/NZS 4284 in relation to specifically designed and highly complex building facades that exceed 25 metres in height, and: a. exhibits an understanding of complex junctions, flashing detailing and the impacts of high wind actions and loadings on building envelops b. has sound technical knowledge of structural cladding, cavity systems and rain screens c. is able to inspect specifically designed cladding systems and curtain walls for buildings that are above four-storeys in height in accordance with the consented documents.

Commercial 1	Commercial 2	Commercial 3
C1-I12 MDH Has a working knowledge of: a. internal moisture management within buildings as required by E3 and E3/AS1 (eg understands ventilation, temperature, thermal resistance, condensation, impervious surfaces for floor and wall linings) b. E3/AS2 as it relates to wet-area membranes for residential, industrial and commercial buildings, and c. E3, demonstrated in respect of protection of other property from damage caused by free water from another household unit or other tenancy in the same building.	**C2-I7** Has a higher-level of understanding of E3 in respect of protection of other property from damage caused by uncontrolled water from one household unit entering another household unit in a multi-unit context.	
C1-I13 Has the ability to inspect and identify hazardous agents or contaminants on site as required by F1 and F1/AS1 in accordance with the consented documents.		
C1-I14 Has a working knowledge of human impact for glazing as required by F2 and F2/AS1 using NZS 4223 and is able to inspect the compliance of glazed barriers and identify the required locations for safety glass, manifestation, etc in accordance with the consented documents.		
C1-I15 Understands F3 and is able to inspect and ensure the health and safety requirements for asbestos and other hazardous building materials are compliant.		
C1-I16 Has an understanding of the implications of openings in the building envelope that require consideration in accordance with F4 and F4/AS1. Understands minimum barrier heights that apply to buildings other than housing ie 1100mm.		
C1-I17 Has an understanding of site safety requirements and can determine/inspect site hazards in accordance with F5 and F5/AS1.	**C2-I8** Has a higher-level of awareness of site safety requirements and can determine/inspect site hazards in accordance with F5 and F5/AS1. Understands the interface between B1 and F5 for safe gantry construction as they relate to medium- and large- scale commercial building projects.	

Commercial 1	Commercial 2	Commercial 3
C1-I18 Has an understanding of the requirements of F6 and F6/AS1 and the inter-relationship with the C clauses.		
C1-I19 MDH Has an understanding of the requirements of F7 and the inter-relationship with the C clauses, in particular: a. the placement and installation of domestic smoke detectors as required by C/AS1-AS2 and NZS 4514 and NZS 4517 as they relate to residential, industrial and commercial buildings b. the types of warning systems (NZS 4512 (Fire alarm systems in buildings) and NZS 4541 (Automatic fire sprinkler systems)) that relate to the types of buildings within this competency level c. understands the commissioning, accredited inspection body and certification requirements for these systems.	**C2-I9** Has a higher-level of understanding in respect of the types of warning systems (NZS 4512 (Fire alarm systems in buildings) and NZS 4541 (Automatic fire sprinkler systems)) that relate to the types of buildings within this competency level.	**C3-I6** Has an advanced-level of understanding and knowledge in respect of the specified systems and the interface between various specified systems (eg interconnection between lift, automatic doors and other early warning systems and the building management system).
C1-I20 Has an understanding of F8 and F8/AS1 and the inter-relationship with NZS 4121, G5, G9, F1, F3, F6 and the C clauses.		
C1-I21 Has a working knowledge of F9, F9/AS1 (Residential pool barriers) and F9/AS2 (Covers for small heated pools), and a. Schedule 1(21A) as it relates to installation of a safety cover. b. The Fencing of Swimming Pools Act 1987.		
C1-I22 Has an understanding of G1 and G1/AS1 for location, calculation of sizing and number of sanitary fixtures. Has an appreciation of the relationship between G1 and Building Code clauses D1: Access Routes and F8: Signs.		
C1-I23 Has a working knowledge of G2 and G2/AS1 for spatial laundering requirements.		
C1-I24 Has a working knowledge of spatial, hygiene, storage and preparation requirements for cooking and food as required by G3 and G3/AS1 (eg impervious surfaces, food storage, cooking and refrigeration).		

Commercial 1	Commercial 2	Commercial 3
C1-I25 **MDH** Has a working knowledge of: a. natural and mechanical ventilation requirements for residential buildings (household units) as required by G4 and G4/AS1 (eg 5 percent floor area/window ratio) b. sizing of natural venting for occupied spaces, mechanical ventilation for bathrooms/ kitchens and ducted mechanical ventilation in commercial and industrial buildings c. workplaces affected by G4/VM1 d. interface with B1 in relation to seismic restraint of non-structural elements (eg NZS 4219).		
C1-I26 Has a working knowledge of G5, G5/AS1 and NZS 4121.	**C2-I10** Has a higher-level of understanding of G5, G5/AS1 and NZS 4121 and in particular enhanced hearing systems (eg assembly spaces occupied by more than 250 people), controlled interior temperature, accessible counters.	
C1-I27 **MDH** Has an understanding and can define sound transmission class (STC) and impact insulation class (IIC) and can inspect commonly used solutions to determine compliance with G6, G6/AS1 and G6/VM1 (Airborne and impact sound) between occupancies. Exhibits an understanding of the interface between C3 and G6, particularly in relation to penetrations to fire and sound-rated areas.	**C2-I11** Has a higher level of understanding of: a. complex floor, wall and ceiling assemblies to prevent sound transmission b. physical separation of building elements, noise control installations, air tightness and sealing of joints and penetrations associated with building services and plumbing reticulation passing through noise control building elements.	
C1-I28 Has a working knowledge of the requirements for natural light and visual awareness of the outside as required by G7, G7/AS1 and G7/VM1 (eg 10 percent floor area/ratio for natural light and visual awareness of the outside in relation to residential and other applicable buildings).		
C1-I29 Has a working knowledge and can inspect artificial lighting to enable safe movement as required by G8 and G8/AS1 (eg access routes and minimum lux levels).		

Commercial 1	Commercial 2	Commercial 3
C1-I30 Has a working knowledge of the requirements for certifying compliance with electricity provisions as required by G9, G9/AS1 and sections 19 and 94(3) of the Building Act.		
C1-I31 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		
C1-I32 Understands the requirements to store solid waste for this type of building work in accordance with G15 (Solid waste) and G15/AS1 in relation to D1 and G4.		
C1-I33 MDH Has a working knowledge of: a. the requirements for inspecting energy efficiency for housing and commercial buildings as required by H1 and using the schedule method in H1/AS1 (ceilings, walls, windows/doors, hot water etc), H1/AS1, H1/VM1, H1/VM2 and H2/VM3 as it relates to HVAC systems, and b. installing bulk thermal insulation in residential buildings (household units) as required by NZS 4246, where applicable.		
C1fd. Foundations		
C1-fd1 Understands requirements for different corrosion zones and climatic conditions – concrete strength, cover, setback, bridging requirements etc (for different zones and foundation types), fixing materials.		
C1-fd2 Understands and can inspect: c. setout and siting (including distance from boundary and reduced levels), and b. matters relating to fill, blinding, compaction and ground-bearing.		

Commercial 1	Commercial 2	Commercial 3
C1-fd3 Understands requirements for conventional timber foundation systems and can inspect these foundation types. For example pile foundations – types (including bracing types), sizes and dimensions (ground clearance, max heights, foundation depths, etc), fixings for different pile types, treatment and identification, how bracing is calculated for subfloors, point load, braced and anchor piles etc.		
C1-fd4 Understands requirements for concrete foundations and can inspect reinforcing (laps and size), reinforcing type/grade (identification of deformed and round, high tensile or normal, mesh and mesh support), pipe penetrations, ground beams, point load pads, bond beams, wash outs, 'A', 'B' and 'C' grade masonry.	**C2-fd1** **MDH** Has a higher-level of understanding in relation to construction, monitoring and the associated verification requirements for complex commercial foundation systems. Is familiar with seismic engineering techniques that are used in commercial construction and is able to inspect complex building work in this area (eg excavation of underground basements between the water table (temporary works, shearwalling), including base isolation and damping systems).	
C1-fd5 Understands requirements for concrete slabs – reinforcing (laps, size, supplementary reinforcing requirements, starters, steel cover), control joint and slab size limitations, insulation (bridging-both thermal and point load), pipe penetrations, thickness and thickenings of slab, DPM.	**C2-fd2** **MDH** Has a higher-level of understanding and can inspect large scale raft foundation systems and hybrid foundation systems (eg deep pile, ground improvement, ground beam, pre-cast, insitu, part suspended, retained and surcharging loads) and is familiar with third-party CPEng monitoring requirements, as it relates to verifying elements of SED.	
C1-fd6 Understands verification requirements including producer statements, geotechnical reports, compaction certificates, concrete certification.	**C2-fd3** Has a higher-level of understanding of verification requirements that apply to foundation systems used at this competency level (CM1–CM5 construction monitoring, testing, sampling, PS3, PS4).	**C3-fd1** Has a higher-level of understanding of verification requirements that apply to foundation systems used at this competency level (monitoring, testing, sampling and review).
C1pl. Pre-line		
C1-pl1 Understands requirements and can inspect timber floor and subfloor foundation systems.		

Commercial 1	Commercial 2	Commercial 3
C1-pI2 Understands and can inspect requirements for framing and truss – size, span and spacing, timber grade and treatment, load paths, moisture content, fixings and connections, truss design and layout information, penetrations, bracing systems and fixings, glulam, LVL, CLT, and other prefabricated engineered timber systems.	**C2-pI1** **MDH** Has a higher-level of understanding in relation to commercial timber building structures. Is able to inspect complex building work associated with timber and engineered timber construction at this level.	**C3-pI1** Has an advanced-level of understanding in relation to commercial timber building structures. Is able to inspect complex building work associated with timber and engineered timber construction at this level ie can liaise with engineers and practitioners who employ specialist prefabricated high-rise ('mass timber' construction) eg CLT, LVL, glulam panels and components.
C1-pI3 **MDH** Understands requirements and can inspect cladding systems – underlays/wraps, wind barriers and rigid air barriers, fixings, penetrations and flashings, sill tapes, air seals, cavity systems, direct-fix systems, penetrations, brick veneer requirements, including drained and vented cavity systems, SED wall panel systems and low-rise curtain wall systems. Has a well-developed understanding of E2, E2/AS1 and E2/VM2 where applicable.	**C2-pI2** **MDH** Has a higher-level of understanding of E2/VM2 (for cavity-based cladding systems on buildings up to 25 metres in height) and is able to inspect: a. complex junctions, flashing detailing, and has sound technical knowledge of structural cladding and cavity systems and rain screens, and b. specifically designed cladding and curtain walls in accordance with the consented documents and any conditions of the consent in respect to third-party verification (PS3/PS4 etc).	**C3-pI2** Has an advanced-level of knowledge and understanding of E2/VM2; and has an advanced- level of understanding with regard to AS/NZS 4284 as it relates to specifically designed building facades that exceed 25 metres in height. Is able to inspect: a. complex junctions, flashing detailing, wind action and loading on buildings, structural cladding and cavity systems and rain screens, and b. specifically designed cladding systems and curtain walls for buildings that are above four-storeys in height in accordance with the consented documents and any conditions of consent in respect to third-party verification (PS3/PS4 etc).
C1-pI4 Understands requirements and can inspect commercial, industrial and residential roof and/or deck membrane systems, including substrates, penetrations, fall and overflows.	Refer to C1-I12 for further requirements.	
C1-pI5 **MDH** Understands requirements for fire and sound-rated walls and building components – installation requirements, including isolation, insulation, penetrations and fixings.	Refer to C1-I27 for further requirements.	
C1-pI6 **MDH** Understands requirements for fire treatments (eg intumescent coatings and seals).		
C1-pI7 Understands requirements for insulation installation – type, rating, installation requirements (eg refer to NZS 4246, Energy efficiency – Installing bulk thermal insulation in residential use or multi-unit buildings).		

Commercial 1	Commercial 2	Commercial 3
C1fn. Final		
C1-fn1 Understands access to buildings – steps (and isolated steps), stairs, ladders and ramps – installation, tread, riser, handrails, non-slip provisions, accessible car parks and avoidance of conflict with vehicles and associated signage.	**C2-fn1** Has a higher-level of understanding in respect of clauses D1 and D2 of the Building Code and is able to inspect a broader range of buildings that fall within Schedule 2 of the Building Act.	
C1-fn2 Understands accessible requirements including locations and dimensions of fixture, fittings and counters and spatial requirements of areas.	**C2-fn2** Has a higher-level of understanding in respect of clauses G1, G2 and G5 of the Building Code and is able to inspect a broader range of buildings that fall within Schedule 2 of the Building Act.	
C1-fn3 Understands requirements and can inspect internal linings and surfaces, including impervious surface requirements, waterproof membranes, water splash areas.		
C1-fn4 Understands requirements and can inspect emergency warning systems (EWS) for fire and other dangers. Understands the requirement for commissioning and certification by an accredited inspection body.		
C1-fn5 Understands requirements and can inspect fire-rated boundary walls and other building components.	**C2-fn3** Has a higher-level of understanding and can inspect complex high-rise multiunit complexes that incorporate fire and sound-rated wall, floor and ceiling assemblies.	
C1-fn6 Understands requirements and can inspect ventilation – mechanical and natural/passive.		
C1-fn7 **MDH** Understands how requirements for ventilation – mechanical and natural interface with active and passive fire systems passing between fire cells.		
C1-fn8 **MDH** Understands and is familiar with the inspection requirements for airborne sound ie (STC) Sound transmission class and (IIC) Impact insulation class.		
C1-fn9 Understands requirements for glazing, safety glass identification, locations and manifestations.		

Commercial 1	Commercial 2	Commercial 3
C1-fn10 Understands requirements for finished ground level and ground clearances to claddings and floor levels. Can inspect to the consented documents for reduced levels (RLs) and ground clearance requirements.		
C1-fn11 MDH Has an understanding and can inspect specified systems, including identification of installation, commissioning and certification requirements.	**C2-fn4** Has a higher-level of understanding with respect to buildings that contain multiple and interfaced specified systems ie those that pose a greater risk to life in the event of fire eg sleeping purpose group buildings. Is able to review and inspect specified system inputs at this competency level accordingly.	**C3-fn1** Has an advanced-level of understanding and knowledge in respect of the specified systems typically associated with high-rise and/or complex buildings eg those present in SR, SD or SC use groups. Is able to review and inspect specified system inputs at this competency level accordingly.
C1-fn12 Understands requirements for third party verification (eg producer statements, energy work certificates, commissioning certificates that support code compliance decision-making).		
C1-fn13 Where applicable, understands and can inspect and follow manufacturer requirements for the installation of freestanding and in-built solid fuel heating appliance relating to: appliances clearances, hearth, insulation barrier, associated prescribed electrical work.		
C1-fn14 Understands requirements for identification and management of risk from hazardous agents or contaminants on site.		

Performance indicators required for plumbing and drainage compliance:

14. Inspect building work to establish whether compliance with the Building Code (plumbing and drainage related inspections only) has been achieved for residential buildings.

Guidance for assessors and candidates – Plumbing and drainage		
Commercial 1	Commercial 2	Commercial 3
Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:	Knowledge areas **for inspections** may include, but are not limited to:
C1-gp1 Demonstrate an understanding of MultiProof, CodeMark, overseas certification schemes, building product standards and modular component manufacturer (MCM) schemes that fall within the scope of this competency level. For MCM inspections: a. where applicable can perform remote (virtual) inspections (RI) and follow the BCA's policies, procedures and systems in relation to this type of inspection and b. is aware of MBIE guidance in relation to RI and has received dedicated training on RI in relation to the technology and application of the software involved.		
C1-gp2 MDH Demonstrated ability to read and interpret plans and specifications. Can establish that the building work (sanitary plumbing and drainage) is in accordance with the consented plans and specifications.	**C2-gp1** Has a higher-level of understanding and is able to interpret technically complex plans and specifications relating to sanitary plumbing and drainage. Is able to inspect building work is in accordance with the consented plans and specifications at this competency level.	**C3-gp1** Has an advanced-level of understanding and is able to interpret technically complex, multi- layered plans and specifications relating to sanitary plumbing and drainage. Is able to inspect building work is in accordance with the consented plans and specifications at this competency level.
C1-gp3 Is able to use technical equipment (eg pressure testing, cameras, tablets, thermometers) and administrative resources (checklists and copies of technical information) to establish compliance against the consented documents.		
C1-gp4 MDH Has an understanding in respect of the specified systems and compliance schedule matters in an inspection context.	**C2-gp2** Has a higher-level of understanding of specified systems and compliance schedule matters in an inspection context. Is aware of the interface between various specified systems in complex commercial and industrial buildings (eg backflow prevention devices, automatic sprinklers systems).	

Commercial 1	Commercial 2	Commercial 3
C1-gp5 Has an understanding of the requirement for observation of building elements by experts, such as chartered professional engineers (eg hydraulic engineer, drainage engineer).	**C2-gp3** Has a higher-level of understanding with regard to the monitoring, inspection, testing, commissioning and verification processes that apply to complex or specifically designed plumbing and drainage systems in commercial and industrial buildings. For example installation of automatic backflow preventors in a large swimming pool complex and including the potential interface with F3 (Hazardous substances and processes), where there is chemical storage/use onsite.	
C1-gp6 Has a working knowledge and can inspect requirements for protecting people and other property from adverse effects of surface water as required by E1, E1/AS1 and E1/VM1 (minimum floor heights, design, construction and conveyance of storm water catchment).	**C2-gp4** Has a higher-level of understanding of E1/AS1, AS2, and VM1 and can inspect to: a. complex drainage solutions (and related storage vessels) for dealing with larger volumes and high velocity water flow for roof, deck and balcony areas, and b. surface water control on high-rise buildings which may include siphonic roof and deck drainage systems as opposed to conventional gravity-fed systems.	**C3-gp2** Has an advanced-level of understanding of E1/AS1, AS2 and VM1 and can inspect complex and alternative drainage solutions dealing with large volumes and high velocity for roof, deck and balcony areas (eg SED drainage associated with ethylene tetrafluoroethylene transparent roof cladding systems on stadiums and the like).
C1-gp7 Has a working knowledge of G1 and can inspect to G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121.	**C2-gp5** Has a higher-level of understanding of compliance with G1 and can inspect to G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121 and the implications that relate to the given building use(s) and occupancy.	**C3-gp3** Has an advanced-level of understanding of compliance with G1 and can inspect to G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121 and the implications that relate to the given building use(s) and occupancy (eg large tertiary hospital complex).
C1-gp8 Has a working knowledge of laundering and spatial requirements and can inspect to satisfy G2 and G2/AS1. Has an understanding of the interrelationship with clause G4 of the Building Code.		
C1-gp9 Has a working knowledge of the requirements for certifying compliance with electricity provisions as required by G9, G9/AS1. G9/VM1 and sections 19 and 94(3) of the Building Act.		

Commercial 1	Commercial 2	Commercial 3
C1-gp10 Understands requirements for protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services) and G10/AS1.	**C2-gp6** Has a higher-level of understanding of protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services), and the implications that relate to the given building use(s) and occupancy (eg hospitals and other care facilities).	
C1-gp11 Has a working knowledge of the requirements for certifying compliance with gas as an energy source as required by G11, G11/AS1 and sections 19 and 94(3) of the Building Act.		
C1-gp12 MDH Understands requirements for specification and installation of residential/commercial/industrial water supplies as required by G12, G12/AS1, G12/VM1 and AS/NZS 3500 (potable water requirements, hot water supply systems, venting/ valving/restraint and design principles). Understands the relationship between G12 and a. B1 in relation to seismic restraint of water storage vessels b. C3 in relation to pipe penetrations through fire separations (eg fire collars, intumescent sleeves and sealants) c. E3 and accidental overflow of free water d. H1, H1/AS1 and systems providing hot water to sanitary fixtures and appliances to achieve compliance with energy efficiency requirements.	**C2-gp7** Has a higher-level of understanding with respect to G12/AS1, AS2, VM1 and AS/NZS 3500. Has an understanding: a. with respect to seismic restraint of water storage systems and the associated pipe network, and b. requirements for pipe expansion across multiple floors.	**C3-gp4** Has an advanced-level of understanding with respect to G12/AS1, AS2, VM1 and AS/NZS 3500 in relation to atmospheric pressure (head) and the hydraulic system design as it relates to buildings over four storeys in height.
C1-gp13 Understands requirements for the provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1 and AS/ NZS 3500 Part 2 (system design principles – avoid odour (foul air and gases), design loading, falls, venting, materials, connections, access and maintenance, and imposed loads). Understands onsite disposal of foul water (eg AS/NZS 1547).	**C2-gp8** Has a higher-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/ AS1, AS2 and AS3, G13/VM1 and AS/NZS 3500 Part 2 as they relate to up to four-storey residential/ commercial/ industrial construction. System design principles – modified stacks systems, avoid odour, design loading, falls, venting, materials, connections, access and maintenance and imposed loads.	**C3-gp5** Has an advanced-level of understanding of modified stack systems (eg aerator junction fittings and pressure attenuators).

Commercial 1	Commercial 2	Commercial 3
C1-gp14 Has an understanding of collection, storage, treatment and disposal of industrial liquid waste in accordance with G14, G14/AS1 and G14/VM1. Understands the treatment and disposal methods illustrated in Figure 1 of G14/VM1.		
C1-gp15 Has an understanding of solid waste in particular in relation to clauses C3, G4, G6 and G15/AS1.		
C1-gp16 MDH Has an understanding of hot water energy efficiency as it relates to this building type with regard to H1/AS1 and NZS 4305.	**C2-gp9** MDH Has a higher-level of understanding of hot water energy efficiency as it relates to this building type with regard to H1/AS1 and H1/AS2.	
C1-gp17 Where applicable can perform remote (virtual) inspections (RI) and follow the BCA's policies, procedures and systems in relation to this type of inspection. Is aware of MBIE's guidance in relation to RI. Has received dedicated training on RI in relation to the technology and application of the software involved.		
C1-pf. Foundations		
C1-pf1 Has an understanding of, and is able to inspect pipe material, gradients, size, bedding, backfill, protection, insulation, access points, falls, jointing (seismic/expansion/ contraction), sleeving, testing, supports, changes of direction, conveyance to approved outfalls, bridging of drains and including the avoidance of damage from superimposed loads or unexpected ground movement.	**C2-pf1** Has a higher-level of understanding regarding pipe material, gradients, size, bedding, backfill, protection, insulation, access points, jointing and sleeving, testing, supports, changes of direction, conveyance to approved outfalls and bridging of drains. This understanding should relate to pipes and drains etc traversing different levels in buildings ie pipes and drains that are subject to greater falls and that might pass through retaining walls and foundations and are subject to subsurface hydrostatic pressure and bring in clause E1 and E2 performance considerations.	
C1-pf2 Has an understanding and is able to inspect HW relief drain, discharge outlet and drain access points.		

Commercial 1	Commercial 2	Commercial 3
C1-pp. Pre-line		
C1-pp1 MDH Has an understanding and is able to inspect, pipe materials, thermal movement, sizing, compatibility, insulation, fire-rating (fire collars/transit trays etc), sound transmission, testing, penetrations through envelope, roof flashings, soil stacks (graded), elevated drainage principles, waste pipes, venting systems.	**C2-pp1** Has a higher-level of understanding and can inspect stack systems.	**C3-pp1** Has an advanced-level of understanding and can inspect modified stack systems (eg aerator junction fittings and pressure attenuators).
C1-pp2 Has an understanding and can inspect hot water/cold water expansion relief drain discharge outfall point.		
C1-pp3 Has an understanding and can inspect hot water supply: a. mains pressure, low-pressure, wet-back b. tank supply – structural support/safe tray/overflow/ seismic restraint c. solar PV systems– structural support – penetrations d. wet-back – open venting of HWC exhaust e. network utility cold water supply connections, and f. floor waste.	**C2-pp2** Has a higher-level of understanding of protecting people from extreme temperatures or hazardous substances associated with building services in accordance with G10 (Piped services), and the implications that relate to the given building use(s) and occupancy (eg hospitals and other care facilities).	
C1-pp4 Understands requirements for provision of sanitary fixtures and can inspect drainage and sanitary systems for conveying foul water to drainage as required by G13, G13/AS1 and AS/NZS 3500 Part 2 (system design principles – avoid odour (foul air and gases), design loading, falls, venting, materials, connections, access and maintenance, and imposed loads). Understands onsite disposal of foul water (eg AS/NZS 1547).	**C2-pp3** Has a higher-level of understanding as it relates to this building type for the requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1, AS2 and AS3, G13/VM1 and AS/NZS 3500 Part 2 as they relate up to four-storey residential/ commercial/ industrial construction. System design principles – modified stacks systems, avoid odour, design loading, falls, venting, materials, connections, access and maintenance and imposed loads.	**C3-pp2** Has an advanced-level of understanding of modified stack systems (eg aerator junction fittings and pressure attenuators).
C1-pn. Final		
C1-pn1 Has an understanding of and can inspect HWC seismic restraint, hot and cold water – valves, tempering device, cold water expansion relief, tundish, safe trays etc.		
C1-pn2 Has an understanding of and can inspect and check HWC water supply temperature (personal hygiene, legionella).		

Commercial 1	Commercial 2	Commercial 3
C1-pn3 Has an understanding of and can inspect and test sanitary fixtures trap seal retention.		
C1-pn4 Has an understanding of and can inspect equipotential bonding.		
C1-pn5 Has an understanding of and can inspect gully dish/grating height, waste pipe connections to gully riser or gully dish, surface water ingress protection.		
C1-pn6 Has an understanding of and can inspect pipe penetrations are watertight, seals are in place and any related spatial clause G1 and D1 access requirements on plan have been observed.	**C2-pn1** Has a higher-level of understanding of clause G1 and can inspect to G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121 and the implications that relate to the given building use(s) and occupancy.	**C3-pn1** Has an advanced-level of understanding of compliance with G1 and can inspect to G1/AS1 for location, sizing and number of sanitary fixtures. Understands the interface with D1 and NZS 4121 and the implications that relate to the given building use(s) and occupancy (eg large tertiary hospital complex).
C1-pn7 Has an understanding of and can inspect drain venting.	**C2-pn2** Has a higher-level of understanding and can inspect requirements for provision of sanitary fixtures and appliances and for conveying foul water to drainage systems as required by G13, G13/AS1, AS2 and AS3, G13/VM1 and AS/NZS 3500 Part 2, within this competency level.	
C1-pn8 Has an understanding of and can review drainage as-built plan – minor variations/amendments to plans/specifications in accordance with the BCA's policies, procedures and systems.		
C1-pn9 Has an understanding of and can inspect completed swimming pools and the associated backflow prevention devices (specified systems).		
C1-pn10 **MDH** Can identify and inspect fire-walls and floors and can confirm the compliance path for plumbing and drainage systems penetrating walls and floors. Has an understanding of how penetrations affect sound rating and transmission of sound between tenancies and can inspect to the relevant plans and specifications for compliance.	**C2-pn3** **MDH** Has a higher-level of understanding and can inspect complex high-rise multiunit complexes that incorporate fire and sound-rated wall, floor and ceiling assemblies. Can inspect fire/sound-rated penetrations, fire collars, firestopping ('transit boxes') for large and bundled building services; including where such services are on the buildings means of escape.	

Regulation 10(3)(d)(iii): Ability to certify building work.		
Performance Indicators 15. Can issue certification (building consent or code compliance certificate) for this type of building work.		
Guidance for assessors and candidates		
Commercial 1	Commercial 2	Commercial 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
C1-C1 Can compile and review information received during the processing of a building consent or information received during the inspection/construction process and determine and record the outcome to issue, suspend, request further information and/or refuse to issue a building consent or code compliance certificate (within their authority).	**C2-C1** Can handle, review and process large quantities of third-party documentation related to Building Code compliance (eg post-construction verification).	
C1-C2 Can administratively manage large amounts of compliance-related information in order to be satisfied on reasonable grounds (SORG) and is aware of MBIE's SORG guidance and relevant determinations in this regard.	**C2-C2** Has a proven ability to administratively manage large amounts of compliance-related information in order to make a SORG decision.	
C1-C3 Can follow due process in relation to obtaining third-party verification, peer-review (PS2,PS4, and expert opinion) for elements of SED and/or alternative solutions that form part of the consented works.	**C2-C3** Has a higher-level of understanding of complex SED solutions and the interrelated construction monitoring (CM1- CM5), producer statement processes and Verification Methods that have been used to demonstrate compliance with the Building Code.	
C1-C4 **MDH** Understands the need to seek evidence of installation, Commissioning and certification information for certain types of specified systems (eg early warning systems and sprinklers etc).	**C2-C4** Has a higher-level of understanding in relation to the installation, commissioning and certification information requirements for certain types of specified systems (eg early warning systems, lifts and sprinklers etc).	

Regulation 10(3)(e): Ability to communicate with internal and external persons.		
Performance Indicators 16. Communicates with internal and external customers. 17. Can use information technology 18. Demonstrates good active listening, questioning and assertiveness skills in dealing with day-to-day tasks and responsibilities.		
Guidance for assessors and candidates		
Commercial 1	Commercial 2	Commercial 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicators 17 and 18 there is no obvious step or adjustment in competence.		
C1-S1 Can correctly prepare letters, memos and short reports under review of senior staff.	**C2-S1** Has the ability to administratively manage large amounts of information and resolve problems through clear and open lines of communication.	
C1-S2 Appears confident and has a good understanding of building-related subject matter when dealing with customers and colleagues.	**C2-S2** Demonstrates a higher-level of understanding and can clearly articulate findings and provide feedback to fellow staff members, the public and building sector professionals. Presents a convincing and rational argument in support of decisions made.	
C1-S3 Can communicate effectively with other team members, consent applicants and members of the public.	**C2-S3** Has the ability and necessary skill to communicate at a high-level with building sector professionals and other technical areas within the BCA and TA.	
C1-S4 Can accurately input written/ electronic data on internal forms, checklists, databases etc and completes prescribed forms in accordance with the Building (Forms) Regulations 2004.	**C2-S4** Has a higher-level of understanding and can accurately interpret building consent correspondence and is able to compile accurate, clear and readable written responses such as requests for further information or notices to fix etc.	

Regulation 10(3)(f): Ability to comply with the BCA's policies, procedures and systems.		
Performance Indicators 19. Observes the BCA's policies, procedures and systems for this type of building work.		
Guidance for assessors and candidates		
Commercial 1	Commercial 2	Commercial 3
Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:	Knowledge areas may include, but are not limited to:
Note – for performance indicator 19 there is no obvious step or adjustment in competence.		
C1-Ps1 Has an ability to accurately and carefully follow established policies, procedures and systems for completing work tasks in relation to building control functions.		
C1-Ps2 Has a well-developed understanding of the BCA's policies, procedures and systems as they directly relate to the candidate's core role(s) within the BCA eg processing, inspections, certification, technical leadership etc.		

Appendix 4: Competencies for Large Dams

The consenting of Large Dams represents a specialist subset of building work taking place nationally. All Large Dams are unique, each with their own issues, risks, geology, environmental factors, design features, and complexity. In a consenting context, Large Dams are generally substantial and important civil structures which meet the definition of a 'Large Dam' in section 7 of the Building Act. However, despite being a unique area of building control many of the performance indicators and core competencies provided for in Appendix 3B for Commercial 1, 2 and 3 still hold relevance when assessing competence under Regulation 10(3). To further assist in establishing competence in this area, the following table has been developed to identify some of the more specific competencies that relate to Large Dams.

The following matters do not specifically relate to the functions of a BCA but are specific to the functions of a regional authority. It is important and desirable that a BCO working in this space has a working knowledge of how the dam safety scheme interfaces with the building consenting function.

- Is able to discuss current legislation that provides for the regulation of Large Dams, such as the Building Act 2004, and the Building (Dam Safety) Regulations 2022
- Can discuss the framework put in place to classify dams according to their potential impact classification (PIC) and has a well-developed understanding of dam safety assurance programmes in place for low, medium and high PIC dams and who can operate in this area (ie Recognised Engineers).

Large Dam competency requirements
Large Dams includes ancillary buildings, as categorised by clause A1 of the Building Code. Section 7 of the Building Act defines a Large Dam as being a dam that has a height of 4 or more metres and holds 20,000 or more cubic metres volume of water or other fluid. It also includes other associated industrial and outbuildings containing interrelated control facilities and plant rooms etc.
1. Regulation 10(3) demonstrates an understanding of the building, design and construction methods that relate to Large Dams
DDC. As above, the core competencies for Regulations 10(3) (a-c and e-f) should be used (and where applicable modified) to reflect that the building work and the related knowledge, understanding or demonstration of competence for Large Dams differs from standard building work performed under Commercial 1, 2 and 3. For example, in accordance with "*C1-Pr8. Has an understanding of construction sequencing and the impact this has on the different types of design and construction that are employed*".
DDC1. Is able to advise how Large Dams are designed (their common means of compliance) as an alternative Solution via *the Dam Safety Guidelines published by the NZ Society on Large Dams (NZSOLD)*. Is conversant in the overarching dam safety objectives and principles, and the following supporting Modules in these guidelines: Module 1: Legal Requirements Module 2: Consequence Assessment and Dam Potential Impact Classification (PIC) Module 3: Investigation, Design and Analysis Module 4: Construction and Commissioning Module 5: Dam Safety Management Module 6: Emergency Preparedness Module 7: Lifecycle Management.
DDC2. Can convey how large dams are designed, constructed, commissioned, and operated.
DDC3. Can explain the core components that typically make up a Large Dam, its reservoirs/canals (conveyance), the dam (water catchment), foundations and abutments, stopbanks, appurtenant structures (eg spillways and 'sluice facilities').

2. Demonstrates an appropriate level of understanding of the regulatory requirements that relate to Large Dams
DRR1. Is able to discuss the current legislation that provides for the regulation of Large dams, such as the Building Act 2004, and the Building (Dam Safety) Regulations 2022.
DRR2. Has an understanding of the framework put in place to classify large dams according to their potential impact classification (PIC) and has a well-developed understanding of dam safety assurance programmes in place for low, medium and high PIC dams and who can operate in this area (ie Recognised Engineers).
DRR3. Has a well-developed understanding of the roles and responsibilities that each party has in relation to dam ownership, design, construction, commissioning, consenting and operation.
DRR4. Has a well-developed and demonstrated understanding of what it means to be satisfied on reasonable grounds in consenting Large Dams, as is required under sections 49, 94 and 102 of the Building Act.
DRR5. Understands other relevant legislation that affects and regulates Large Dams, the Resource Management Act (RMA), the Civil Defence and Emergency Act, the Health and Safety at Work Act, the Hazardous Substances and New Organisms Act, the Electricity Act, the Water Services Act and the Local Government Act. Understands the interface between the RMA and the Building Act and illustrates an awareness of the types of RMA consent conditions that might impact the construction phase of a project.
DRR6. Where specified systems are included in the wider dam design, can identify, process and ensure such systems are included on a compliance schedule for the dam and its associated outbuildings etc.
3. Key technical attributes
DTA1. Has a thorough understanding of the Building Code, the performance criteria that are most relevant to Large Dams (eg B1 Structure, the B2 Durability, E1 Surface water, D1 Access, F4- Safety from falling, and F7/F8Warning systems and signs).
DTA2. Is conversant in how Large Dams are designed (and their means of compliance) as an alternative solution by way of the *NZSOLD Dam Safety Guidelines*. Is familiar with superseded versions of the *NZSOLD Dam Safety Guidelines*.
DTA3. With regard to clause B1, B1/VM1 (AS/NZS 1170), B1/VM4 – has an understanding of how these Verification Methods and any relevant referenced Standards are used for some aspects of structural design. Appreciates that different design metrics (criteria) exist in the *NZSOLD Dam Safety Guidelines* in relation to conventional clause B1 compliance pathways (eg for earthquake actions/seismic design loads and ground motions *Operating Basis Earthquake (OBE) and Safety Evaluation Earthquake (SSE) applies)*.
DTA4. Understands durability requirements in the context of Large Dams in that their lifespan is influenced by specific design, construction, maintenance, and environmental factors and may extend beyond the 50 year minimum 'elemental design' and performance requirements of clause B2 Durability.
DTA5. Understands the requirements for protecting people and other property from the adverse effects of surface water as required by clause E1 Surface water. Appreciates that different design metrics (criteria) exist in the *NZSOLD Dam Safety Guidelines* in relation to clause E1 compliance eg specific floods, wind and wave hazards settings or criteria apply.
DTA6. Has a well-developed understanding of the participants involved in the design, construction and operation of a Large Dam. Is able to talk to their respective roles in the investigation, conception, detailed design, consenting, construction, verification and commissioning stages of a Large Dam project.
DTA7. Understands that effective quality assurance is essential to verify any design changes made during construction. Can identify and process design changes (formal amendments or minor variations) to enable design documents to be updated/varied/amended for building work to continue in a Building Code compliant manner.
DTA8. Recognises that a Large Dam must include a thorough evaluation of dam safety, risks and the measures to control them. Has a well-developed understanding of clause F5- Construction and Demolition Hazards as it relates to water hazards, site barriers for restricting access etc.

DTA9. Appreciates that expert advice and personnel are required to complete the design, construction and commissioning of a Large Dam. Aside from these functions, those consenting Large Dams for a BCA should have a strong awareness as to the appropriate levels of on-site construction monitoring, which should be sufficient to support reasonable grounds decision-making, eg: a. the inspection of important construction activities b. the completion of all necessary field and laboratory tests c. the review of all inspection and test results d. the identification and resolution of all non-compliances, and e. the documentation of all inspection (producer statements PS3/PS4/commissioning certificates) and test records, including the completion of quality control reports.
DTA10. Appreciates that design and engineering personnel typically have a closer relationship with the construction and commissioning of a Large Dam (when compared to other commercial work), and that proper account is taken of the effects of any site conditions that prove to be different from that which was assumed in the design phase of the project.
DTA11. Appreciates that Large Dam design should conform to established engineering principles for the safety of engineered systems and be assessed against the recommended dam safety performance criteria included in the *NZSOLD Dam Safety Guidelines, and/or other applicable and nominated means of compliance*.
DTA12. Has a good understanding of their own personal technical capability and has the demonstrated ability to work alongside engineers (technical practitioners, recognised engineers) and other specialists to resolve consenting issues during the design, build and certification phases of a dam project.
DTA13. Has sound communication skills that are demonstrated by way of working with a range of technical disciplines who are involved in the design, construction, verification and commissioning of Large Dams. Has the proven ability to take advice and seek peer-review where it is recommended or deemed to be required.
DTA14. Has a well- developed understanding of construction sequencing in relation to the building of a Large Dam and recognises essential inspection and reporting milestones during the design, construction, inspection and commissioning phase of a project.
DTA15. Is able to handle and coordinate large volumes of complex technical information from application through to the issuance of a code compliance certificate.
DTA16. Due to the scale of some of these projects an understanding of 'staged consenting' in accordance with section 44(2) of the Building Act is desirable.

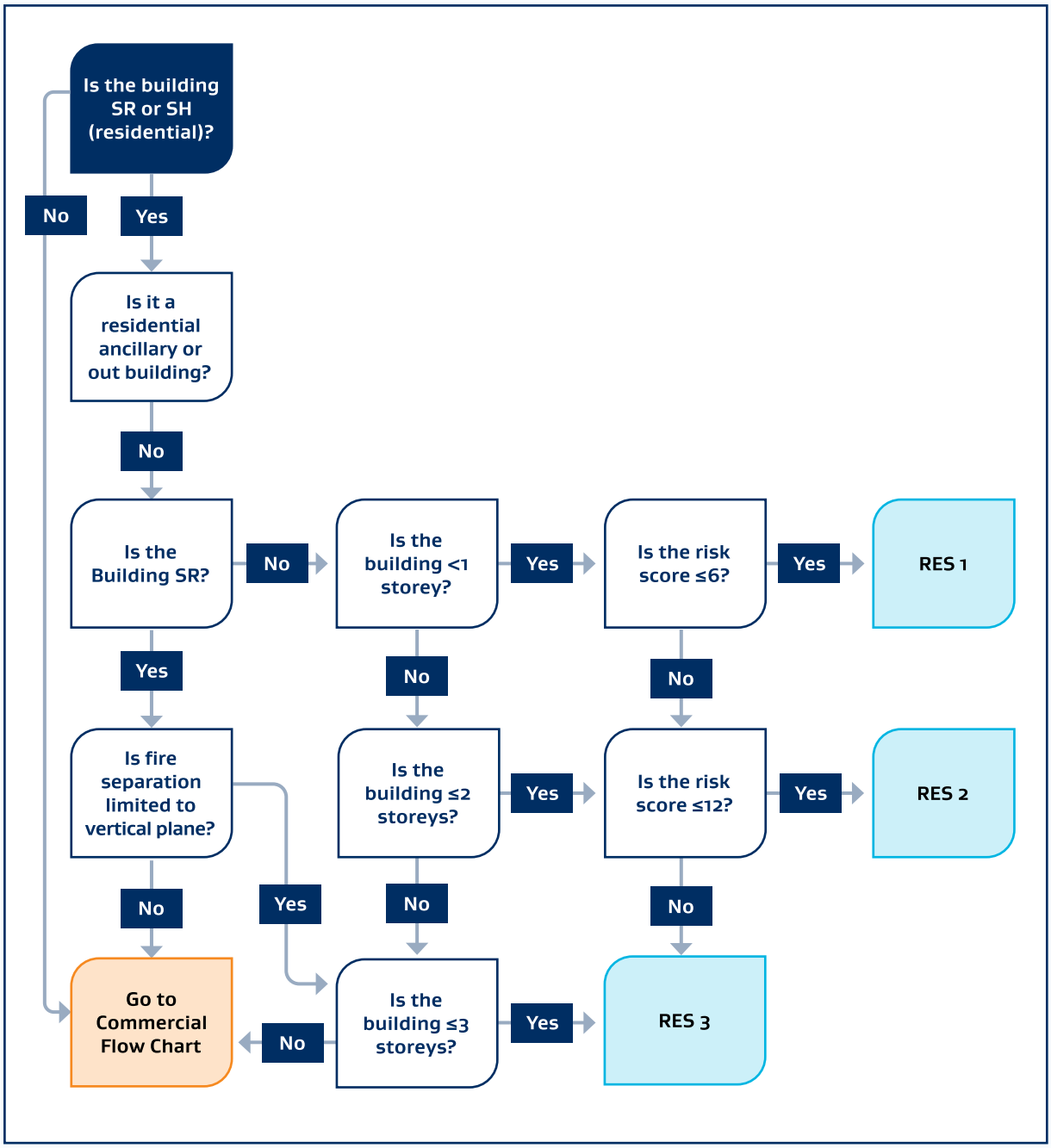
Appendix 5: Residential and Commercial building categorisation flowcharts

The following two flowcharts have been designed to help technically competent administration staff allocate work to particular staff (or contractors). If a job cannot be categorised using these flowcharts, a decision needs to be made based on the sort of competencies required to undertake the work, and the decision and reasons behind it recorded. This could be done, for example, in a file note on the building consent processing check sheet.

Note – Large Dams do not feature in the flowcharts below. The relevant regulatory and technical competence required to undertake dam-related building control functions are consistent with Commercial 3. The relevant metrics that relate to Large Dams are set out in Appendix 4 of this document.

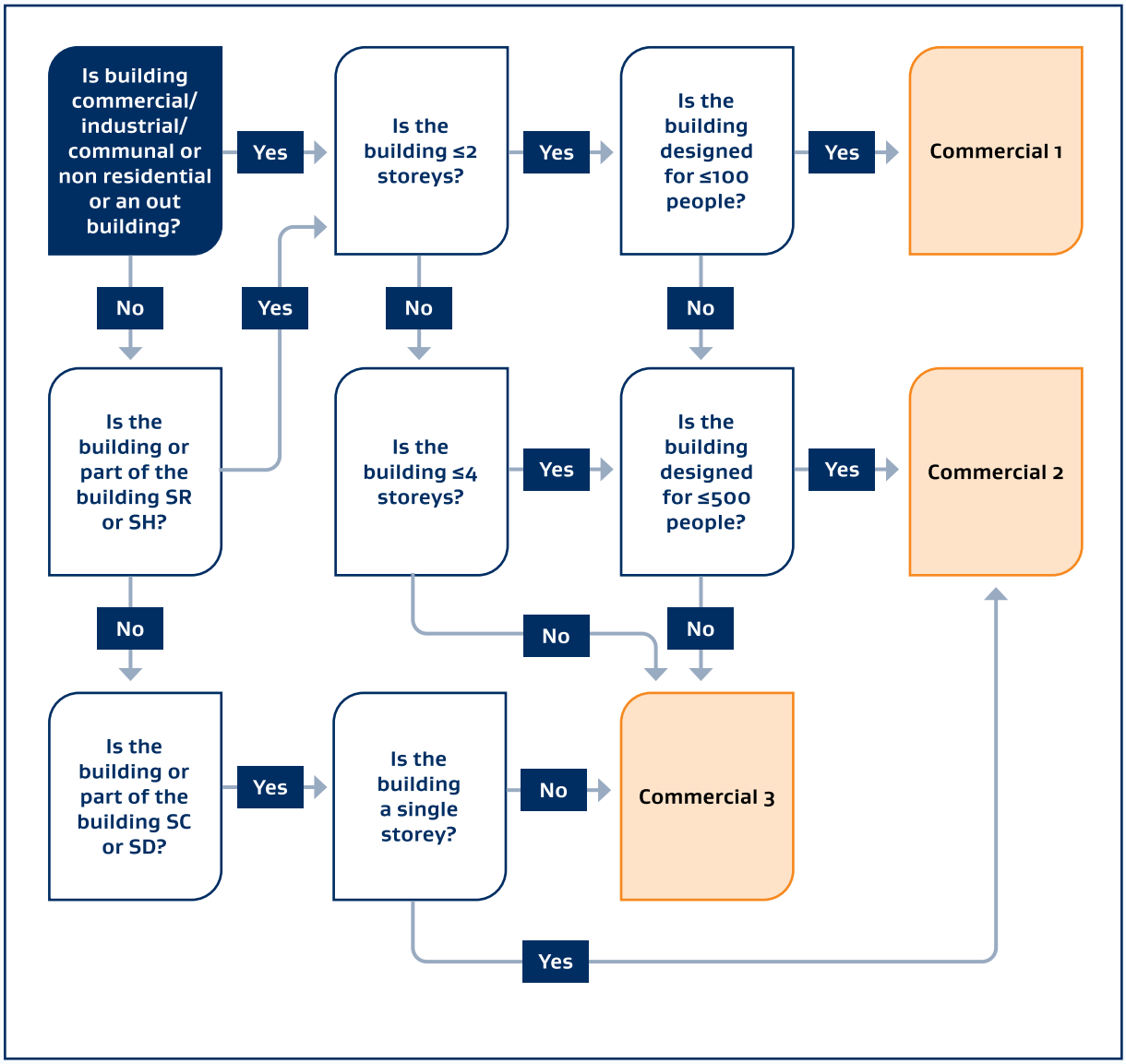
Flowchart 1: Residential flowchart

The following flowchart illustrates how residential buildings are classified, based on type, fire separation, number of stories and risk score. It guides users to the correct residential level or redirects them to the commercial flowchart if necessary. Where a BCA has adopted the Medium Density Housing (MDH) extension, the BCA's systems should enable allocation of work to staff with the appropriate level of competence.



Flowchart 2: Commercial flowchart

The following flowchart illustrates how commercial, industrial, institutional, and non-residential buildings are classified. It guides users through a series of checks including building type, their use group (as defined in the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005), number of stories, and occupancy size. Based on these criteria, buildings are categorised as Commercial 1, Commercial 2, or Commercial 3.



Appendix 6: Desired system requirements for ICT system providers

The key features of any ICT system should align with the relevant sections of the BCA Accreditation Regulations. Although the NCAS deals for the most part with Regulation 10, for completeness the relevant parts of Regulations 8-17 have been highlighted.

NCAS system requirements		
Regulation	**Requirement / Comment**	**Desired ICT system outcomes**
8	Regulation 8 is intended to ensure that all BCAs have a system to ensure they have sufficient employees and contractors to perform their building control functions (as defined in Regulation 3). It requires BCAs to undertake workflow and workforce planning. Workforce planning is a process of identifying the workforce capacity and capability an organisation needs to meet its objectives, now and into the future. It aims to ensure that the right people – those with the skills and capabilities necessary for the work – are available in the right numbers, in the right employment types, in the right place and at the right time to deliver business and building control outcomes.	a. The system would ideally support the annual planning of workflow and its capacity and capability needs. b. The system would be able to report on the volume of building control work it has processed, inspected and approved, identifying any obvious peaks and/or fluctuations, and any seasonal or other patterns. c. The system would help surface the BCA's known pressures impacting the performance of its building control functions such as limited access to technical leadership or specialist technical resources (at any particular time, or for any particular reason). d. The system would surface any known internal or external factors that might influence the volume of building control work, such as new internal systems, the impact of an unforeseen environmental event.

Regulation	Requirement / Comment	Desired ICT system outcomes
9	In order to ensure that a BCA allocates work to employees or contractors who are competent, a BCA must classify its building control functions consistently under a system suitable for establishing competency of an employee performing building control functions, eg using the 'NCAS levels'. In its guidance to BCAs MBIE has recommended (but does not require) that a BCA's system for allocating building control work is linked to its forecast workflow, and the capacity and capability map required by Regulation 8. There is also a link to Regulation 10 and the requirement to assess the competency of employees and, where appropriate, to Regulation 17(2)(c) and the requirement to work within any scope of accreditation. A BCA must have a system for allocating building control function work to competent employees and/or contractors. It can use its capacity and capability map, and allocate work to: • employees with the required competency to perform the work • employees in training, if they are supervised and their work is peer reviewed • contractors who have been granted power and authorities under the BCA's delegation framework and/or are available 'on demand' to provide technical leadership or specialist expertise • another BCA's staff members who may be specifically named as part of an arrangement or another BCA if part of an arrangement or formal transfer.	a. The system should not allow work to be allocated to employees or contractors that do not have competency to perform the work without supervision. b. The system should allow for supervision and peer review to take place and be recorded where an employee or contractor does not have a sufficient level of competency to complete a task. c. The system should provide for work to be re-classified where the staff member assessing it determines this is necessary. Note, this version of the NCAS introduces colour coding for the different levels, R1, R2, R3 and C1, C2 and C3, which BCAs might elect to adopt to aid in better classifying and handling of its workflow.

Regulation	Requirement / Comment	Desired ICT system outcomes
10 10(3)(a-f)	A BCA must have a competency assessment system and biannually assess the competency of all employees performing a building control function. A BCA's competency assessment system should cover: • assessment planning • evidence collection • an assessment • the making of a competency decision and recording the competency decision. A BCA must ensure that the policies, procedures and system required by Regulation 10 are consistently and effectively implemented. BCAs must ensure they record the decisions they make under Regulation 10, including the reasons for the decisions, as well as the outcomes. As part of the 'NCAS refresh' MBIE has removed the 'candidate evidence forms' as an option to capture evidence of competency. The forms have become largely redundant in an electronic age and are no longer viewed as being fit-for-purpose. Having consulted with a number of BCAs one area that often comes up is 'harvesting evidence' of competence to support the biannual competency review process. MBIE and BCAs are keen to see this process playout in real time (wherever possible) while a BCO is actively performing a building control function, ie processing, inspecting or certifying building work etc. Rather than MBIE introducing a new tool to capture this evidence we consider it would be better for system providers to deliver this as part of their offering to BCAs/AOBs.	The NCAS system would benefit in being integrated with each BCA's ICT Platform or consenting system. It would therefore be ideal if the system could: Evidence of competence a. enable evidence of competence to be captured in real time whilst a BCO is undertaking a building control function b. identify work that is at the top end of the BCO's competency and query if it is appropriate to earmark as evidence of continued 'practice', or 'currency' or a step in competency c. provide a mechanism (eg a series of questions in a dropdown format which might be aligned with the relevant Regulations in 10 (3)(a-f)) that would allow the BCO to record how their competency has been maintained or improved as a result of performing or completing the building control function or task, and d. consider using the 'reasonable grounds decision-making' process to surface evidence of competence eg in completing the assessment of a complex alternative solution offered up in a consent application and recording a decision and the reason for that decision. Evidence a. the system would ideally store the evidence in a way that it is easily able to be used to support the annual assessment process b. process and technical audit, training and other evidence of competence might also be stored once it has be created by the BCA/BCO. Creating a 'portfolio' of this evidence capture in the system would also be a desirable outcome.

Regulation	Requirement / Comment	Desired ICT system outcomes
11	A BCA must have a system for training employees performing a building control function by doing a technical job. This is intended to ensure all employees who do a technical job maintain their skills and knowledge. There are, broadly, two types of training needs: • organisational training needs • individual employee training needs.	a. The system would ideally support the outcome of an individual BCO's training needs assessments and be documented and recorded in an 'annual training plan' b. A relevant training mechanism (course, training etc) should also be identified and recorded, and any outcome desired from the training must be recorded.
	Organisational training needs	
	There is no specific requirement for a BCA to identify its organisational training needs although it would be good practice for a BCA to consider the training needs arising from its: • capacity and capability mapping required by Regulation 8 • quality management system required by Regulation 17, which may identify issues • customer query and complaint systems required by Regulations 7(2)(g) and (h) respectively.	
	Individual employee training needs	
	A BCA must undertake an annual training needs assessment of employees performing a building control function by doing a technical job. Developing training plans for each BCO performing a building control function by doing a technical job provides an easy mechanism for a BCA to demonstrate compliance with Regulations 11(2)(c), (d) and (g) respectively. It can also record where training or study towards a qualification may extend beyond a 12-month period.	
	The requirement does not apply to contractors.	

Regulation	Requirement / Comment	Desired ICT system outcomes
12	Regulation 12 recognises that most BCAs will need to use contracted resources in the performance of their building control functions at some point in time. A BCA may contract private organisations or persons as their agents to perform building control functions on their behalf. These contractors need to be granted powers and authorities in the BCA's organisational structure and delegation framework. Where this occurs, the contractor is an extension of the BCA. This is regardless of whether the contractor is an accredited organisation or other private organisation, works independently or on-site at the BCA. The requirements of Regulation 12 are also intended to ensure that a BCA follows good contract management practice in engaging contractors, formulating contracts, and monitoring and reviewing contractor performance. There is an additional requirement in Regulation 17(4)(b) that all contractors performing building control functions comply with a quality management system.	The system would ideally provide a mechanism to enable contractors to be engaged and assist in: a. establishing and assessing contractors' competence, and recording their qualifications b. engaging contractors c. making agreements with contractors d. monitoring and reviewing contractors' performance e. undertaking annual assessments of contractors' competency.
17	Assuring Quality. As above, reference included where required.	As above. a. Technical and process related audits and the like should be able to be referenced, linked or made available for evidential and competency assessment purposes.
Assessor needs	Though not a formal requirement it would be of benefit if an assessor could work within the BCA's system in undertaking an assessment of a BCO.	The system would ideally provide a mechanism to enable assessors to be engaged and assist in: a. providing access to the BCO's portfolio of evidence b. establishing and assessing BCO competence, and recording their decisions and reasons for decisions c. storing this information in the appropriate place.

Appendix 7: Ensuring competency assessors hold the relevant qualifications and experience

Competency assessor specification	
An assessor needs to be a person trained in assessment theory and practice and with appropriate technical building control skills, knowledge and expertise to undertake an assessment.	
An assessor must have appropriate experience in the building control sector.	
Assessor requirements: 1. Has appropriate experience in the building control sector.	**Guidance for assessors:** Examples include, but are not limited to: a. Minimum of five years' experience in the building control sector. b. Is a team leader, manager or a senior specialist (subject matter/ technical expert) or senior consultant working in the building control sector. c. Has current experience in making regulatory building control decisions and has a deep understanding of the subject matter being assessed. d. Has participated in BCA accreditation activities and audits (within a BCA or for IANZ as a technical expert). e. Has intimate knowledge and understanding of the BCA accreditation process and the policies, procedures and systems of BCAs.
An assessor must have current and comprehensive technical and legislative knowledge and understanding.	
Assessor requirements: 2. Keeps up to date on legislative and regulatory changes. 3. Knows their technical limitations and works within these. 4. Has comprehensive technical knowledge in relation to processing building consent applications, inspecting and certification of building work. 5. Has comprehensive technical knowledge in relation to issuing legislative approvals and notices (eg CCCs, NTF). 6. Has undertaken any applicable MBIE assessor training on the National Competency Assessment System.	**Guidance for assessors:** Examples may include, but are not limited to: a. Is aware of relevant and current guidance provided by MBIE. b. Has attended any applicable MBIE training for assessors. c. Actively seeks out and attends assessor networking, training opportunities and forums. d. Provides technical leadership within a BCA. e. Has undertaken (as applicable) building consent processing, inspection and certification of building work. f. Has issued legislative forms and notices such as notices to fix, building consents, code compliance certificates. g. Has a well-developed and current understanding of the *NCAS framework*. h. Has a current competency under the NCAS. i. Holds a Regulation 18 qualification. j. Seeks assistance when working outside their limitations. k. For those undertaking competency assessment relating to Large Dams, the assessor should: – be fully conversant with this area of building control – be at ease with the level of detail in *Appendix 4 Competencies for Large Dams* ie the NZSOLD guidelines, and – have a level of direct work experience with an accredited and registered RA/BCA or at an applicable Unitary Authority.

An assessor must have credibility and experience in undertaking assessment	
Assessor requirements: 7. Has credibility with candidates, peers and management. 8. Has appropriate the skills, knowledge, and ability to assess a candidate's evidence in the workplace using assessment guides and standards.	**Guidance for assessors:** Examples include, but are not limited to: a. As a minimum, has completed NZQA Assessor Training Unit Standard 4098 (or similar), which covers preparing assessments, assessing candidates and the recording and reporting of assessment results. b. Is aware and across all relevant guidance provided by MBIE regarding building control and BCA accreditation. c. Has a sound working relationship with people within the organisation they are assessing. d. When acting as a contracted resource be granted powers and authorities in the BCA's organisational structure to perform their assessor role. MBIE's Regulation 12 – Choosing and using contractors online BCA guidance refers. e. Has the ability to perform assessments without bias or conflict of interest. f. Has fitting ICT skills to enable electronic data and evidence to be assessed (is familiar with Appendix 7 of this document) and the systems they are working in. g. Has undertaken competency assessments in the past and maintains currency in their respective areas of competency assessment, inspection, processing certification. h. Acknowledges their own technical limitations and recognises when additional technical expertise is required. i. Can keep records and make sure performance indicator requirements are fulfilled.
An assessor must have excellent communication skills	
Assessor requirements: 9. Communicates well with internal and external people. 10. Demonstrates good active listening, questioning and assertiveness skills in dealing with day-to-day tasks and skills.	**Guidance for assessors:** Examples include, but are not limited to: a. Can communicate well with all involved in assessment. b. Appears confident and has a good understanding of building related subject matter when dealing with candidates and building sector professionals. c. Can clarify and present information in a succinct and meaningful manner. d. Is able to consistently produce accurate written reports in relation to candidate assessment. e. Has good analytical skills and is able to evaluate evidence. f. Is able to clearly articulate findings and provide feedback to candidates when required. g. Has experience undertaking interviews or assessments and recorded appropriate outcomes. Presents a convincing and rational argument in support of decisions made. h. Is able to provide instruction to people on technical and regulatory matters (eg evidence gathering).
Key attributes of a person acting as an assessor	
Assessor requirements: 11. Acts with integrity and is ethical. 12. Is evidenced-based and objective. 13. Is able to assess inconsistency and risk.	**Guidance for assessors:** Examples include, but are not limited to: a. Is committed to fairness, impartiality, and transparency. b. Avoids conflicts of interest and maintains confidentiality. c. Has the ability to assess evidence objectively and make sound, defensible judgments. d. Exhibits skill in identifying inconsistencies, risks, or non-compliance. e. Is able to build trust and rapport with candidates, clients, and other stakeholders. f. Is able to manage difficult conversations or differences of opinion professionally.

5. Glossary

These definitions are a summary only. For full definitions please refer to the Building Act and associated regulations.

Term	Definition
ANARP	As nearly as is reasonably practicable (as defined in sections 112 and 115 of the Building Act).
APL	APL Assessed of prior learning.
Assessor	See 'competency assessor specification' Appendix 7 of the NCAS.
Assessment plan	A plan drawn up by the assessor and agreed with the candidate and which identifies the evidence required to be provided by the candidate for assessment. See Appendix 1 of this document.
BCA/Building consent authority	Accredited organisation performing building control services whose name is entered in the register referred to in section 273(1)(a) of the Building Act.
BCA Accreditation Regulations (the Regulations)	Building (Accreditation of Building Consent Authorities) Regulations 2006.
BCO	Building control official.
Commercial 1, Commercial 2, Commercial 3 (also referred to as Com 1, Com 2 and Com 3 and C1, C2 and C3)	The three commercial levels within the NCAS, as defined within this document.
Candidate	A building control official (BCO) who has been assessed (or is being assessed) under the NCAS.
Common standard	Australian/New Zealand Standards incorporated into the Building Code system by reference/citation (section 19 of the Building Act). Note the building work may include elements of specific engineered design eg engineered trusses and wall frames and alternative solutions (see page 14 of this document and the commentary under "Elements of Specific Engineered Design (SED) and alternative solutions").
Competency	In a building control context, competency refers to the combination of knowledge, skills and abilities that enable a building control official (BCO) to perform tasks (building control functions) or their role effectively.
Competency level	Residential 1, Residential 2, Residential 3, (Residential 3 (MDH extension)) Commercial 1, Commercial 2, Commercial 3 and Large Dams (Commercial 3) also see Appendix 4 of this document.
Competency assessment cycle	Occurs a minimum every two years (or more frequently) for employees performing building control functions at a BCA.
Core knowledge or (core competencies)	Knowledge that is common across and relevant to all competency levels in either the Residential or Commercial NCAS groupings. **Note** – as a general rule the competencies that relate to Regulations 10(3) (a), (b), (c), (e) and (f) more commonly relate to areas of core competency. While 10(3)(d)(i),(ii), and (iii) generally trigger additional or more technically onerous competency requirements.

4 Ds	"4 Ds" = Deflection, Drainage, Drying, and Durability in a weathertightness context.
Evidence of competence	Sources of evidence are summarised in Table 3 of the NCAS.
FENZ	Fire and Emergency New Zealand.
Guidance for assessors and candidates	Provides guidance on how performance indicators in Appendices 3 and 4 of the NCAS might be met.
ICT system provider	In the NCAS context, it is those system providers that support a BCA in delivery of their building control functions and may also meet the requirements set out is Appendix 6 of this document.
IL/importance Level	The importance level of a structure is related to the consequences of failure and is reflected in the acceptance (explicit or implicit) of the probability of exceeding a limit state. As defined in AS/NZS1170 Part 0, NZS3604 Table 1.1 etc, and clause A3 of the Building Code.
Inspection groups	The broad inspection groups used in the NCAS, 'foundations', 'pre-line' and 'final' see Table 2.
Large Dam	A dam that has a height of 4 or more metres and holds 20 000 or more cubic metres volume of water or other fluid (Appendix 4 of the NCAS covers competencies for Large Dams).
Level of knowledge	In an NCAS context refers to: • **Core knowledge** (Residential 1 and Commercial 1) • **Higher level of knowledge** (Residential 2 and Commercial 2) • **Advanced level of knowledge** (Residential 3 and Commercial 3, Large Dam).
MCM	Modular component manufacturing or modular component manufacture (in relation to the MCM scheme).
MDH	**Medium density housing** for the purposes of the NCAS it relates to the 'Residential 3 MDH extension'.
NCAS	National building consent authority competency assessment system.
NCAS categorisation flowchart	See Appendix 5 of this document.
NCAS system framework	See Figure 2 of the NCAS.
NFPA	National Fire Protection Association.
NZSOLD	NZ Society on Large Dams.
NZSOLD Dam Safety Guidelines 2024	Prepared by NZ Society on Large Dams from the technical bulletins published by ICOLD (International Commission on Large Dams) and other internationally recognised references on dam engineering.
OSM	Offsite manufacturing.
OSOSM	Offshore OSM.
Performance indicator	Mandatory requirements called up in Appendices 3 and 4 which must be achieved to demonstrate competence under the NCAS.
Residential 1, Residential 2 and Residential 3 (sometimes also referred to as Res 1, Res 2, Res 3 or R1, R2, and R3)	The three residential competency levels as defined within this document and distinct from the three commercial levels.
RI/remote inspection	A compliance assessment of consented building work carried out using digital tools and technologies from locations that are remote from the building site. RI is provided for under section 90 of the Building Act. See RI remote inspection for further information.

RPL	Recognised prior learning.
Skills matrix (NCAS)	See Appendix 2 of this document.
SORG	Satisfied on reasonable grounds (also refer to Satisfied on reasonable grounds – Guidance).
Specified New Zealand qualification	See Table 3 of the NCAS and Regulations 3 and 18 of the Regulations.
Staged consent	Provided for under section 44(2) of the Building Act.
Standalone building consent authority	A building consent authority that is not part of a territorial or regional authority (See section 7 of the Building Act).
Type of assessment (NCAS)	Refer to Table 4.
uPVC (joinery)	Unplasticised Polyvinyl Chloride.

Note

Also see:
www.building.govt.nz/building-officials/bca-accreditation/terms-and-abbreviations.

Te Kāwanatanga o Aotearoa
New Zealand Government