# Retrofit Design Standard

**CA-GDL-018**

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# Section 1: General

# 1. Introduction

This resource sets-out the requirements for work undertaken during the Retrofit Programme. It is intended for use by design teams, contractors, project teams, and relevant internal stakeholders who carry out or are affected by work during the project.

## 1.1 Retrofit Programme

The aim of this programme is to improve the condition and standard of the existing Kāinga Ora portfolio, effectively 'resetting' the life of older homes.

### 1.1.1 Preliminary risk assessment

All properties selected for the programme must have a risk assessment undertaken by a competent professional to identify any issues around structural and drainage risks that would impact on the reset.

In low-risk regions this can be undertaken during the condition assessment and for regions at higher risk the assessment should be undertaken immediately. The Project Manager will advise which regions are deemed a high risk.

- Structure: foundations, land subsidence – a visual assessment of interior and subfloor components along with surrounding for visual/physical signs of damage and defects.
- Drainage are the systems adequate and functional, assess for signs of service water ponding close or under the dwelling.

Where an issue has been identified report back to the Kāinga Ora Project Manager for further investigation and consideration of inclusion in the programme.

### 1.1.2 Reset of Asset

Project Teams focus on the following four main tasks:

- Improving and upgrading the **thermal performance** of the home, this includes, the installation of ceiling, wall, and floor insulation, installing an air barrier to eliminate drafts and installing new double-glazed, thermally-broken windows and doors.
- **Modernisation** of key dwelling-spaces: upgrading kitchens and bathrooms and, where practical, creating an open-plan kitchen-dining-living space.
- Adding minor features which are appropriate for the dwelling and customers

returning to the property for example grab rails.

- **General renewals**: renewing aged or end-of-life building components on an 'as required' basis; this includes roofs and cladding.

**Note:**

As this programme renews existing homes, modernisation work is undertaken on a 'where practicable' basis (that is, there will be some instances where, for example, the structure of the existing dwelling prevents full modernisation work).

Dwellings undergoing work as part of this programme will also receive interventions associated with other programmes delivered by Kāinga Ora. This includes:

Deferred maintenance work, such as safe removal of asbestos-containing material; repairing or replacing roofs; or replacing rotten cladding or framing.

By undertaking this work, Kāinga Ora seeks to ensure customers are provided with homes that will be safe, healthy, fit-for-purpose, and sustainable.

### 1.1.3 Scope of the programme - work and dwelling typologies

The following minor features and typologies are listed according to what is and is not included in the retrofit program:

**Within scope**

Single- and multi-storey stand-alone and terraced homes and duplexes

Minor feature upgrades:

- Grab rails where required
- Handrails

**Out of scope**

Homes with >3 storeys, apartment complex >3 storeys and supported housing developments.

Wheelchair accessible upgrades:

- Widening of hallways and/or doors
- Full featured accessible bathroom
- Ramps and step-free access
- Mobility charging and storage

While some multi-unit developments may be applicable (for example, sites that include a combination of stand-alone, terraced, and/or duplexes), this programme does **not** apply to properties that have three or more storeys or those with 10 or more continuous units.

### 1.1.4 Accessible

While Kāinga Ora endeavours to provide fit-for-purpose homes, accessibility modifications generally have been found to be not appropriate for the age of the retrofit housing stock. However, if Asset Management are requested to modify a home for a specific customer, an assessment must be obtained by an Occupational Therapist from Whatu Ora to assess and deem the home appropriate for modifications.

If the dwelling is not suitable for the features listed in the OT report, the customer the customer should be provided an alternative dwelling that better suits their needs.

Refer to out of scope items for guidance.

If, at any time you are unsure which requirements can or should be met, contact your Kāinga Ora representative and/or the qualityhomesqueries@kaingaora.govt.nz mailbox.

### 1.1.5 Programme teams and project stages

Successfully undertaking a project within the Retrofit Programme requires effective, on-going collaboration between a core group of internal and external stakeholders.

These stakeholders work together to achieve project objectives, moving through a five-stage project lifecycle.

While high-level information about roles and the project lifecycle is provided in Appendix B, there are key actions that must be taken at or leading up to the start of retrofit work:

Liaison with customers: ensuring they are aware of and understand the processes and timelines involved and their responsibilities, including removal of all possessions and rubbish from the property.

Organising all necessary specialist reports including, but not limited to a Roof Report and an Asbestos and Hazardous Materials Report.

## 1.2 Using this resource

This resource is divided into five main sections:

Section 1: Introduction – This content provides an overview of the Retrofit Programme and this resource.

**Section 2: Property Exterior** – This content provides information on: paths, driveway and vehicle areas, driveway safety, fencing, play areas, outdoor storage, outdoor living areas, landscaping and external cleaning.

**Section 3: Building Structure** – This content provides information on: roofs, chimneys, spouting, drainage, sub-floors, insulation, and exterior paint finishes.

Section 4: Interior– This content sets-out the requirements for pest control, wall and ceiling linings, mould, floor coverings, curtains, doors, windows, interior paint finishes and cleaning. This section is applicable to all rooms within the dwelling.

Section 5: Thermal Envelope improvement – This content sets-out the options for improving the external thermal envelope including cladding, insulation, and vapour barrier options and upgrading to double glazed, thermally broken aluminium windows.

Section 6: Kitchen, Dining and Living Room - Reconfiguration – This section provides content on kitchen, living and dining room reconfiguration, upgrading the kitchen space and kitchen appliances.

Section 7: Bathroom and Toilet Facilities - This section provides content on bathroom and toilet facilities for example, shower and bath options, bathroom and toilet fixtures, bathroom storage and tap-ware, toilet suits and mechanical extraction.

Section 8: Laundries - This section provides information spacial requirements and mechanical extraction.

Section 9: Household Storage - This section provides information on general storage requirements for existing and new storage, for wardrobes, linen and hot water cylinder cupboards.

Section 10: Electrical - This section provides information on lighting, power outlets and general requirements.

Section 11: Heating – This section provides information on the healthy homes heating requirements, heaters, air conditioning and solid fuel burners.

Section 12: Communications and Television - This section provides information on telecommunication and Television outlets and aerials.

Section 13: Hydraulics - This section provides information on plumbing and water supply, pipework and hot water cylinders.

Section 14: Fire Services - This section provides information on smoke alarm requirements.

Section 15: Project teams and lifecycles – This section provides information on project teams and lifecycle.

Section 16: Supporting Information – This section provides supporting information relating to legislative resources, internal Kāinga Ora and external resources.

Each section (excluding section one) sets-out the minimum requirements homes undergoing work as part of this programme must meet. Unless stated otherwise, these should be read as applying to all dwelling-types and dwelling-classifications.

In general, these are presented as prescriptive, measurable requirements that provide Project Teams the specific guidance they need to complete a project.

Throughout this resource, reference is made to “Kāinga Ora-procured” products; those that are unique to the Retrofit Programme are listed in the appropriate sections, otherwise you should consult the latest edition of the Building Materials Procurement Schedule (M-217).

### 1.2.1 References

References to internal supporting documentation are included within each section; these provide additional information where needed to make decisions and to achieve the right outcomes.

Below is an example of these references, shown within the sections.

**References:**

Amenity Condition Manual (ACM-200) – 67.1 Exterior Paint

Maintenance and Programmed Work Specification (M-215) – 6700 Resene Painting - General, 6711 Resene Painting - Exterior

Exterior Paint Scoping Guide (M-240), Colour Charts – Exterior (M-248b), Standard Detail Drawings (M-215a) – 112 Exterior Paint Demarcation & 113 Exterior Paint Demarcation at Window

**ACM – Amenity Condition Manual**

Provides guidance including photos to describe every part of a house, what condition it should be in and what types of faults or failures you may encounter.

**MPWS – Maintenance and Programmed Work Specifications (M-215) and Standard Detail Drawings (M-215a)**

These documents provide our stakeholders with necessary specifications to complete the work to industry, legislative, manufacturers and Kāinga Ora Standards.

**Scoping Guides**

The various scoping guides are designed to provide guidance to stakeholders in compiling a site specific scope of work that when completed with achieve the Kāinga Ora standard for the specific programme.

### 1.2.2 Clarification and feedback

If any content provided in this resource requires clarification, you have suggestions for how the resource could be improved, or you identify errors in this resource, please contact us at: QualityHomesQueries@kaingaora.govt.nz.

# Section 2: Property Exterior

## 2.1 Paths

Check the condition of existing paths and repair as required.

A. Ensure all paths are in a good condition and do not have any trip hazards ≥15mm.

   i. Where existing paths are not safe, undertake repairs on the affected area (e.g., grind down and/or replace sections of concrete as required).

B. All properties should include a pathway:

   i. from the driveway and/or the street to the main entry; and

   ii. the dwelling to the washing line.

   iii. No path is required from the dwelling to the outdoor storage shed, except for existing wheelchair accessible properties.

C. If one or more paths are missing, provide a new one in accordance with the below.

D. Ensure new paths are:

   i. 800mm wide, standard dwellings.

   ii. 600mm wide, standard from dwelling to clothesline.

   iii. Widening existing paths is out of scope.

E. When laying new paths ensure:

   i. The path is comprised of 75mm-deep reinforced concrete with a non-slip finish.

   ii. Reinforcing mesh is installed on the top-half of the concrete.

   iii. Trowel in crack control joints at 3m intervals, ensuring the joint-depth is ⅓ of the thickness of the concrete.

   iv. Ensure paths are shaped to fall to facilitate drainage of surface-water and to avoid ponding.

**Note:**

Non-continuous pavers, laid with gaps between them are not permitted.

**References:**

Amenity Condition Manual (ACM-200) – 31.2 Paving

Maintenance and Programmed Work Specification (M-215) – 2311 Concrete Work – Basic

## 2.2 Driveways and carparking

Ensure all existing driveways are in good condition with no significant trip-hazards (≥15mm).

- Where such hazards are present, undertake repairs on the affected area (e.g., grind down, and/or replace sections of concrete as required).
- If repairs are extensive refer to your Kāinga Ora representative.

**Note:**

New driveways and carparks are not included in this programme, where there is a need seek guidance from Kāinga Ora.

**References:**

Amenity Condition Manual (ACM-200) – 31.2 Paving

Maintenance and Programmed Work Specification (M-215) – 2311 Concrete Work - Basic

Fencing scoping guide (M-241)

## 2.3 Fencing

### 2.3.1 Existing fencing

A. Ensure any **existing fencing** is damage-free, structurally-sound, and is in good working order.

i. Where repairs are required, undertake using like-for-like materials.

ii. Ensure all gates are self-closing. To test open gate 100mm and it must self-close and latch from that position, allow to adjust if the gate is not functioning.

iii. If the value of the repairs is more than 50% of the cost of replacing the relevant lengths of fencing in full, advise your Kāinga Ora representative so work can be referred to the appropriate programme.

### 2.3.2 Wing fencing – play areas/driveway safety

A. Install 1.2m-high, ‘wing’ fencing between the house and boundary fence, to create a safe and secure play area which are physically separate from the driveway and vehicle access areas.

i. If there is no boundary fencing, do not install a ‘wing’ fence.

- Boundary fencing is out of this scope, however, advise your Kainga Ora representative so work can be referred to another programme.

ii. Use timber fencing, unless the existing fencing is pool fencing in which case replace with like-for-like fencing.

iii. Ensure there is a procured child-proof gate included on at least one wing fence.

iv. Timber gates are not to be used.

v. Wherever possible, ensure this fencing includes a gate that provides access to the main entry of the dwelling.

**Note:**

Where additional guidance is needed refer to your Kāinga Ora representative.

It is not permitted to:

- Use close-boarded fencing or wire mesh.
- Include sharp tops, spikes, or verticals protruding above the top-rail.

Wherever possible, avoid locating play-areas where manholes are present.

- Where present ensure they are secure.

**References:**

Amenity Condition Manual (ACM-200) - 84.1 Fences and 84.2 Gates

Maintenance and Programmed Work Specification (M-215) – 8430 Fences & Gates, 8431 Post and Wire Fences

Fencing scoping guide (M-241)

Standard Detail Drawings (M-215a) – 3 Exterior Standard details 201-204

## 2.4 Retaining walls

Retaining walls are out of scope however, where there is evidence of existing retaining walls failing and/or a need for a new wall, please advise your Kāinga Ora representative.

## 2.5 Outdoor storage

Ensure **existing** outdoor storage is secure, weather-tight.

### 2.5.1 Sheds

Carry out repairs, if beyond repair or replacement is a more cost-effective solution replace the shed.

A. Ensure the new shed:

i. Is located with clear-access to the yard that is free from trip-hazards.

ii. Is located at least the length of its own height away from the boundary; ensure storage sheds are not located within 1m of the boundary/fence line.

iii. Does not include reticulated services.

B. Replacement sheds should be adequately sized procured sheds.

i. 1830(W) x 1530(D) x 1980(H) shed for properties of >3 bedrooms.

ii. 1530(W) x 1080(D) x 1830-1770(H) for <3-bedroom homes.

- Where the existing customer is moving back, do not reduce the size of the shed.

### 2.5.2 Garages

Garages are out of scope, except for:

- Internally accessed garages, ensure conformance with hardware, smoke alarm and ventilation requirements (see Section 8.2 Mechanical Extraction – Laundry and Section 14.1 Smoke Alarms).

See Section 4.6 Doors and Door hardware and Section 4.7 Windows and Window hardware

**References:**

Amenity Condition Manual (ACM-200) – 42.8 Profiled metal cladding

Maintenance and Programmed Work Specification (M-215) – 4241 Profiled metal cladding, 4231 Fibre cement cladding

## 2.6 Outdoor living areas – decks and associated components

### 2.6.1 Decks

A. Contact your local Kāinga Ora representative where the amenity condition of the deck is compromised and deemed unacceptable as per the Amenity Condition Manual.

**Note:**

Where any existing decks and their associated components e.g., stairs and balustrades are in good condition and were compliant at the time of consent, work is not required to upgrade in order to comply with D1/AS1.

New decks, stairs and handrails must comply with D1/AS1.

### 2.6.2 Steps

A. Ensure all existing exterior steps and handrails/balustrades are in a good working order (e.g., not rotten, or damaged) and are free from hazards.

B. Where there are two or more steps and no handrail is present, provide a smooth, ‘graspable’ handrail.

C. Where new steps are required ensure, they have a:

i. A maximum riser of 180mm and minimum tread of 310mm.

ii. A minimum clear width 900mm where possible.

### 2.6.3 Balustrades and Handrails

A. Where there is a fall-height to a lower level:

i. If the fall-height is <500mm, ensure there is a handrail in place.

ii. If the fall-height is ≥1.0m, ensure there is a 1.1m-high barrier/balustrade that is designed to prevent children from trapping their head in, or climbing the barrier.

**References:**

Amenity Condition Manual (ACM-200) – 43.5 Decks, 43.6 Steps, Ramps and Landings, 31.2 Paving

Maintenance and Programmed Work Specification (M-215) – 2311 Concrete Work – Basic, 4383 Exterior Timber Stairs and Decking, 4422 Synthetic Rubber Sheet Membrane, 4851 Exterior Handrails & Timer Balustrades

## 2.7 Letterbox

A. Check a letterbox is present, functional and numbers are legible.

i. Carry out repairs or replacement where required.

B. Letterboxes can be mounted to the fence or on a procured post, scope for a like-for-like replacement.

C. Where there are 2 or more houses sharing the same driveway with the letterboxes at the road front, allow to attach numbers to the front door frame, or where they are clearly visible from the main entry to the property.

**References:**

Amenity Condition Manual (ACM-200) – 84.4 Letterbox

Maintenance and Programmed Work Specification (M-215) – 8420 Miscellaneous Site Works

## 2.8 Clothesline

Check the clothesline is present and functional and repair and/or replace components as required.

A. Ensure new lines are:

i. Are procured and appropriately sized:

- 8m-long for 1–2-bedroom dwellings.
- 40m-long for 3+ bedroom dwellings.

Where the existing customer is moving back do not reduce the line length.

B. Where a new path is required consider the existing location of the clothesline, if it is too far away from the dwelling allow to relocate to an appropriate location (see Section 2.1 Paths)

**Note:**

It is **not permitted** to fix a washing line to the dwelling, and where possible, avoid fixing to a fence.

**References:**

Amenity Condition Manual (ACM-200) –84.3 Clothesline

Maintenance and Programmed Work Specification (M-215) – 8420 Miscellaneous site works

## 2.9 Landscaping

### 2.9.1 Trees, vegetation and Lawns

A. Prune any unsafe trees and make safe.

B. Only remove tree/s if it is the only option.

C. Trim back overgrown vegetation, including hedging and shrubs that are encroaching onto footpaths, blocking sunlight to the house, within the drip line of the building perimeter or growing directly on the exterior wall(s) of the property.

D. Remove any stumps where their location creates a trip-hazard (e.g., on a lawn but not within a garden area).

E. Ensure lawns are maintained during construction and at project completion.

### 2.9.2 Exterior Rubbish

A. Remove all rubbish, including all construction materials and waste and ensure the property exterior is left in a tidy condition.

**Note:**

- Ensure any returning customer is consulted before removing, cutting-back vegetation and/or removing rubbish.

**References:**

Amenity Condition Manual (ACM-200) – 83.1 Lawns, Gardens, Planting, and Trees

Maintenance and Programmed Work Specification (M-215) – 8320 Lawns and Planting, 8382 Tree Pruning

## 2.10 External Cleaning

### 2.10.1 House wash

A. Allow to carry out an exterior house wash if required, including cladding/s, baseboards, glazing, joinery, soffits, external surfaces of spouting and downpipes. Do not water blast.

B. Where cladding is to be partially replaced assess whether the remaining components need cleaning.

#### 2.10.2 Path clean

A. Waterblast moss or slime from paths, where visible.

#### 2.10.3 Decks and stairs

A. Allow to clean surfaces if slippery.

B. Use suitable product, to thoroughly clean all external timber and/or concrete decks, ramps and stairs where needed to remove moss, mildew, and green build-up.

C. Do not waterblast, and if necessary use a hard brush and rinse with a hose.

**Note:**

Ensure the property is left in a presentable condition.

**References:**

Amenity Condition Manual (ACM-200) –43.6 Steps, Ramps, and Landings

# Section 3: Building Structure

## 3.1 Roof

#### 3.1.1 Roof report

A. Arrange for a roof report to be undertaken by an appropriately qualified professional, the report shall identify:

   i. The scope of recommended work, including any repairs.

   ii. A breakdown of the costs.

   iii. Whether the dwelling has a roofline shared with a private neighbour i.e., inter-tenancy walls.

   iv. Whether a Building Consent is required.

B. In addition to the report carry out a visual check internally, checking for signs of leaks (e.g., water-stained, or bubbled wall and/or ceiling linings etc.)

#### 3.1.2 Roof repairs

A. Undertake the required repairs as per the roof report recommendation.

B. Treat existing roofs using the Chemwash™ System before project completion.

#### 3.1.3 Roof replacement

A. A full replacement is required when at least one of the following applies:

i. The remaining life of the roof is deemed to be less than 5 years.

ii. The roof is no longer weathertight.

iii. There are signs of extensive damage.

B. If there is evidence of asbestos-containing material, safely remove the roofing ensuring, all work is undertaken in accordance with current asbestos policy and regulations (See Appendix C Supporting resources)

C. Allow to replace the spouting system when replacing a tiled roof with iron roofing.

D. Where a concrete or clay roof needs to be replaced with a profiled metal roof, refer to the Roof Repair and Replacement Scoping guide (M-253), for strengthening requirements.

E. Properties with an inter-tenancy firewall e.g., TUS, TUD and Duplexes and having undergone a roof replacement may contain a gap between the new roof and the separating firewall below. If a gap exists, it must be filled with an appropriate fire rated filler/material to prevent fire or smoke spread into adjacent properties.

i. Check with the local Building Consent Authority to determine any requirements e.g., building consent exemption.

F. If the adjoining property has a tiled roof and is a privately owned, allow for a flashing to bridge the two roof types.

G. If Kāinga Ora owns the adjoining property, seek guidance from your Kāinga Ora representative as consideration should be given to replacing both roofs.

H. If a new television aerial is needed, it is not permitted to have it fixed through the roof.

I. Wherever possible, liquid-applied membranes and profiled plastic roofing should not be used.

i. If replacing a membrane roof, use a double-layer torch-on membrane or TPO (thermoplastic polyolefin) for small non-habitable areas such as porches.

ii. Seek guidance from your Kāinga Ora representative if required.

J. Skylights are not permitted; if there is an existing ‘old style’ skylight, ascertain whether it is required for light and ventilation requirements under the New Zealand Building Code.

i. If required, replace the existing skylight with an appropriately sized Solatube™ skylight.

ii. If not required, remove the skylight, and repair the roof and ceiling as required.

K. Roof profiles should align with procured items (i.e., low, and high trapezoidal profiles)

L. The paint finish must; be factory applied and be suitable for the local environmental conditions and use Kāinga Ora approved colours.

**References:**

Amenity Condition Manual (ACM-200) – 43.1 Profile Metal Roofing, 43.2 Masonry Tile Roof, 43.3 Cement Asbestos Roofing, 43.4 Pressed-steel Tile Roofing

Maintenance and Programmed Work Specification (M-215) – 3820 Carpentry, 4311-4323 Roofing Profiles, 4422 Synthetic Rubber Sheet Metal Membrane

Roof repair and replacement scoping guide (M-253)

## 3.2 Chimneys

A. Three options are available for the removal of the redundant chimney's these include:

   i. Where a chimney is attached to the exterior of the dwelling, allow for complete removal down to ground level.

   ii. Remove down to ceiling level.

   iii. Where the property is a TUS or TUD and the chimney is located on the inter-tenancy wall, retain the internal section, and reduce the height of the external chimney to approximately 200mm above the roofline, and cap chimney.

B. Allow to make good roofing, internal linings, and the removal of

   i. Hearths, surrounds and mantels.

   ii. Where guidance is needed consult with your Kāinga Ora representative.

**Note:**

See Section 11.3 Solid Fuel Burners.

**References:**

Maintenance and Programmed Work Specification (M-215) – Section 2110 Demolition Works

Roof repair and replacement scoping guide (M-253)

## 3.3 Spouting and Down-pipes

A. Check to ensure the spouting system is fully-functioning and in an acceptable condition.

   i. Clear any blockages and re-check the system.

   ii. Where stagnant water is pooling allow to repair/re-align system components as required.

   iii. Replace any damaged sections of the spouting system.

B. Where the existing spouting is in overall poor condition scope to replace it.

   i. Check all fascia: where required, ensure it is cleaned and painted and, if in poor condition, replace before the spouting system is installed.

**Note:**

Where new spouting is required ensure Kāinga Ora procured products are used.

If required, alternative solutions should match roofing and local environmental condition, approval is required by Kāinga Ora before proceeding with alternatives.

**References:**

Amenity Condition Manual (ACM-200) – 71.2 Artesian rain-water supply, 74.1 Rain-water spouting

Maintenance and Programmed Work Specification (M-215) –7411 Rain-water spouting systems

## 3.4 Drainage

A drainage assessment is required as part of the preliminary risk assessment please refer to 1.1.1 Preliminary risk assessment

A. Check for drainage issues such as surface water around paths, driveways and indication of water flowing under the dwelling.

B. If there is evidence of insufficient drainage liaise with Kainga Ora, before arranging for CCTV drain inspection.

C. If there is a risk of site water flowing into the sub-floor space, install channel drains to divert the water away from the building.

D. Inspect the building envelope is protected from water ingress

**References:**

Amenity Condition Manual (ACM-200) – 74.5 Drainage

Maintenance and Programmed Work Specification (M-215) – 7430 Drainage

## 3.5 Sub-Floor

A foundation assessment is required as part of the preliminary risk assessment please refer to 1.1.1 Preliminary risk assessment.

### 3.5.1 Access

A. Ensure a sub-floor access door is present, in good working order and can be secured with a pad-bolt (lock to be provided by the customer).

B. Undertake repair or replacement work as necessary. If there is no external access opening, allow for a new access door.

   i. If the under-floor space is less than 400mm advice your Kāinga Ora representative before proceeding.

ii. Where an external sub-floor door is not possible, access may be within the dwelling, inspect for an existing floor hatch, if present ensure access is adequate and functioning.

- If a new hatch is required, ensure the location and size of the hatch allows unimpeded access. A hallway cupboard is an ideal location, if this is not possible a bedroom wardrobe is suitable.
- Floor hatches **must not** be installed in wet-areas.

### 3.5.2 Sub-floor ventilation

A. Ensure sub-floor ventilation grilles are clear and functional. Where blocked allow to clear.

**References:**

Amenity Condition Manual (ACM-200) – 48.3 Sub-floor door, 55.9 Sub-floor grill

Maintenance and Programmed Work Specification (M-215) – 3820 Carpentry, 5521 Hardware, 4710 Insulation

## 3.6 Ground Vapour Barrier

If the sub-floor is enclosed, and there is no GVB, allow for 0.25mm-thick, polythene GVB.

A. The sub-floor is 'enclosed' if airflow into and out of the space is significantly obstructed along at least 50% of the perimeter of the space by one or more of the following:
   - A masonry foundation wall.
   - Fibre-cement sheets, timber skirting, or other cladding.
   - Other parts of the building or any adjoining structure(s).
   - Any other (semi-)permanent structure that significantly obstructs airflow.
   - Rock, soil, or other similar material.

B. Repair GVB if one or more of the following has occurred:
   i. Tape is missing from barrier seams.
   ii. The GVB is insufficiently pinned and/or weighed down along overlaps and edges.
   iii. The GVB is damaged, has lifted from the floor, or is in a generally poor condition.
   iv. Sections of GVB are missing.

**References:**

Amenity Condition Manual (ACM-200) – 44.1 Underlays and barriers

Maintenance and Programmed Work Specification (M-215) – 4161 Underlays, Foil and DPC

Insulation and energy scoping guide (M-242)

## 3.7 Flooring

A. If there is evidence of damage or rot to the existing flooring, allow for new flooring, ensuring:

   i. the floor is concrete or CCA-treated H3.2 structural, 19mm-thick (min.) plywood

   ii. all timber bottom plates are treated to H1.2.

**Note:**

Do **not** use LOSP-treated plywood.

**References:**

Amenity Condition Manual (ACM-200) – 53.1 Timber Floor, and 53.2 Plywood Sheet and Particle Board

Maintenance and Programmed Work Specification (M-215) – 3820 Carpentry, 3897 Replacement & Treatment of Decayed Timber, 5432 Timber strip floor, 5433 Plywood floors

## 3.8 Insulation

### 3.8.1 General

Conduct a visual inspection of the ceiling and sub-floor areas to ensure existing insulation is present and complies with the minimum requirements outlined below.

### 3.8.2 Sub-floor entry:

A. Before entering the space if foil is present; engage a licensed electrical worker to determine if the foil is live.

   i. If live the electrical worker must make the area safe, before entering.

   ii. Allow to remove foil and replace with new insulation.

### 3.8.3 Assessing existing insulation

A. Replace or overlay existing insulation if:

   i. The R-value cannot be confirmed or does not meet the new R-values listed below.

   ii. Ceiling insulation is less than 120mm-thick or does not meet 70% or the original thickness. This only applies to insulation that was installed prior to 2019.

   iii. Insulation is absent, has any gaps, or significantly damaged.

   iv. The property was built prior to 2008.

   v. Insulation is wet, mouldy, or water damaged, remove, and replace.

   vi. Insulfluff is present, and if contaminated or there is not enough room for the new insulation, allow for the removal using an extraction system and safe disposal.

- Ceiling linings do not need to be removed to extract insulfluf.

vii. Insulation is not present.

### 3.8.4 R-values for new Insulation

A. The minimum R-values are required for new insulation:

i. Ceilings: R4.4

ii. External walls: retrofit - R2.0 (70mm-thick); re-clad - R2.5 (90mm-thick), Section 5 Thermal envelope improvement

iii. Floors: R1.9

- Existing insulation can be retained if it has an R-value of R1.8, if it meets the condition requirements of the healthy home standards.

B. Use either polyester or glasswool, Kāinga Ora approved products.

Note:

Install insulation in accordance with NZS4246:2016 Energy efficiency – Installing bulk thermal insulation in residential buildings.

Where the roof tapers down towards the eaves and there is limited space to install the required R-value, install a lower profile product with as high an R-value as possible. This should extend over to the external edge of the wall top plate, but not into the soffit.

### 3.8.5 Ceiling access

A. Ensure the existing ceiling access is operational and can open and close.

B. If there is no access to the ceiling, allow for the installation of a ceiling-access hatch, ensure it is flush-finished, 600 x 600mm 12mm- thick CD plywood panel that:

i. is insulated using Kāinga Ora-procured insulation; and

ii. has a paint finish that matches the surrounding ceiling.

**Note:**

If an existing access panel is located over a stair, in a wardrobe, or in a bedroom, contact your local Kāinga Ora representative; do not place a new access hatch in these locations.

**References:**

Amenity Condition Manual (ACM-200) – 47.1 Ceiling Insulation, 47.2 Floor Insulation, Section 47.3 Wall Insulation, and 5.1 Ceiling access-panel

Maintenance and Programmed Work Specification (M-215) – 4710 Insulation

Insulation and Energy Scoping Guide (M-242)

## 3.9 Exterior Paint finishes

A. Check the condition of the exterior paint and allow to repaint when one of the following applies:

   i. The paint is in unacceptable condition:

      - Paint is flaking, peeling bubbling and/or has deteriorated.
      - Paint coverage is inadequate.
      - A re-clad is to be undertaken.

   ii. Where the remaining life of the exterior paint is deemed to be less than 2 years.

B. Allow for a full paint or partial paint if the paint is in unacceptable condition in an isolated area e.g., on one side of the house.

C. For approved colour selections refer to M-248b: Kāinga Ora Colour Charts (Exterior)

D. Do not paint concrete surfaces which have not been previously painted.

**References:**

Amenity Condition Manual (ACM-200) – 67.1 Exterior Paint

Maintenance and Programmed Work Specification (M-215) – 6700 Resene Painting - General, 6711 Resene Painting - Exterior

Exterior Paint Scoping Guide (M-240), Colour Charts – Exterior (M-248b), Standard Detail Drawings (M-215a) – 112 Exterior Paint Demarcation & 113 Exterior Paint Demarcation at Window

# Section 4: Interior

## 4.1 Pest Control

A. Treat any signs of pests with appropriate treatment and ensure the problem is eradicated before commencing work.

B. Evidence of any timber borer infestation should be raised with your Kāinga Ora representative to confirm suitable actions.

C. Upon final clean; re-treat if necessary.

**References:**

Maintenance and Programmed Work Specification (M-215) – 3897 Replacement & Treatment of Decayed Timber

## 4.2 Wall and ceiling linings

A. Check all linings are in sound condition, and if needed repair and/or replace:

i. As a result of modernisation work, ensure to allow for remedial work to linings

ii. Where external wall insulation has been replaced from within the dwelling, allow for new plasterboard that is stopped for a level 3-4 finish (See Section 5.1 External thermal envelope cladding, insulation and air tightness layer options)

B. Pinex board is a procured product and can be used to replace ceiling sections where needed.

i. The previous requirement to replace pinex ceilings is no longer applicable.

**Note:**

Wall linings do not require replacement where wall-paper is present – See Section 4.8 Interior Paint Finishes

**Out of scope:**

- The lining of bathroom ceilings with Hardie™ Glaze Lining.
- The replacement of wall and ceiling linings to re-line with moisture resistant board.
  - Excludes where repairs are needed and where external wall linings have been removed to install insulation.

### 4.2.1 Mould affected linings

A. Allow for cleaning of surface mould affected areas.

B. Where penetrating mould is present in the bathroom and is >1m² replace the existing ceiling linings with moisture resistant plasterboard.

**Note:**

Ensure all smoke alarms and electrical fixtures are reinstated at completion.

Specialised interior wall-finishes, including ceramic tiles or wallpaper, are **not permitted**.

### 4.2.2 Trims

A. Check the condition of all skirting boards, architraves, door frames and window reveals, replace if necessary.

B. Allow for suitably treated timber where required and match existing profiles within the room.

**Note:**

It is **not permitted** to use fibre-board.

Only use full-lengths of trim.

**References:**

Amenity Condition Manual (ACM-200) – 51.2 Wet-wall Linings, 51.3 Trim, 51.4 Mould

## 4.3 Vinyl

### 4.3.1 General Vinyl

A. Lay vinyl in kitchens, dining rooms, bathrooms, laundries, and toilets.

B. Carpet is not acceptable in these spaces.

C. Where asbestos is present ensure, all work is undertaken in accordance with the Kāinga Ora asbestos policy and regulations.

D. Allow vinyl to:

   i. Extend into fridge and oven spaces.

   ii. Be continuous under toilets, floor mounted vanities cabinets, laundry tubs (but not baths or showers).

E. A bevel-edge tile reducer under vinyl at the entrance to the bathrooms and laundries where carpet is present in the adjoining space is required when vinyl is being replaced.

F. Use non-slip vinyl in wet-area showers.

G. Ensure the floor covering provided in storage cupboards matches that provided in the adjacent space.

### 4.3.2 Vinyl coving

A. All wet area showers and bathrooms must have vinyl coving.

B. For laundries, and toilets the following options are available.

   i. Re-cove

   ii. Replace existing coving with a skirting board using appropriately treated timber and lay vinyl flat.

### 4.3.3 Main entry vinyl inserts

A. Allow for a Polysafe Standard PUR insert to the front door and Polyflor XL PUR to the back door entry.

B. The insert shall extend the full width of the entry door and extend 900mm deep (minimum).

C. In a smaller entrance-way if the insert finishes across a door entry into another room extend the vinyl or consider installing vinyl in the entire room.

   i. A smaller entrance is deemed less than 2000mm in length

D. Where a ranch slider is currently the main-entry, ensure there is a 300mm-deep vinyl

insert that runs the full length of the ranch slider.

i. This is **not** required where the ranch slider is not used as a main entry however can be installed to a frequently used entry to prevent wear.

E. There are exceptions to using non-slip inserts to front door entries:

i. If the front door entry is via the kitchen, laundry or dining room, the vinyl within that room is acceptable.

ii. Where a main entry opens onto a room, which is open plan this area should match the vinyl in these areas.

**Note:**

Check for compromised timber flooring.

- This can be done visually and by feeling for signs of softness or a rough/uneven surface underfoot.
- Allow for replacement flooring if needed.

### 4.3.4 Colour Selection and procured products

Refer to M-248a Colour Charts – Interior for colour selection

A. Allow for the following:

i. Kitchen and dining areas - Polyflor Forest FX PUR 2mm; American Oak (3380), this is currently not listed in M-248a.

ii. Bathroom, Toilet and Laundries – Polyflor XL PUR selection

iii. Wet-area bathrooms – Polysafe Standard PUR.

iv. Front door entry inserts – preferred option Polysafe Standard PUR, this may vary refer to Main entry vinyl inserts

**References:**

Amenity Condition Manual (ACM-200) – 64.1 Vinyl, 53.1 Timber flooring

Maintenance and Programmed Work Specification (M-215) – 6411 Polyflor Vinyl Surfacing

## 4.4 Carpet

A. Install new wool procured carpet and underlay, to all bedrooms, living rooms, hallways, and stairs.

i. Allow to extend into any adjacent wardrobes and storage cupboards.

### 4.4.1 Colour Selection and procured products

Wool carpet is now a procured item. For the purposes of this programme, wool carpet will **replace** the Godfrey Hirst Tuson Graphics range noted in the current M-248a Colour Charts

– Interior (2020).

A. Godfrey Hirst, Lambton Quay wool range to replace the Godfrey Hirst Tuson Graphics range as follows:
   i. Warrior 770 replaces Oxide 750
   ii. Mushroom 585 replaces Clay 570
   iii. Driftwood 580 replaces Jade 970

**References:**

Amenity Condition Manual (ACM-200) – 65.1 Carpet

Maintenance and Programmed Work Specification (M-215) – 6511 Carpeting

## 4.5 Curtains

### 4.5.1 Curtain locations

A. Curtains are required in living and dining rooms, bedrooms, hallways, and stairwells.
   i. Stairwells shall be excluded if they cannot be reached by standing on the floor.
   ii. Sidelight windows next to main entry doors do not require curtains.
   iii. Remove existing curtains and tracks if their performance is not equivalent to that of the procured curtains.

B. Use Kāinga Ora procured curtains and/or tracks.

**Note:**

Return non-approved customer owned curtains to the customer.

Consider donating to a local curtain bank if they do not meet Kāinga Ora requirements and are not customer owned.

**References:**

Amenity Condition Manual (ACM-200) – 55.12 Curtains

Maintenance and Programmed Work Specification (M-215) – 5530 Curtains

## 4.6 Doors

### 4.6.1 Exterior doors

A. Replace all exterior doors within the thermal envelope (that provide a front and rear entry) with the programme-specific product below.

B. Check there is a main entry door with an 810mm clear width, (910mm door leaf).
   i. If the main entries are less than this, check all other exterior doors.

ii. Where an 810mm entrance is not practical advise your Kāinga Ora representative.

iii. The opening width of the main door must not be reduced.

C. Ensure **all other** exterior doors and their components are in an acceptable condition.

D. Inspect all exterior doors and frames if gaps exceed 3mm, repair as necessary to reduce the gap.

E. Stop any unintentional gaps between the door and frame that cause noticeable draughts. As a general guide an unreasonable gap should be considered as >3mm (width of a New Zealand $2 coin). This means the edge of the coin can fit in to the gap, and it is causing a noticeable draught, the gap needs to be sealed or draught-stopped.

i. Ensure doors are functioning e.g., opening, and closing with ease, repair or replace as needed.

F. Where used, ensure sidelights are only fixed lights.

### 4.6.2 Approved exterior window and door manufacturer / supplier

A. Architectural Profiles Limited (APL window solutions)

i. Product – Residential Series, ThermalHeart+®

### 4.6.3 Internal doors

A. Ensure all doors and door frames are functioning e.g., opening, and closing with ease.

B. Repair as needed:

i. Where a repair is not possible or there are two or more holes in a door, allow to replace, with a Kāinga Ora procured interior door.

ii. Ensure all hardware is present and functioning.

**Note:**

Door swings do not need to be altered unless there is a spacial gain.

Bi-folding and hollow-core doors are not permitted.

### 4.6.4 Door hardware

A. Ensure the main-entry door includes:

i. A procured or approved, lock that does not require a key to exit the dwelling.

ii. Ensure the main-entry includes a door-viewer installed at an appropriate height 1500mm above the FFL .

B. Ensure all door handles are procured lever-style handles, allow to replace if needed.

i. Where a door is being replaced install new handles between 900mm – 1.2m above the FFL, otherwise install replacement lever handles at the same height on existing

doors.

C. All bathrooms and separate toilets have a privacy- lock that can be accessed from outside the room.

D. Wardrobes, and linen, general storage, and HWC cupboards:

   i. Have horizontal, dummy- lever-type handles.

   ii. Can be opened from the inside (to ensure children cannot be locked inside), to achieve this a soft-close, counter-sunk magnetic catch can be installed into the top edge of the door and frame.

      - Allow to make good doors when removing latches.

   iii. Coat hooks are not a requirement and should not be replaced when missing inside wardrobes.

   iv. Where there is an open cupboard/alcove in a hallway and the coat hooks are missing or damaged then scope to replace.

E. All doors must have a functioning door-stop.

**Note:**

Except for privacy locks all doors must not be lockable from the inside.

**References:**

Amenity Condition Manual (ACM-200) – 45.2 Exterior Doors, 55.7 Door hardware

Maintenance and Programmed Work Specification (M-215) – 5230 Interior Doors, 4521 Aluminium Doors and Windows, 4511 Exterior Timber Windows and Doors, 4610 Glazing Residential, 5151 Interior Timber Trim, 4224 Exterior Timber Trim, 5521 Hardware

## 4.7 Windows

### 4.7.1 General

A. Replace all windows within the thermal envelope of the home, this includes bathrooms, toilets, and internal laundries, but excludes rooms such as lean-to- laundries, toilets and garages see Section 5. 2 Windows - Thermally Broken Aluminium.

   i. Where a room is not within the thermal envelope line, check the windows are in good condition and functioning, and repair as needed e.g., ease, rehang and ensure hardware is inacceptable condition.

   ii. New glazing must comply with NZS 4223.3:2016 Glazing in buildings, Part 3: Human impact safety requirements.

### 4.7.2 Window hardware - fall safe and secure ventilation

A. Allow for a restrictor stay that provides a maximum opening of 100mm, to one opening

sash, per room for secure ventilation.

B. Fall safe windows; restrict all opening windows where:

   i. The exterior fall height is >2m from the bottom edge of the opening sash; and the bottom edge of the opening sash is < 1500mm from the floor.

**References:**

Amenity Condition Manual (ACM-200) – 45.1 Exterior Windows, 55.8 Window hardware

Maintenance and Programmed Work Specification (M-215) – 4521 Aluminium Doors and Windows, S 4511 Exterior Timber Windows and Doors, 4610 Glazing Residential, 5151 Interior Timber Trim, 4224 Exterior Timber Trim, 5521 Hardware

## 4.8 Interior Paint Finishes

A. Repaint all internal rooms (including wardrobes and cupboards),

B. For approved colour selections refer to M-248a: Kāinga Ora Colour Charts (Interior)

C. **Paint over wallpaper**; The ACM-200 provides guidance on acceptable papered surfaces to paint over.

   i. Where the wallpaper is not in a suitable condition to paint over, and Kāinga Ora have provided approval allow to remove the wallpaper and to skim-coat in preparation for painting.

**References:**

Amenity Condition Manual (ACM-200) –67.2 Interior Paint, 67.3 Polyurethane, and 67.4 Wallpaper

Maintenance and Programmed Work Specification (M-215) - 6700 Resene Painting - General, 6721 Resene Painting - Interior

Colour Charts – Interior (M-248a), Standard Detail Drawings (M-215a) – Section 114 Interior Paint Demarcation

## 4.9 Cleaning

### 4.9.1 Interior clean

A. **Prior** to property completion:

   i. Ensure all interior surfaces, fixtures and fittings are thoroughly cleaned.

   ii. Clean the oven, cook-top, and ventilation system – including range-hood, extract fans, filters, and grilles if needed.

### 4.9.2 Rubbish removal

A. Remove and dispose of all rubbish from the property, including the ceiling space, garage,

shed, and sub-floor area.

**Note:**

Check with the current customer **before** removing any rubbish from the site.

# Section 5: Thermal Envelope Improvement

## 5.1 External thermal envelope cladding, insulation and air-tightness layer options

### 5.1.1 Objective

The retrofit programme aims to ensure the dwelling is weather-tight and has an improved external thermal envelope. To achieve this insulation and associated components are installed to the external walls.

### 5.1.2 Cladding assessment

A. Assess the overall condition of the cladding for damage, rot, broken components, and asbestos.

B. Two options are available to improve the thermal envelope, select option one or two, depending on the outcome of the cladding assessment.

   i. Cladding is sound and/requires minor repairs, <20% per external wall face, select Option one

   ii. Cladding requires extensive repairs >20-30% per external wall face and/or asbestos is present, select Option two

### 5.1.3 Option one - retrofit

A. Repair cladding:

   i. Replace and/or repair compromised cladding with like-for-like material.

      - Where brick cladding is present allow to regrout and/or repair as required.
      - Remove and/or make good any redundant fixtures and penetrations to the exterior cladding.
      - Carry out repairs and/or replacement of soffits where required.

   ii. Refer to 3.9 Exterior paint finishes

B. Insulating external walls from the **interior** allow:

   i. To remove and dispose of interior wall-linings and associated items on the external walls, ensuring minimal damage to adjacent components.

   ii. Where the property has brick veneer cladding, allow to install new brick ties.

iii. Where cladding is direct fixed:

- install new R2.0 (70mm-thick) insulation with a 20mm air gap between the back-face of the existing building paper (if present) or external cladding.
- Note where no building paper is present it is not required. If paper is present and is in disrepair allow to remove paper.
- Install strapping.

iv. Where cladding is over a cavity batten

- Install new R2.5 (90mm-thick) insulation to the full frame depth. If framing is not 90-100mm an alternative option will need to be considered, liaise with your Kāinga Ora representative.
- Install strapping.
- To install an approved vapour permeable air tightness layer over the internal face of the framing, ensuring compliance with the manufacturer's installation instructions.
- Seal penetrations correctly with the specified products.

v. Install plasterboard linings and trim to match existing materials. Refer to 4. Interior and 4.2 Wall and ceiling linings.

vi. Refer to Section 3.8 Insulation and Section 4.8 Interior Paint Finishes.

### 5.2.4 Option two – Reclad

A. Reclad and install external wall insulation, allow:

i. To remove and dispose of existing cladding (See Health and Safety at Work (Asbestos) Regulations (2016)).

ii. Install R2.5 (90mm-thick) insulation and strapping

- **Do not** remove internal wall-linings when carrying out a reclad for the purpose of installing the insulation.

iii. To install a rigid air barrier over framing, and check if bracing units are to be included in the design. Do not install vapour barrier.

iv. To install compatible vented cavity battens (including vermin-stop protection). Non-habitable areas can be excluded e.g., external covered porches.

v. Reclad with new bevel-back timber weatherboards or an alternative approved Kāinga Ora cladding system. Allow for associated components, to be installed.

vi. Refer to Section 3.8 Insulation, and Section 3.9 Exterior Paint Finishes

### 5.2.5 Option One and Two Notes

Flat-sheet cladding may be used in porch areas.

A. Always:

   i. Install insulation in accordance with NZS 4246: 2016 – Energy-efficiency: Installing Bulk Thermal Insulation in Residential.

   ii. Follow manufacturer instructions.

B. Where extensive rot or mould is encountered, refer to your Kāinga Ora representative.

**Note:**

The following items are not permitted:

- Plywood, polystyrene and plaster, stucco, or horizontal profiled metal cladding.
- Single-skin, exterior insulating finish systems; and/or
- Stained finishes or paint finishes with brick.

**References:**

Amenity Condition Manual (ACM-200) – 42.1-11 Various cladding sections

Maintenance and Programmed Work Specification (M-215) – 3820 Carpentry, 3897 Replacement & Treatment of Decayed Timber, 4161 Underlays, Foil, and DPC, Section 4221-4282 Various cladding sections

## 5.2 Windows – Thermally Broken Aluminium

### 5.2.1 Window Upgrade

A. Replace all windows within the thermal envelope of the home, this includes bathrooms, toilets, and internal laundries, but excludes rooms such as lean-to- laundries, toilets, and garages.

B. Ensure the new windows are clear or, where needed for privacy reasons (e.g., in bathrooms), are surface-treated, obscure glazing.

C. Ensure windows located in South-facing habitable rooms (i.e., living-areas, dining-areas, bedrooms, hallways, and stair-ways) are argon gas-filled windows.

D. When reorienting the kitchen as part of KDL reconfiguration work, any windowsills in the kitchen are placed at a minimum height of 1100mm.

E. Where window sizes are changed or removed, allow to infill with like-for-like material or comparable Kāinga Ora approved cladding.

F. Where there is an existing sunroom in the dwelling, remove windows to achieve a window-to-wall ratio of 30%.

Note:

Where a room is not within the thermal envelope line, and provided they are in a good condition, existing windows may be retained (e.g., external laundries). See Section 4.7 Windows

#### 5.2.2 Approved window and door manufacturer / supplier

A. Architectural Profiles Limited (APL window solutions)

   i. Product – Residential Series, ThermalHeart+®

#### 5.2.3 Window hardware

Ensure all window catches are double-tongued, lever-style handles.

Refer to Section 4.7 Window hardware for additional requirements.

## Section 6: Kitchen, Dining and Living Room – Reconfiguration

This section outlines requirements for kitchens, living-areas, and dining-areas.

### 6.1 Open plan design

#### 6.1.1 General Requirements

A. Where practicable, if the kitchen-dining-living (KDL) space is comprised of separate rooms, convert these spaces into an open-plan living-area.

   i. Ensure each 'zone' is defined and flows freely to each other.

   ii. Consider the kitchen layout and where possible prevents the residents and/or visitors from using the kitchen as a main thoroughfare.

   iii. Ensure there is minimal disruption to existing plumbing, window openings, and load-bearing structures.

   iv. Where wall sections need to be removed, install additional structural bracing elements that meet current legislative requirements.

      - In these instances, do not remove the entire wall and minimise the impact on ceilings (e.g., using beams/lintels below the ceiling).

B. Ensure all fittings and finishes align with the requirements set-out in Section 4: Interior

#### 6.1.2 KDL Modernisation

A. With the exception of option two below, do not move any rooms in the floor plan when undertaking conversion work.

B. Inter-tenancy walls should **not** be altered as part of modernisation/conversion work.

C. Fire walls are out of scope, the retrofit programme does not undertake work that involves complete or substantial replacement of any component or assembly that

contributes to the buildings structural behaviour or fire-safety properties i.e., the existing firewall/system remains unchanged/untouched.

i. Refer to your Kāinga Ora representative if guidance is required.

ii. Excludes re-roof work – refer to 3.1.3. Roof replacement

Options for converting the space into an open-plan KDL are as follows:

### 6.1.3 KDL Option One

Remove part of the wall separating the living-area from the kitchen.

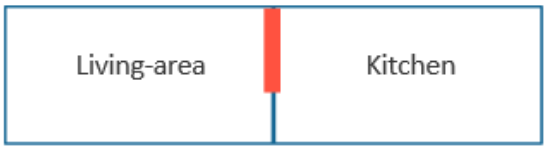


*Figure 2: KDL Modernisation Option One*

### 6.1.4 KDL Option Two

A. In the configuration below (Fig.3), swap the living-area and bedroom, and then remove the wall separating the (new) living-area from the kitchen.

i. This option is **only** suitable if the original room sizes are within 10% of the requirements identified in Table 1 of the Housing Standard: Design (M-255).

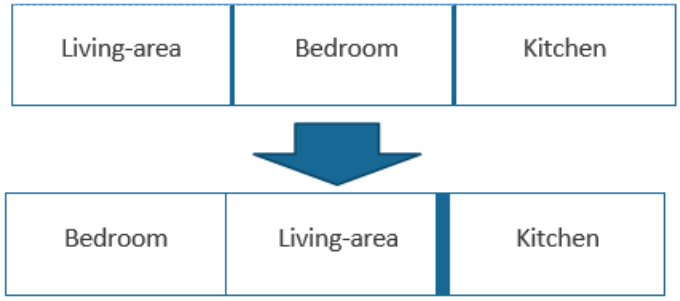


*Figure 3: KDL Modernisation Option Two*

**Note:**

When undertaking modernisation work, ensure:

- There is at least one door from the KDL space to the main hallway.
- There is no direct access from the KDL space to **new** bedrooms, bathrooms, and/or separate toilets.

## 6.2 Kitchen Upgrade

### 6.2.1 General

A. Wherever possible, during modernisation work, ensure the living- and dining-area:

   i. Are not reduced in size; and

   ii. Provide enough space to accommodate the customers' needs, ensuring the design affords at least the same level of amenity as that provided prior to retrofit work.

**Note:**

If either or both are not achievable, contact your Kāinga Ora representative for further instruction.

For further guidance on specific customers' needs, contact your local Kāinga Ora representative and liaise with other members of the Project Team (see Appendix B) as appropriate.

### 6.2.2 Kitchen Bench and Storage Requirements – Table 1

**Table 1: Minimum Requirements for Kitchen Benching and Storage**

| | DWELLING-SIZE BY BEDROOM-NUMBER | | | |
|---|---|---|---|---|
| | 1 – 2 | 3 | 4 | 5 – 6 |
| Wet bench[1, 2] | 1.25m (L) | 1.65m (L) | | 1.8m (L) |
| Dry bench[2] | 1.4m (L) | 2.4m (L) | 3.0m (L) | 3.6m (L) |
| Pantry[2] | 450mm (W) x 2m (H) | 600mm (W) x 2m (H) | | 900mm (W) x 2m (H) |
| Drawers[3] | x1 Bank | x2 Banks | | x2 Banks |
| Fridge | 750mm[4] (W) | 850mm[4] (W) | | 850mm[4] (W) |

**Notes**

*1 – Wet bench includes x1 sink*
*2 – Minimum depth = 600mm*
*3 – Drawers include x4 drawers per bank; all drawers are 600mm-wide*
*4 – Minimum depth = 700mm; minimum clear-height = 2m*

### 6.2.3 Cabinetry

A. Replace existing cabinetry with new cabinetry.

B. Where possible there is minimum benching and storage that aligns with the requirements set out in Table 1: Minimum requirements for Kitchen Benching and Storage plus space suitable for at least 2 days' temporary waste and recycling.

C. When installing new cabinetry, ensure:

   i. Where possible a minimum clearance if 1200mm between benches.

   ii. The microwave space is located at bench-height with an adjacent power outlet.

   iii. Kitchens require a functioning pair of childproof catches provided to one set of under-sink cupboards.

   iv. The underside of the bench has drawers in banks of 4 (x2 smaller above and x2 larger drawers at the bottoms), with a cutlery insert tray provided in the top drawer.

   v. Drawer runners with a minimum load capacity of 30kg

vi. The pantry has x5 full width fixed shelves.

vii. Cupboard door hinges provide a 115-117 degree opening and are recess-mounted; x3 under-bench leaf and x4 to full height (e.g., pantry) doors.

viii. All cupboards and drawers include D-style handles that are easy to grip with a minimum finger clearance of 25mm.

**Note:**

The following items are not permitted:

- sliding, bi-folding, or double-hung (corner) doors
- Wall-hung cupboards (over-head)
- A fixed-end panel to the fridge space.
- Fully enclosed, temporary waste and recycling spaces and built-in bins.
- Melamine edge tape on cabinet doors or drawers.

### 6.2.4 Benches and sink-tops

A. Replace existing bench-tops.

B. Ensure the sink is in an acceptable condition if required, replace with a procured item.

i. Reuse the existing single-lever sink mixer or replace if needed.

**Note:**

The following are not permitted:

- Straight square edge bench-tops.
- Top-mounted sink bowls.

**References:**

Amenity Condition Manual (ACM-200) – 55.1 Bench-tops, 55.2 Kitchen Cabinets, 55.3, 71.6 Sanitary Features, 71.7 Tap-ware

Maintenance and Programmed Work Specification (M-215) – 5521 Hardware, 5510 Joinery and Propriety Fixtures

## 6.3 Kitchen Appliances - stove and rangehood

### 6.3.1 Stove Repairs

A. Ensure the free-standing stove is fully-functional, with all necessary components present and free from damage.

B. Where required, undertake repairs using procured parts.

C. Replace any missing or faulty components (e.g., anti-tip device and drop bolt).

D. Allow to clean. See Section 4.9 Cleaning

### 6.3.2. New Stove

A. Allow for a new procured free-standing stove if beyond repair.

B. An under-bench stove and separate hob can be considered where there are spatial restrictions.

   i. Only used approved under-bench stoves and hobs.

C. Ensure the stove/oven is not placed in a location where it will not block or present a hazard on internal access-ways.

D. Follow manufacturer's instructions and ensure compliance with clearance requirements.

### 6.3.3 Heatshield

A. Ensure a heatshield is installed behind and/or beside where appropriate to the stove.

   i. Where required, replace the existing or, if absent, install a new heatshield comprised of a 600 x 600mm single tile with a perimeter trim or a procured glass equivalent.

   ii. Remove any existing heatshields which are not fire-resistant e.g., HardieGlaze is not an acceptable heatshield.

### 6.3.4 Rangehood

A. Repair or, if not possible, replace any existing **rangehood that** is damaged, is not fully-functioning or is a recycling air type hood, with a procured product.

   i. Roof-vented mechanical extract ventilation systems are preferred. Soffit-vented systems are permitted where they are a better option. These systems must meet Healthy Homes ventilation requirements,

   ii. Make use, if possible of existing ducting and vents etc.

   iii. Advise Kāinga Ora if mechanical ventilation cannot be fitted or vented to the exterior.

   iv. Replace existing range-hood filters if they are beyond cleaning (See Section 4.9 Cleaning)

**Note:**

It is not permitted to use recirculating range-hoods.

**References:**

Amenity Condition Manual (ACM-200) – 76.3 Range-hood Extract, 77.8 Electrical Range, 77.1 Mains, 77.2 Meter Box, 77.3 Distribution Board, 77.4 Earth Electrode, 77.5 Earth Bonds

Maintenance and Programmed Work Specification (M-215) – 5510 Joinery and Propriety

# Section 7: Bathrooms and toilet facilities

The requirements below should be considered alongside those presented in Section 4: Interior and Section 13: Hydraulics.

## 7.1 Bathroom and Toilet Requirements

### 7.1.1 General

A. Ensure dwellings provide bathroom and toilet facilities according to the order of preference set-out in the table below.

   i. If possible preserve the existing footprint of the bathroom, only allow for a minor extension into adjacent spaces where necessary to improve the layout and to utilise space.

      - Any extension must not unduly impact on the usability of the space for example, must not go from a double bedroom to a single bedroom.

   ii. Retain existing wall and ceiling linings, there is no requirement upgrade to moisture resistant plaster-board.

   iii. If the requirements set out within the table cannot be met, contact your Kāinga Ora representative.

B. Ensure all bathrooms/separate toilets located on the second story (or above) have a chrome-plated, brass floor-waste gully.

C. In addition, ensure there is:

   i. Where space permits a smaller vanity + basin unit with a towel-ring set at 850mm above the FFL is provided in separate toilets.

   ii. Wet-area bathrooms should be at least 2.1m in any direction.

### 7.1.2 Table 2: Amenity requirements for bathrooms and toilets

| | 1-2 Bedrooms | 3 Bedrooms | 4 Bedrooms | 5-6 Bedrooms |
|---|---|---|---|---|
| **First Preference** | x1 Vanity<br>x1 Shower<br>x1 Sep. Toilet | x1 Vanity<br>x1 Bath<br>x1 Shower<br>x1 Sep. Toilet | x1 Vanity<br>x1 Bath<br>x1 Shower<br>x1 Toilet (in bathroom)<br>x1 Sep. Toilet | x2 Vanities<br>x1 Bath<br>x2 Showers<br>x1 Toilet (in bathroom)<br>x1 Sep. Toilet |
| **Second Preference** | x1 Vanity<br>x1 Shower<br>x1 Toilet (in bathroom) | x1 Vanity<br>x1 Shower<br>x1 Sep. Toilet | N/A | N/A |

| | | | | |
|---|---|---|---|---|
| **Third Preference** | x1 Vanity<br>x1 Shower-over-bath<br>x1 Toilet (in bathroom) | x1 Vanity<br>x1 Bath<br>x1 Shower<br>x1 Toilet (in bathroom) | N/A | N/A |
| **Fourth Preference** | N/A | x1 Vanity<br>x1 Shower<br>x1 Toilet (in bathroom) | N/A | N/A |
| **Fifth Preference** | N/A | x1 Vanity<br>x1 Shower-over-bath<br>x1 Toilet (in bathroom) | N/A | N/A |

## 7.2 Shower and bathing options

A. Carry out replacement of bathroom amenities in accordance with table two above.

B. Retain existing amenities only if they are in excellent condition.

C. The following shower options are available, in the first instance replace like-for-like unless another option is better suited to the customer's needs and/or there are spatial restrictions. Always seek guidance from Kāinga Ora if needed and always use procured products.

### 7.2.1. Shower enclosure options

A. Purpose built shower enclosure consisting of a stainless-steel shower tray, 3 sides Hardie™ Glaze Lining and weighted shower curtain and rail.

B. Pre-manufactured shower enclosure (procured item)

   i. Newline shower enclosures comprising of an acrylic one-piece shower liner, acrylic tray, glass return, and door are now procured through Plumbing World.

   ii. Always follow manufacturer's instructions.

C. **Shower over bath** should only be retained or replaced where space does not permit a shower and separate bath.

D. Accessible wet-area shower

   i. Like-for-like replacement only, upgrading a standard bathroom to an 'accessible' bathroom is out of scope.

**Note:**

The following is not permitted:

- Two-sided or non-procured shower trays
- Contact between the wall-lining and the up-stand of the shower tray and/or the bath.
- Bath edge-mouldings with high-lip baths.

### 7.2.2 Shower curtains/rails and door seals

A. Replace shower curtains if required.

B. If curtain rails are rusted or compromised replace.

C. If an existing shower cubicle is retained, replace door seals if needed, and ensure the door opens and closes with ease.

**Note:**

Weighted shower curtains are required where there is a purpose built shower enclosure or if there is an existing accessible wet-area shower.

Shower curtains installed in bathrooms should ideally just touch the shower floor, and for showers over baths fall a maximum of 100mm above the bottom of the bath.

### 7.2.3 Bath and tap-ware

A. Where there is an existing bath, ensure it is in an acceptable condition if it is being retained.

   i. If not, and space allows (see Table 2: Amenity requirements for bathrooms and toilets), replace the bath.

   ii. where the existing tap-ware is comprised of two separate taps and are deemed to be acceptable, speak with your Kāinga Ora representative before identifying whether to replace with separate mixer and bath spout.

   iii. Where new tap-ware is required install a separate mixer and bath spout.

**Note:**

In all instances, showers take priority over a bath; use the preferences set-out in Table 2 and shower section as guidance for decision-making.

### 7.2.4 Shower-rose mixer

A. Install a 'slide shower mixer' comprised of a:

   i. slide-rail, hose, and hand piece, with the top of the rail mounted at no higher than 1900mm above the FFL; and

   ii. separate lever-mixer set at no higher than 1000mm above the FFL and so it can be safely- and easily accessed from both inside and outside the shower.

B. Ensure shower-mixers achieve the low-flow requirements of 6-8litres-per-minute (i.e., it takes 8-10 seconds to fill a one-litre jug) Lever-handle shower mixers can have the flow regulated by adjustment within the mixer.

**Note:**

**Do not** position the shower mixer so that the water-flow is directed to the shower curtain or shower door where applicable.

**References:**

Amenity Condition Manual (ACM-200) – 55.12 Curtains, 55.10 Joinery, 51.2 Wet-wall Linings, 51.3 Showers, 64.1 Vinyl, 71.6 Sanitary fixtures, 71.7 Tap-ware

Maintenance and Programmed Work Specification (M-215) –5530 Curtains, Section 5521 Hardware, 5134 Hardie pre-finished fibre cement linings, 7151 Sanitary fixtures, tap-ware, & accessories, 4610 Glazing residential

Standard Detail Drawings (M-215a) - 2 Interior standard details, 101-111, 119

## 7.3 Miscellaneous Bathroom and Toilet Fixtures

A. Towel rails, towel ladders and rings

   i. Replace any towel rail, ladder or rings that are in poor condition.

   ii. When replacing a towel rail and the wall space allows a minimum length of 700mm per bedroom, provide the additional length if possible.

   iii. Ladder rails must not be installed less than 500mm from the FFL.

B. If there is an existing customer-installed heated towel-rail present, check the rail and:

   i. Leave in place if it is: in working order, securely attached, **and** safe to operate.

      - If not, remove the rail, disconnect, and remove associated electrical fittings, and repair the wall.

C. Toilet roll holder, ensure a toilet roll holder is present and easy-to-reach.

D. Mirror, ensure there is a mirror present in acceptable condition.

**Note:**

The following are not permitted.

- Adhesive fixing for mirrors
- New heated towel-rails

**References:**

Amenity Condition Manual (ACM-200) – 55.12 Curtains, 55.10 Joinery Hardware, 71.6 Sanitary Features, 71.7 Tap-ware

Maintenance and Programmed Work Specification (M-215) – 5530 Curtains, 5521 Hardware, 4610 Glazing Residential

## 7.4 Vanities, Basins, Storage and Tap-ware

A. Check the existing vanity or basin; ensure it is in an acceptable condition.

B. If a vanity or basin requires replacement use procured products, a wall-hung vanity is

the first preference.

i. If this is not possible a free-standing vanity can be installed. Only install a new basin if space restricts a vanity from being installed.

C. Allow for a new single-lever mixer tap, if required.

D. If retaining the existing vanity, ensure the tap-ware is in good working order.

E. A vanity is not considered childproof (unless a pair of childproof catches are present).

### 7.4.1 Shaving or medicine cabinet

Ensure the cabinet is in an acceptable condition and, if required, repair with like-for-like materials; or replace with a procured product.

**References:**

Amenity Condition Manual (ACM-200) – 55.4 Vanity Cabinet, 71.6 Sanitary Fixtures, 71.7 Tape-ware

Maintenance and Programmed Work Specification (M-215) –7151 Sanitary Fixtures, 5510 Joinery and Proprietary Features, 5521 Hardware

## 7.5 Toilet Suite

Check the existing toilet and associated components; repair and/or replace components as needed, with procured products.

**References:**

Amenity Condition Manual (ACM-200) –74.2 Vent Pipe, 74.4 Sewerage, 71.6 Sanitary Fixtures

Maintenance and Programmed Work Specification (M-215) – 7120 Hot & Cold Water Systems, 7151 Sanitary Fixtures, Tap-ware and accessories, 7420 Sanitary Systems

## 7.6 Mechanical Extraction - Bathroom

A. Ensure all existing mechanical ventilation is in an acceptable condition, where required repair or replace the ventilation system, with procured products.

i. Mechanical extraction systems are to be ventilated to the exterior preferably through the roof and need to comply with the Healthy Homes Standards.

ii. Rooms with a bath and/or shower must include a fan and ducting that is at least 120mmØ, or a fan with ducting with an exhaust capacity of 25L/s, unless the building has a continuous mechanical ventilation system.

iii. Allow to remove humidistats, do not replace.

iv. All mechanical extraction in bathrooms and laundries require a separate run on fan

timer that is set to a minimum of 7 minutes.

v. Advise Kāinga Ora if mechanical ventilation cannot be fitted or vented to the exterior.

**References:**

Amenity Condition Manual (ACM-200) –76.2 Bathroom extraction

Maintenance and Programmed Work Specification (M-215) –7612 Residential Extract Systems, 7701 Electrical

# Section 8: Laundries

The content below sets out the requirements for laundries that are in addition to those presented in Section 4: Interior and Section 13: Hydraulics.

## 8.1 General requirements

A. Wherever possible, the laundry should provide enough space for:

i. A laundry tub (350mm-wide for 1-2 bedroom homes; 560mm-wide for 3+ bedrooms) where possible.

ii. A washing machine (at least 850mm-wide); and

iii. A dryer placed at floor level or space on the wall.

iv. Install **one** 250 (D) x minimum 500mm (W) melamine shelf above the laundry tub at between 1200-1500mm above the FFL.

- Where existing shelving is present, ensure it is damage-free and securely attached to the wall; repair, reattach, or replace the shelves as required.

B. Ensure the laundry cabinet and tub is in an acceptable condition.

i. If not, undertake any required repairs and/or cleaning or replace the existing with a procured laundry cabinet sized in accordance with the above.

ii. A laundry cabinet is not considered childproof (unless a childproof catch is present).

**Note:**

While it may not be possible to increase the size of the laundry space, when undertaking modernisation work, the size of the existing laundry must not be reduced.

Retain existing wall and ceiling linings, there is no requirement upgrade to moisture resistant plaster-board.

The laundry may be in a bathroom or cupboard or in a garage; regardless of the dwelling-size, it must not be placed in the KDL space.

**References:**

Amenity Condition Manual (ACM-200) – 71.6 Sanitary Fixtures, 71.7 Tap-ware, 55.3 Laundry Cabinet

Maintenance and Programmed Work Specification (M-215) – 7120 Hot & Cold Water Systems, 7151 Sanitary Fixtures, Tap-ware and accessories, and 5510 Joinery and Proprietary Fixtures

Standard Detail Drawings (M-215a) – Interior standard details, 109 Laundry Tub

### 8.2 Mechanical Extraction - Laundry

A. If present, check the existing mechanical extraction system; ensure it is in an acceptable condition.

B. If the system is not acceptable or there is no extraction, install a new fan in alignment with the requirements listed in Mechanical Extraction – Bathrooms – Section 7.6

**Note:**

Laundries located in garages also require mechanical extraction.

**References:**

Amenity Condition Manual (ACM-200) – 76.2 Bathroom extraction

Maintenance and Programmed Work Specification (M-215) – 7612 Residential Extract Systems, 7701 Electrical

## Section 9: Household storage

The content below sets out the requirements for storage provided inside the dwelling. For outdoor storage, refer to Section 2: Exterior.

### 9.1 General requirements

A. The amount of internal storage provided in the dwelling must not be reduced.

   i. Wherever possible, there should be separate linen and general storage provided in addition to a wardrobe or hot water cylinder.

B. Ensure all storage is **not** lockable and can be opened from the inside and hardware is in working order.

   ii. refer to Section 4.6 Door hardware

**References:**

Amenity Condition Manual (ACM-200) – 55.6 Cupboards and Wardrobes, 55.10 Joinery

Hardware

Maintenance and Programmed Work Specification (M-215) – 5510 Joinery and Proprietary Fixtures, 5521 Hardware, 3820 Carpentry

## 9.2 Wardrobes

A. Check existing wardrobes, rails, and shelving and ensure they are in an acceptable condition; if not, replace.

B. If a new shelf is required, use an item that:

   i. Matches the width and depth of the existing shelf and is at least 18mm-thick.

   ii. If more than 1.2m-wide, ensure there is a 40 x 20mm pine 'stiffener' under the front edge.

## 9.3 New storage cupboards

Where new storage has been built, where possible the following shelving requirements should be met.

### 9.3.1 General

A. General storage (i.e., all other storage that is not linen or HWC storage, kitchen cabinetry, bathroom vanities, or laundry cupboards) should include (at least):

   i. three full width shelves where possible

### 9.3.2 Linen Storage

Linen storage should include five fixed full-width slated shelves.

### 9.3.3 HWC Cupboard

A. Ensure a new HWC cupboard is located to minimise pipe-runs and that it is sized to accommodate the size of the cylinder, see Section 13.1 Plumbing and water supply and Section 13.2 and that it includes:

   i. At least one full-depth and full-width slated shelf.

# Section 10: Electrical

The content below sets out the requirements for all services provided in all homes.

## 10.1 General

A. Ensure there are electrical connections from street-front public junctions to the dwellings' termination point.

   i. If there are buildings with multiple dwellings on-site, ensure electrical connections

run to building termination points in a common shared-services trench.

B. Ensure the 'Earth' pin is protected within a plastic 'Toby box'.

C. Ensure there is an internal distribution board that provides at least 20% spare capacity, and which includes RCD-protection for all circuits.

D. Where any **gas connections** are provided, use the M-259: Kāinga Ora Gas Conversion Scoping Guide as guidance for converting to electrical supply and undertaking the following work:

   i. Removing all gas fittings and appliances.

   ii. Repairing damage to affected areas (e.g., wall- and ceiling-linings; cladding; or roofs).

   iii. Supplying and installing new electric appliances.

**Note:**

If the distribution board and/or gas flues and surrounds are identified to include ACM, allow to replace the entire distribution board and associated circuitry in accordance with the Kāinga Ora asbestos policy and regulations. See Asbestos Management and Control Policy (SS-POL-103) (2020) and Health and Safety at Work (Asbestos) Regulations.

Ensure electrical work complies with NZS 3000:2018 – Australian/New Zealand Wiring Rules.

Check to ensure the electrical system is able to accommodate additional electrical load requirements; if it cannot, undertake the required upgrades as required.

Use Kāinga procured products.

**References:**

Amenity Condition Manual (ACM-200) – 77.1 Mains, 77.2 Meter box, 77.3 Distribution board, 77.4 Earth electrode, 77.5 Earth bonds

Maintenance and Programmed Work Specification (M-215) – 7701 Electrical

## 10.2 Lighting

Replace all unearthed Moonlight fittings, either interior or exterior where present, with new procured double-insulated LED fittings.

### 10.2.1 Exterior lighting

A. Ensure there is existing main entry lighting to the main front and rear entry areas.

B. Lighting is required to any immediate steps leading to the front door.

C. If these areas are not covered by, existing light sources:

   i. Adjust the existing light.

   ii. Replace the existing light.

iii. Or provide another fitting located appropriately to add the needed light.

D. Upgrade to LED lights, where required using Kāinga approved products.

i. For any replacements use an LED sensor porch-fitting or dual LED security light.

ii. Ensure any other existing LED lighting (including sensor lighting) is fully functional.

iii. Pedestrian access routes from: the street; the car-park, driveway, or parking-area.

### 10.2.2 Interior lighting

A. Ensure there is at least one Kāinga Ora-procured, ceiling-mounted light fitting for each room within the dwelling including any separate toilets and internal garage.

B. If not already present ensure there is a two-way switching provided at:

i. Either end of all hallways.

ii. The top and bottom of all stairways.

C. Replace existing lighting if it does not meet the following:

i. LED, double-insulated with an acrylic diffuser.

ii. Provides a minimum efficacy of 40lm/W.

iii. Where appropriate, is IP-rated for wet-areas.

iv. Lighting-levels should conform with the minimum levels indicated on Table 3.

v. Where the minimum levels cannot be achieved, install additional procured lighting in the appropriate area.

D. If existing lighting meets the above requirements, ensure it is in an acceptable condition and, if not replace.

E. Ensure any new lighting circuit switches are see set between 900mm-1200mm above FFL (measured at the centre of the plant).

i. Existing light switches do not need to be relocated.

### 10.2.3 Table 3: Recommended Minimum Lighting-levels for 'Standard' Dwellings

| AREA | LUX-LEVEL |
|---|---|
| Living- and Dining-areas | 50lx (work surface) |
| Bedrooms | 50lx (floor) / 150lx (bed) |
| Kitchens | 300lx (work surfaces) |
| Bathrooms | 100lx (work surfaces) |
| Separate Toilets | 100lx (work surfaces) |
| Laundries | 100lx (work surfaces) |
| Hallways and Landings | 150lx (floor) |
| Stairways | 100lx (treads) |
| Garages | 50lx (floor) / 300lx (bench) |

**Note:**

Incandescent lamps, down-lights, halogen fittings, and fluorescent fittings are not permitted.

It is not permitted to locate a light fitting over a stairway.

**References:**

Amenity Condition Manual (ACM-200) –77.9 Light Fittings

Maintenance and Programmed Work Specification (M-215) –7701 Electrical

## 10.3 Power outlets

### 10.3.1 General requirements

A. Check existing outlets to ensure they are in an acceptable condition, if not replace affected outlets, with procured products.

B. Ensure power outlets for **new circuits** are horizontally-mounted between 400-600mm above the FFL and 250mm above bench-tops and mounted at least 500mm away from internal corners, where possible.

C. Existing outlets do not need to be relocated.

D. Replace all existing single power outlets with double outlets in the same location.

E. Check the relevant locations as per the below; if needed, install a new item:

   i. The combined living- and dining-areas include at least x4 double-socket outlets.

   ii. The kitchen includes:

      - At least x4 double-socket outlets: x3 double-socket outlets above bench height (incl. an outlet for the fridge) plus x1 dedicated outlet for the stove.
      - Ensure one outlet is suitable for a microwave.

   iii. Bedrooms include at least:

      - x3 double-socket outlets (incl. one for each side of the bed) in bedrooms ≥9m$^2$.
      - x2 double-socket outlets (incl. x1 for each side of the bed) in bedrooms <9m$^2$.

   iv. Bathrooms have at least x1 RCD-protected, double-socket outlet located adjacent to the vanity at 1m above the FFL.

      - Hallways, laundries, and (where provided) attached garages have at least x1 double- socket outlet each.

**References:**

Amenity Condition Manual (ACM-200) – 77.10 Power Outlets

Maintenance and Programmed Work Specification (M-215) – 7701 Electrical

# Section 11: Heating

The content below sets out the requirements for the heating provided in all homes.

Whole-of-house heating is out of scope, refer to 11.1, E for exceptions.

## 11.1 Main living area heating

A. All heating must comply with the requirements of the Residential Tenancies (Healthy Homes Standards) Regulations (2019)

B. Use the Heating Assessment Tool to undertake the calculations needed to determine the correct size of the heating source.

C. Properties must have an appropriate heating solution that is capable of achieving and maintaining a minimum temperature of 20° in the main living room and connected spaces.

D. Heating provided in these areas must have a heating-source that complies with current legislation.

E. Whole-of-house heating can be included where there is a 'Right at Home' referral, or the returning customer has a condition such as asthma or rheumatic fever.

   i. Refer to the Heating Scoping Guide (M-245) for details on whole-of-house heating (if applicable) and main living area definitions and how to calculate heating requirements for these spaces.

## 11.2 Heater and Air Conditioning Requirements

A. Ensure existing heat sources are in an acceptable condition and conform with the requirements set out below.

B. Undertake the heating calculation method to ensure they meet the required heating capacity for the room.

C. If either do not conform allow for a suitable procured replacement that complies.

Note:

Electric resistance heaters **must not** have a capacity that exceeds 2.4kW. Where a higher capacity is indicated, a more efficient form of heating is required, (e.g., a heat-pump)

All heat pumps should each have a separate, dedicated circuit.

Provided there is available capacity, an electric resistance heater may be wired into existing circuits.

Gas heating is not permitted.

Always install in accordance with NZS 3000:2018 – Australian/New Zealand Wiring Rules

**References:**

Amenity Condition Manual (ACM-200) – 76.1 Heat pump, 77.7 Electric space heater

Maintenance and Programmed Work Specification (M-215) – 7673 Heat pump systems, 7701 Electrical

## 11.3 Solid Fuel Burners

### 11.3.1 Assessment

Assess the solid fuel burner, retain, or replace depending on the following:

A. Replace solid fuel burners with a heat-pump if the burner is:

   i. >10 years

   ii. <10 years, but does not achieve the required heating capacity for the room/s.

   iii. <10 years, remaining life expectancy is low and/or repair and maintenance costs are substantial.

B. **Retain** solid fuel burner:

   i. <10 years, in good condition, with a reasonable life expectancy.

   ii. Not an open fire.

### 11.3.2 Customer expectations

A. Where an existing tenancy is to be continued, it is important to manage expectations, where a burner is no longer fit-for-purpose.

B. Before work proceeds Kāinga Ora will need to discuss the change with the customer.

   i. If the customer declines a heat-pump, due to fuel insecurity in the area, this will need to be considered.

Calculate the heating capacity required for the room and select an appropriately sized procured heat source.

   ii. Only a single heat source is provided if the solid fuel burner is retained a heat-pump will NOT be provided.

**Note:**

See Section 3.2 Chimneys.

Check with the local Building Consent Authority to determine any requirements.

**References:**

Amenity Condition Manual (ACM-200) – 75.2 Wet-back, 75.1 Solid Fuel Heating

Maintenance and Programmed Work Specification (M-215) – 7556 Solid fuel space heating systems

# Section 12: Communications and Television

## 12.1 Telecommunications

### 12.1.1 General

Ensure there is telecommunications supply from the street that is connected to an External Termination Point (ETP) on the exterior of the property.

A. From the telecommunications' ETP:

   i. **Copper networks** connect to a master jack point.

   ii. **Fibre networks** connect to an ONT located in the living-area via fibre-optic cabling and includes a: distributor; designated switched-socket; patch-panel; and cords.

   iii. Where damaged or missing, reinstate copper or fibre networks in wall-mounted outlets that conform to the requirements set out below.

### 12.1.2 Telecommunications outlets

A. Check any existing outlets, ensuring they are in an acceptable condition and that there is at least one telecommunications outlet in:

   i. The combined KDL space.

   ii. All bedrooms that are ≥10m$^2$.

B. If an outlet is not in an acceptable condition, is faulty, or is missing, install a new outlet. Where possible, locate new outlets:

   i. Horizontally mounted at 500mm above the FFL.

   ii. 250mm above benchtops.

   iii. At least 500mm away from internal corners.

**Note:**

Where the dwelling has two or more storeys, locate the outlet in a bedroom above the ground floor.

Ensure the location of outlets is shown on electrical layouts.

**References:**

Amenity Condition Manual (ACM-200) – 77.11 Data outlets, 7713 Telecommunications supply

## 12.2 Television

### 12.2.1 Aerials

A. Remove any unused, non-compliant, and/or damaged TV aerials from the building

exterior; repair any damage/holes left by fixings etc. or replace the aerial as required.

B. Do not remove Sky TV® satellite dishes.

C. Where an aerial has been removed as part of roof and/or chimney replacement, and remains undamaged, reinstate the aerial in the same location, facing the same direction as it was originally, attaching it to the highest point of the most suitable wall.

D. Ensure all new cabling when replacing aerials is:

   i. at least concealed dual-shielded coaxial; and

   ii. if underground, a 'Flooded' cable.

**Note:**

It is not permitted to:

- Fix aerials through the roofing.

Where required, sites with high interference should have channelized amplification.

#### 12.2.1 Television Outlets and Aerial Ports

A. Check to ensure existing outlets/ports are fit-for-purpose, functional, and free-from damage and that there is at least:

   i. one outlet in the KDL space; and

   ii. an outlet in each bedroom that is ≥10m$^2$.

B. Where required, replace and/or install a new item, ensuring all outlets are:

   i. Horizontally mounted at 500mm above the FFL (not applicable to replacement outlets)

   ii. F-type connections with a PAL adaptor installed.

   iii. At least 500mm away from internal corners.

Before property completion, ensure all TV outlets are functioning correctly.

# Section 13: Hydraulics

## 13.1 Plumbing and Water supply

#### 13.1.1 General

A. Ensure water-supply has a separate meter and 'Toby box' per dwelling and an in-line filter at the entry-point for the dwelling.

   i. Check to ensure the 'Toby box' is in an acceptable condition; undertake or arrange any repairs as required.

B. Ensure all manholes, cesspits, and gully-trap grates and/or grills are secure and present.

C. If present, remove any header tanks located in the ceiling space.

D. Check all existing fittings and fixtures; if they are faulty and/or no longer fit-for-purpose, replace as required, if there is considerable cost associated with replacement seek approval from Kāinga Ora first.

E. Ensure hot water supply is tempered to:

   i. 45$^{o}$C at the shower; and to

   ii. 45 – 50$^{o}$C at all other outlets.

### 13.1.2 Pipe-work

A. Check the condition and functioning of existing pipe-work and where required undertake/arrange repairs as necessary.

   i. Replace all galvanized pipe-work and all “Dux Quest” pipe-work with Kāinga Ora procured polybutylene pipe.

**References:**

Amenity Condition Manual (ACM-200) – 71.4 Water pipe system, 71.1 Local water-supply

Maintenance and Programmed Work Specification (M-215) – 7120 Hot & cold water systems, 7151 Sanitary fixtures, tap-ware and accessories, 7420 Sanitary systems

## 13.2 Hot water cylinders (HWC)

### 13.2.1 Replacement

A. A replacement cylinder is required when at least one of the following applies:

   i. Was installed or manufactured before 1990.

   ii. Is a low-pressure HWC.

   iii. Is no longer in good working order e.g., there are signs of leaks or noticeable issues.

B. Ensure new cylinders:

   i. Are procured

   ii. The cylinder is sized in accordance with Table 5.

   iii. A safe tray is installed (with new cylinders)

      - New Safe trays are not required unless the HWC is being replaced or removed and refitted, for building alteration purposes.
      - Where the dwelling has a concrete slab it may not be possible to connect the safe tray overflow to drain to the exterior, install the tray regardless.

C. In addition, ensure both new and existing cylinders:

i. Are fitted with seismic straps as set out by Clause B1 of the New Zealand Building Code/manufacturers' installation instructions (whichever requirement is higher).

ii. A temperature-reducing valve is installed if required.

iii. The HWC temperature is set to 60°C at the cylinder.

iv. The delivery temperature at the shower must be set a 45°C and all other outlet temperatures must be between 45-50°C.

v. The thermostat cover is sealed.

D. Where the HWC floor space could be utilised to improve new KDL or bathroom plans, consider:

i. 1-2 bedroom dwellings, consult with a structural engineer around installing the cylinder in the ceiling space, will need to ensure cylinder has sufficient insulation.

ii. >3 bedrooms installing an external cylinder.

### 13.2.2 Table 5: Capacity requirements for hot water cylinders

| | DWELLING SIZE (BY BEDROOM NUMBER) | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3-4 | 5 | 6 |
| Cylinder capacity (litres) | 90L | 135L | 180L | 300L | x 2 180L |
| Element size | 2kW | 2kW | 2-3kW | 3kW | 2x 3kW |

**Note:**

Where the cupboard space prevents, a larger cylinder from being installed refer to Kāinga Ora for guidance.

Cylinders come in different dimensions which are captured in the Building Materials Procurement Schedule (M-217). External cylinders are also available, approval is required for external and ceiling installation.

Where a 300L cylinder is required there are two options – a 300L Optima Mains Pressure indoor/outdoor cylinder or a 250L and 90L can be installed where space does not permit a larger cylinder.

**References:**

Amenity Condition Manual (ACM-200) – 77.6 Electric water heater, 75.2 Wet-back, 71.3 Header tank

Maintenance and Programmed Work Specification (M-215) – 7120 Hot & cold water systems, 7151 Sanitary fixtures, tap-ware, and accessories

# Section 14: Fire services

The content below sets out the requirements for the fire services in all homes.

## 14.1 Smoke alarms

A. Ensure there are functional smoke alarms present in all rooms, excluding bathrooms/shower rooms, toilets, laundries, and kitchens.

   i. Garages only require an alarm if internally accessed.

B. Unless the alarm is a recently installed Fire Angel®, Quell®, or Kidde® smoke/fire alarm, remove any other non-procured alarm and replace it with a new Kāinga Ora procured. (Firehawk® or Arrowhead®) alarm.

C. Where practicable, ensure any new/replacement alarm type (battery-operated or interconnected) matches what was previously installed.

   i. Buildings with four or more units and a shared common entry and circulation space have additional legislative and regulatory requirements; in these instances, an inter-connected alarm system may be required.

   ii. If further support is required for interconnected alarms, or you are unsure whether it is incompatible with the dwelling type, contact your Kāinga Ora representative.

D. Clean and test all existing smoke alarms; ensure they are fully functional and free from damage.

   i. Where required – including where an alarm is missing from the required location – replace with a Kāinga Ora-procured smoke alarm.

**Note:**

Mechanically-operated fire protection systems are **not permitted**.

**References:**

Amenity Condition Manual (ACM-200) – 55.11 Smoke alarms, 77.12 Hard-wired smoke alarms

Maintenance and Programmed Work Specification (M-215) – 5521 Hardware

# Section 15: Project teams and lifecycles

## 15.1 Project teams

As noted earlier, successful delivery of a project under the Retrofit Programme requires effective collaboration between Project Team members.

### 15.1.1 Table 4: Key Tasks of Retrofit Programme Core Project Team Members

| Roles | Key Tasks |
|---|---|
| Kāinga Ora Programme Manager | Responsible for the overall delivery and scheduling of the programme. |
| Advisor: Customer Liaison | Responsible for consulting with and supporting the customer through the retrofit process. The ACL helps identify the address the customer will move to and arranges for the customer to move out of and, where applicable, back into the property. |
| Housing Support Manager | Responsible for the customer and the tenancy. The HSM helps assign the customer to temporary accommodation and continues to support them throughout the retrofit process. |
| Lead Designer/Architect | Responsible for investigating the building and providing designed responses to address building defects and upgrades as agreed with Kāinga Ora.<br>They produce all design documentation, liaise with territorial authorities, and provide contract observation services to ensure the design is built in accordance with the plans. |
| Quantity Surveyor | Tasked with undertaking financial analysis and providing advice to Kāinga Ora for all project costs as well as providing budgetary estimates of the design throughout the project lifecycle. |
| Structural Engineer | Responsible for the design, quality assurance, and all other elements of retrofit work related to structural components of the property. |
| Engineer's Rep/Project Manager | Acts as the 'Lead Management Consultant' responsible for managing, liaising with, and coordinating consultants and contractors and their associated activities. This role is accountable for project delivery to Kāinga Ora within the set timeframes.<br>The project manager will also coordinate manage the physical works contract, including completing contract administration activities, contract communications, project documentation etc. |
| Main Contractor | The contractor will be responsible for executing the physical works. |

## 15.2 Project lifecycle

Typically, a project within the Retrofit Programme is comprised of six main stages.

**Set-up and briefing**: A short initial briefing session, during which members of the Project Team are briefed on health and safety matters, and Kāinga Ora protocols and requirements.

**Structural assessment**: An information-gathering exercise used to identify whether there are

any structural issues with the building(s). This work culminates in a structural report for each property.

**Investigation and concept design**: This stage involves additional information-gathering, during which the scope of work is confirmed and validated, and any project risks are identified and, where possible, limited.

> At this point, the Project Team explores and develops strategic options in support of the process of selecting and endorsing the preferred option for the project. This work results in various assessment reports (including an Asbestos and Hazardous Materials Report) and concept design resources (that is, proposed plans and schedules).

**Drawings, Building Consent, and procurement**: Subsequent to approval from Kāinga Ora at the end of Stage 3, this stage involves documenting all design work into a full set of working drawing and documents that can be used to secure Building Consent and Contractors' pricing.

**Construction**: As its name suggests, the penultimate stage involves undertaking the physical work needed to renew the property.

**Post-contract**: Continuing from Stage 5, the Project Team undertakes construction monitoring activities to confirm construction work is completed in accordance with the approved design.

## Supporting information

The list below identifies key reference documents that should be read alongside this standard.

### Legislative resources

Building Act (2004).

Building Regulations (1992) [Schedule 1 – New Zealand Building Code].

Health and Safety at Work (Asbestos) Regulations (2016).

Residential Tenancies (Healthy Homes Standards) Regulations (2019).

### Internal Kāinga Ora resources

Accessibility Policy: 2019-2022 (2019).

ACM-200: Amenity Condition Manual (2021).

Asbestos Management and Control Policy (SS-POL-103) (2020).

M-215: Maintenance and Programmed Work Specification (2021).

M-215a: Standard Detail Drawings (2021).

M-217: Building Materials Procurement Schedule (2023).

M-248a Colour Charts - Interior

M-248b Colour Charts - Exterior

M-242 Insulation and energy scoping guide (2023)

M-253: Roof Repair and Replacement Scoping Guide (2021).

M-255: Housing Standard – Design (v5) (2021)

M-259: Gas Conversion Scoping Guide (2021).

Mould Policy (POL-372).

Nga Paerewa Hoahoa Whare Design Requirements (2023)

The Management of Trees and Vegetation Policy (POL-367).

Paint Containing Lead Management and Control (SS-POL-104)

### Externally produced resources

A Guide to Driveway Safety for Property Owners (2013); Housing New Zealand, Safekids Aotearoa, New Zealand Transport Agency, New Zealand Police, and Roadsafe Nelson Bays.

Code of Practice: Management and Removal of Asbestos (2016); WorkSafe New Zealand.

Good Practice Guideline: Conducting Asbestos Surveys (2016); WorkSafe New Zealand.

## Document control

**Version release**

Current and previous versions of this document are stored in our document management system and are managed by the Technical Writing team. For any queries contact busdoc@kaingaora.govt.nz.

**SME review**

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| **Business Owner** | | **Date** |
| Andrea Duncan | Manager - Quality Homes Advisory | 8 April 2024 |

## Keywords for Atamai

## Information architecture

QMS Documentation > CA – Core Assets – Develop property assets > Guidelines