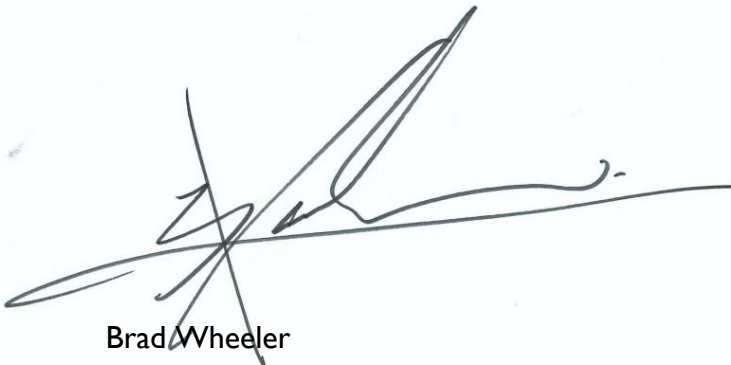


## Building Act 2016

### Director's Guidelines – Inspection of Plumbing Work

I, Brad Wheeler, in my capacity as Director of Building Control, and acting pursuant to section 19(1)(e) of the *Building Act 2016*, hereby make the following Guideline.

<b>Guideline title</b>	<b>Inspection of Plumbing work</b>
<b>Description</b>	This Guideline provides guidance to permit authorities on inspection of plumbing work.
<b>Version</b>	2.0
<b>Application</b>	For the purposes of 19(3) of the Act, this Guideline applies from 6 May 2024 until its revocation. Version 1.0 December 2016 ceases to have effect from the commencement date of this Guideline.
<b>Date of Director's approval</b>	6 May 2024



Brad Wheeler

**Director of Building Control**

Consumer, Building and Occupational Services  
Department of Justice

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## Definitions and abbreviations

Categories of plumbing work	The categories specified in the <a href="#">Director's Determination – Categories of Plumbing Work</a>
CLC	Certificate of Likely Compliance
EHO	Environmental Health Officer
NCC	National Construction Code
OWMS	On-site Wastewater Management Systems, including all treatment systems referenced in section 175(3) of the <i>Building Act 2016</i>
Plumbing Work	Has the same meaning as specified in the <i>Building Act 2016</i>
Responsible Person	Has the same meaning as specified in the <i>Building Act 2016</i>
The Act	<i>Building Act 2016</i>
Regulation/s	<i>Building Regulations 2016</i>

## Application

This *Director's Guideline – Inspection of Plumbing Work* assists readers with determining appropriate inspection methods for plumbing installations. Compliant plumbing systems are necessary for the health and safety of the Tasmanian community.

This guideline will assist councils and permit authorities in exercising their responsibilities under the *Building Act 2016* and the *Building Regulations 2016* regarding the inspection of plumbing work.

## Interpretation

The *Director's Determination – Categories of Plumbing Work*, published by the Director of Building Control, specifies the levels of regulatory controls that apply to work categorised as low risk, notifiable or high-risk plumbing work. In addition, the Determination details the pre and post notification requirement of the work applicable to each category.

Table 1 summarises the plumbing categories and related inspection requirements.

**Table I**

Category	Who can perform work	Inspection Requirements
Category 1 – Low Risk Plumbing Work	<ul style="list-style-type: none"> <li>Owner</li> <li>Competent person or</li> <li>Licensed Plumber</li> </ul>	<ul style="list-style-type: none"> <li>These works are not recognised as prescribed works, and do not require any inspection</li> </ul>
Category 2 – Low Risk Plumbing Work	<ul style="list-style-type: none"> <li>Licensed Plumber</li> </ul> (Some work requires post-notification and 'As-Constructed' plans submitted to the permit authority)	<ul style="list-style-type: none"> <li>No inspection necessary</li> </ul>
Category 3 – Notifiable Plumbing Work	<ul style="list-style-type: none"> <li>Licensed Plumber</li> </ul> The permit authority must conduct an assessment and issue a Certificate of Likely Compliance before the commencement of work.	<ul style="list-style-type: none"> <li>Mandatory notification stages and authorisation to proceed apply</li> </ul>
Category 4 – Permit Plumbing Work	<ul style="list-style-type: none"> <li>Licensed Plumber</li> </ul> This work requires a Plumbing Permit issued by the permit authority, prior to the commencement of work.	<ul style="list-style-type: none"> <li>Mandatory notification stages and authorisation to proceed apply</li> <li>Mandatory inspections apply for OWMS</li> </ul>

The required inspection stages for each level are detailed further below.

Statutory timeframes referred to in this document specific to the notification, conduct, and completion of plumbing inspections, are detailed within the [Director's Determination – Director's Specified List](#).

## Compliance with endorsed documents

All prescribed plumbing work must comply with the NCC.

In addition, plumbing installations must be completed in accordance with the issued Certificate of Likely Compliance (CLC) for notifiable work and the issued permit for permit work.

Regulation 22 (permit work) and Regulation 23 (notifiable work) require a full set of approved documents to accompany the relevant CLC and remain on-site at all times.

Section 110(2) of the Act requires notifiable plumbing work to be performed in accordance with the most recent notice of work and CLC.

Changes from the approved documents must be approved in writing by the permit authority in accordance with Regulation 17 prior to the work being performed.

Section 174(1) of the Act requires permit plumbing work be performed in accordance with the approved plumbing permit, any variations to the approved documents must be approved in writing by the permit authority in accordance with section 174(2) & (3) prior to the work being performed.

Where conflict exists between endorsed documents and the NCC, between endorsed documents and site constraints, or a change of the design such as adding/removing fixtures, the responsible designer should be contacted to provide comment and if necessary, an amended design.

Works are not to proceed in contradiction with the endorsed plans unless approved by the permit authority as detailed above.

Where plumbing work has not been installed in accordance with the CLC, the works will be deemed as illegal, and a notice must be issued to require compliance. Alternatively, and subject to the approval of the permit authority, an application must be made for an amendment to CLC.

The decision to amend design documents retrospectively, is made at the discretion of the designer responsible for the work.

Where a designer does not support changes made onsite, the installer may need to rectify. Mediation between the stakeholders is recommended to ensure a suitable outcome that is compliant with the NCC.

## Types of plumbing work

All relevant categories of prescribed plumbing work are potentially subject to inspection based on its approval type and requirements by the relevant permit authority.

Types of plumbing work include:

- Cold and heated water systems
- On-site Wastewater Management Systems
- Sanitary drainage systems
- Stormwater drainage systems
- Sanitary plumbing systems
- Roof (Stormwater) drainage systems
- Mechanical services systems
- Wet Fire protection services

Permit authorities should ensure that plumbing work is inspected across a range of building classes in each of the relevant categories of work as described in Table 1. It is not appropriate to limit physical inspections to certain building classes or specific types of plumbing work.

## Regulatory obligations and powers

Section 25 of the Act details specific statutory functions upon the permit authority. These include but are not limited to;

- Ensuring persons undertaking the work are appropriately qualified relevant to the type of work being performed.

For the avoidance of doubt, roof (Stormwater) drainage is prescribed plumbing work and any person physically undertaking roof drainage work must be appropriately licensed. This includes the installation of roof penetrations.

### ***Details of unlicensed prescribed plumbing work should be reported to CBOS.***

- Ensuring that applications received, permits issued or refused and certificates granted are all in compliance with the Act.
- Maintaining any registers where required to do so under the Act.

Section 26 of the Act, provides the permit authority with powers to enter a property to inspect works, scrutinise, or photograph installations, and to request any information or documentation to verify the plumbing works are designed and installed in accordance with the Act and the NCC.

Regardless of the power to enter a property, entry to property should always be with the consent of the property owner.

## Mandatory notification stages

The Regulations outline the various stages where the permit authority must be notified during the performance of plumbing works. Plumbing work progressed beyond these stages may result in the permit authority requiring invasive work that is necessary to perform the inspection.

Regulation 18(2) provides the list of mandatory stages where a plumber must not continue work without the consent of the permit authority. These are:

- (a) Installation of plumbing work that is to be covered.
- (b) Commissioning plumbing work that has been performed under the authority of a plumbing permit.
- (c) Completion of the plumbing work.
- (d) Any other stage of work listed as a notification stage in a condition on the certificate of likely compliance, or plumbing permit, for the work.

Once a mandatory stage is reached, no further work is to take place that would obstruct or make the inspection of those works more difficult, including backfilling of trenches and allowing the installation of wall linings.

A plumber must notify the permit authority not less than two business days prior to the completion of a mandatory notification stage of work.

This allows the permit authority time to decide whether to undertake an inspection, or issue approval to proceed without inspection in accordance with Regulation 18.

Where an inspection is required, it must then be carried out within one working day after the completion of the stage of work.

## **Determining the frequency of inspections for general plumbing work**

Except for work on, or associated with OWMS, a risk management approach may be applied where it is impractical to conduct inspections.

The risk management approach must ensure an appropriate level of scrutiny is applied to projects that carry the highest risk to public health, the environment, or public safety in general. The Director's Determination – Categories of Plumbing Work can be utilised to prioritise inspections based on the relevant risk category.

The evaluation of risks associated with plumbing work should encompass:

- the type and complexity of work
- accessibility for future inspection
- consequences arising from failure including:
  - threat to public health and safety
  - consequential damage to other buildings
  - potential to cause environmental harm
  - cost of remedial works
  - accessibility for remediation or maintenance

In addition, it is reasonable to consider the compliance history of the person responsible for performing the plumbing work. Permit authorities are encouraged to maintain records detailing previous known compliance issues and the person responsible.

Despite the opportunity for discretion, it is important to inspect a broad range of plumbing work undertaken to ensure an accurate representation of work within a jurisdiction, while at the same time demonstrating fairness and transparency.

## Approval to proceed without inspection

If a permit authority decides not to undertake an inspection at a mandatory notification stage, Regulation 18(4) states the permit authority;

- (a) is to notify the responsible person for the work that he or she does not intend to inspect the work; and
- (b) must make a record of –
  - (i) the reason why the inspection was not conducted; and
  - (ii) the details of any alternative inspection, or certification, of the work that was relied on in place of the inspection.

A 100% inspection rate of all Category 4 - High Risk work is **strongly recommended**.

## Mandatory inspections

OWMS are deemed a 'high risk' Category 4 installation due to their potentially significant impact on public health and the environment if a failure occurs. Therefore, the inspection of these systems at the installation and commissioning/completion stage is a **mandatory requirement** under section 175(3) of the Act.

Where a notification is provided at the mandatory inspection stage that involves the installation of an OWMS, the permit authority **must** inspect or cause the plumbing work to be inspected.

It is common practice for a council to include three (3) inspections as part of an OWMS installation. This includes:

RECOMMENDED: an initial site visit by an EHO to confirm suitability at the planning/development application stage including the verification that the planning report/proposed design, accurately reflects site conditions

MANDATORY: plumbing inspection during installation – Regulation 18(2)(a)

MANDATORY: plumbing inspection of the completed install and/or commissioning - Regulation 18(2)(b)

## Who should conduct a plumbing inspection?

Plumbing inspections require a person with a high level of technical experience and understanding of plumbing systems and their related regulatory requirements.

It is strongly recommended that the two mandatory OWMS inspections are conducted by a person with a strong technical understanding of OWMS design and installation requirements. These may include EHOs or suitably experienced permit authorities.

A permit authority may engage an appropriate person to conduct inspections on their behalf. These persons should be suitably qualified and experienced with specific educational qualifications in Hydraulic Services Design.

It is recommended that where complex or specialised projects are outside the level of competence of the inspector, independent verification is sought to provide confirmation that works are in accordance with the NCC and approved plans. This verification could be certified through provision of a Certificate of Qualified Person - Assessable Item - Form 55.

Appropriate persons conducting plumbing inspections may include licensed practitioners such as:

- Plumber Certifier
- Engineer (Civil)
- Engineer Building Services (Hydraulic Building Services)
- Building Services Designer (Hydraulic).

Persons conducting the inspection may hold the following units of competency:

#### **Certificate IV in Plumbing and Services:**

CPCPCM4015	Access and interpret regulatory requirements for the plumbing and services industry
CPCPDR4011	Design and size sanitary drainage systems
CPCPDR4012	Design and size stormwater drainage systems
CPCPDR4013	Design and size domestic treatment plant disposal systems
CPCPSN4011	Design and size sanitary plumbing systems
CPCPWT4011	Design and size heated and cold-water services and systems
CPCPRF4011	Design and size roof drainage systems
CPCPWT4022	Commission and maintain backflow prevention devices
CPCPWT4023	Commission and maintain hot and heated water temperature control devices; and

#### **Diploma of Hydraulic Services Design**

CPCPPS5015	Inspect plumbing and drainage systems
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**All inspectors must act within their area of competency, specific to the plumbing work being inspected.**

## Resourcing

Councils may from time-to-time experience difficulties in sourcing suitably qualified persons to perform the inspections required under the Act.

**These circumstances do not negate the council's obligations under the Act.**

Alternative arrangements include:

## Resource sharing

Councils may enter into resource sharing agreements with other councils, which when well organised and appropriately managed, could be beneficial to both councils.

Resource sharing might be provision of a complete service, or restricted to specific duties including but not limited to:

- Desktop assessment of applications
- Inspections
- The management and verification of remote live video inspections
- Specialist focus on OWMS inspection, or areas outside of local experience

When implemented within a clear framework, resource sharing can also assist in professional development and succession planning. It potentially promotes greater consistency and affords permit authorities and inspectors of plumbing work the opportunity to work across various municipalities each with their own unique challenges or varied types of work (e.g. commercial work).

Section 24(2) of the Act requires permit authorities to be appointed by the relevant General Manager of each council in which they operate.

## External assistance

Councils may engage suitably competent persons on a short term or part time arrangement. This is particularly useful to cover temporary resourcing shortfalls.

The persons mentioned in the section 'Who should conduct a plumbing inspection' could be suitable.

Councils must always take suitable precautions to avoid potential or perceived conflicts of interest. These are particularly relevant to persons who could be inspecting their own work, or the work of a local competitor.

## Plumbing inspections

Permit authorities may inspect any plumbing works, from any category, at any phase of the work provided it is at a reasonable time of day.

To facilitate an inspection, a permit authority may cause the work to be demolished, opened, cut into, or tested.

The right to inspect work remains the council's prerogative despite approval being provided to proceed past a mandatory stage and notwithstanding statutory timeframes detailed with the *Director's Specified List*.

Permit authorities may issue a direction to the person responsible for non-compliant work requiring them to rectify the work to the requirements of the CLC or the plumbing permit.

Work that has been identified as compliant will receive approval to progress to the next stage.

## **Assistance for inspections**

Section 113 of the Act requires the person responsible for the work (plumber certifier), or in accordance with section 113(4), a suitably licensed representative (plumbing practitioner), to be present at the time of inspection.

Regulation 84 requires the person responsible for the work to assist the person conducting the inspection with the provision of the relevant equipment, materials and labour which is reasonably required to conduct the inspection. Equipment must be in good and safe working order.

This equipment may include:

- test bucket for pressure testing of water service pipework
- spirit level
- measuring tape
- thermometer
- adequate lighting
- roof/heights access
- copy of all endorsed documents

## **Checklists**

Checklists are a useful instrument to assist inspectors with the process of an inspection as they serve as a reminder on the process and different facets of the plumbing system that is to be inspected. If correctly drafted and completed, they are a good record to retain, should the inspection be subject to a review in the future.

Checklists should be carefully drafted to include the different aspects of the installation. They should be flexible enough to accommodate different scenarios and individual council needs.

An example of an inspection checklist has been provided in [Appendix I](#) of this document. This example is not an “approved form” and can therefore be amended to suit individual needs.

## **Alternative inspection methods**

Certain types of plumbing systems, or stages of work could be verified by methods other than physical site inspections. These could include the use of video or photographic evidence taken by an independent party to the works.

Photographic evidence must be site and date verifiable. Images related to prescribed dimensions should be photographed perpendicular to a measuring device, or reference point, to ensure accuracy of evidence.

Councils that accept photographic evidence of compliance should draft a set of requirements that provides direction to the person collecting the evidence on what information is required and the level of detail that must be captured by any photos or video.

There is also potential that a livestream video walkthrough be conducted by a representative while it is monitored and assessed remotely by a suitably qualified person.

The use of an unmanned aerial vehicle (UAV) commonly known as a drone, could be utilised by inspectors to inspect roof installations rather than gaining access to the roof themselves. Councils are advised to familiarise themselves with the local requirements for the use of these drones prior to their use. Local requirements may include licensing and restrictions related to privacy concerns of adjoining properties.

Desktop review, or reliance only on photographic evidence of compliance are not acceptable as a substitute for physical inspections of OWMS.

## **Inspection of roof (stormwater drainage) installations**

The inspection of roof drainage work must occur at the completion stage.

Where direct physical inspection from the roof is not possible due to safety concerns, the installer should be met on site and the following options be considered as a minimum alternative:

- Determine what can be visually inspected from ground level and where necessary; require the installer to provide verifiable evidence from the roof:
  - through review of the approved plans and confirmation with the installer, verify that each downpipe catchment incorporates a calculated (L/s) overflow solution
  - require verifiable images of each box gutter sump and rain head
  - require verifiable images of each penetration, any specified flashing, sheet turn-down etc
  - visually check valley gutter minimum discharge width
  - visually check screw pattern, spacing and correct installation

## **Rectification of non-compliant or defective work**

Section 207 of the Act defines defective work as building work, plumbing work or demolition work that:

- (a) does not comply with this Act, or the National Construction Code, as in force at the time the work was performed; and
- (b) is discovered during an inspection of the work under this Act, or at any point after the completion of the work.

Where non-compliant work or defects are identified during an inspection, the inspector may in the first instance, issue a verbal instruction to the person responsible for the work requiring them to rectify the identified issues. Verbal instruction must be followed by a written direction from the permit authority to the responsible person within the prescribed period of two business days. Any direction should be issued using the approved form, Plumbing Inspection Direction - Form 64.

If a person fails to comply with the direction, the permit authority may issue a notice to comply under section 238 of the Act and where required, take any follow-up action under the Act as appropriate.

It may be considered necessary to notify the owner that rectification is required at their property. In particular, the owner should be informed that the rectification should be at no further cost to them where the works are defective due to omission, faulty workmanship, or the use of defective or unauthorised plumbing materials and/or fittings.

## **Record of inspections**

In accordance with section 27 of the Act, the permit authority is obliged to retain a range of documents related to the assessment, inspection, and certification of plumbing work.

## APPENDIX I: example drainage inspection checklist

<b>Plumbing Inspection Checklist</b>		Date of Inspection:
Plumbing Company:	Permit/CLC No.	
Certifier:	License No:	
Tradesperson(s) onsite:		
	Comments:	
Inspection Type: Sanitary Drainage		
Installed as per CLC		
Bedding material		
Depth of cover		
Separation distances from other services		
Correct pipe diameters		
Compliant minimum grades		
Primer / solvent cement		
Angle of junctions		
Venting		
Inspection openings/shafts		
Overflow relief gully compliance		
Appropriate lagging		
Ground movement mitigation		
Drains water/air tested and verified		
Inspection Type: Stormwater Drainage		Comments:
Installed as per CLC		
Bedding material		
Depth of cover		
Separation distances from other services		
Correct pipe diameters		
Compliant minimum grades		
Inspection openings/shafts		
Primer / solvent cement		
Pits / grates sealed		
Surcharge point provided		
Drains water/air tested and verified		