

NZTA Z01-E: 2025

Construction Contract Quality Management Specification

June 2025

1. Scope

- a. This Specification sets out the requirements for quality management for construction contracts.
- b. Section 6 of this Specification applies to quality planning and management of separable work packages within the project as per work breakdown structure.

2. Referenced Documents

The following documents are referenced in this Specification:

Reference	Title
AS/NZS ISO 9001	Quality Management Systems – Requirements
NZTA Z08	Standard for Inspection, Sampling and Testing

3. Definitions

In addition to the definitions set out in the head contract and AS/NZS ISO 9001 (unless amended by this Specification), the definitions listed below apply to this Specification:

Term	Definition
Certification	Certification is the formal confirmation that certain characteristics of materials, mix designs, supplies incorporated in the construction work conforms with the approved plans, designs and specifications, and exceptions or departures. This confirmation is often, but not always, provided by an external / independent review, inspection, assessment, or audit by a person qualified, designated or delegated to certify.
Compliance	The action of doing what is necessary to meet a specified (typically regulatory) requirement, obligation, or policy.
Conformance	Fulfilment of requirement (typically related to a management plan, process, or specification).
Contractor's Quality Manager	A Quality Manager appointed to act independently of day-to-day delivery activities and to ensure that the requirements of the QMP are implemented and maintained.
Quality Advisor	<p>The Quality Advisor that is appointed and approved by the Principal to assist the Contract Administrator. The Quality Advisor is dedicated to construction monitoring and quality assurance so as to ensure conformance to Standards and Specifications.</p> <p><i>Note: This person does not replace the Contractor's Quality Manager, Project Engineer or team and therefore does not relieve the Contractor from their accountability towards quality management, assurance and control of the works it has been contracted to carry out.</i></p>
Hold Point	A checkpoint in the construction process beyond which work cannot proceed until conforming with specified requirements has been verified and the hold point has been released by a person with the necessary authority. Usually applies to verification of critical aspects that cannot be inspected or easily corrected at a later stage in the process (e.g. because they will no longer be accessible).

Inspection and Test Plan(s) (ITP)	The Contractor's detailed plans for inspection and testing of the Physical Contract Works aimed at verifying and confirming with evidence to the Principal that the Contract has been delivered and are compliant with the contractually specified requirements.
Non-compliance	Deviating from doing what is necessary to meet a specified (typically regulatory) requirement, obligation, or policy.
Non-conformance	Non-fulfilment of requirement (typically related to a management plan, process, or specification).
Non-conformance reports (NCR)	A document (report) that identify and record discrepancies between the actual condition of a product or service and specified requirements, or the deviation from a process or procedure. NCR's include the cause, impact and agreed remedial action. NCR's are raised not only when specified requirements were not met for completed works, but also during construction where a process failed to achieve the specified outcome.
Quality File	A repository of indexed quality records in a format that allows access to interested parties and retained after project completion for a defined period.
Random verification testing (RVT)	Random verification tests are carried out by an independent party in addition to what is required by the ITP. RVT is risk-based and carried out to confirm inspection and test results or where areas of concern are identified.
Requests for Information (RFI)	Formal requests for specific information made by any party to the Contract to any other party to the Contract.

4. General

- The Contractor is accountable for meeting the quality of work and activities delivered as defined in the Contract.
- The Contractor must establish, implement and maintain a Quality Management System in accordance with the requirements of AS/NZS ISO 9001 and this Specification.
- The Contractor shall work collaboratively with the Principal to deliver the required quality.

5. Construction Quality Management Plan

5.1 General

The Contractor shall prepare and implement a quality management plan (QMP).

The Contractor's QMP shall as a minimum address Quality Management activities and requirements as summarised below and detailed in this specification:

- Lead and Direct Quality
- Enable the Delivery of Quality
- Quality Delivery
- Measure, Analyse and Improve Quality

The Contractor shall submit the QMP to the Principal for approval prior to any physical works starting.

5.2 Lead and Direct Quality

- a. Define overarching quality policy and specific quality objectives for the Contract, and how these will be delivered to achieve Contract outcomes.
- b. Set-out the approach and framework for measuring and reporting on performance and compliance to specification requirements.
- c. Identify uncertainty in achieving specified requirement for the works, where the scope of works are the products and services associated with the Contract.
- d. Conduct Quality Management Reviews at least annually on results from quality assurance and control activities, including internal reviews, contract reviews, management system audits, and performance against Quality objectives.
- e. Specify requirements for a systematic and measurable process of independent monitoring and reporting of their quality assurance systems and performance.

5.3 Enable the Delivery of Quality

5.2.1 Quality Management Systems

- a. Address risks to achieving specified outcomes when detailing the systems, procedures, plans, methods and equipment to be used by the Contractor, their sub-contractors, designers (as appropriate), and suppliers to deliver the Contract Works (or parts there-of).
- b. Develop and implement a QMP in context and specific to the project or contracted works.
- c. Control project specific documented information.
- d. Engage and include sub-contractors, designers where applicable and Consultants in the QMP;
- e. Providing procedures describing best design and construction practices.
- f. Provide a system for assuring quality data is collected and maintained for use of effective and efficient asset management decision making.
- g. Providing a procedure for the progressive closeout and handover of the project or portions thereof.

5.2.2 People

- a. The Contractor shall appoint a Quality Manager, and where required support staff, that will act independently of day-to-day construction activities to ensure that the requirements of the quality plan are implemented and maintained.
- b. Clearly define roles, responsibilities and authorities for staff and external suppliers involved in specific quality management activities or whose roles have a direct impact on the quality of delivery.
- c. Determine the skills, training, experience and competency required for each role, and resource and appropriately equip the project accordingly to achieve planned quality outcomes.
- d. Implement and manage ongoing staff training in systems, procedures, plans, methods, standards, guidelines and equipment applicable to the delivery of the Contract Works.

5.2.3 Meet and Collaborate

- a. Meet and collaborate regularly on quality matters. The agenda and schedule shall be agreed with the Principal, as well as reporting requirements for the parties involved to serve as input into these meetings. Quality meetings are to be held regularly and minutes to be kept.
- b. Involve representative personnel in meetings to promote better collaboration between all involved parties.

- c. Discuss current contract performance with regards to quality objectives.
- d. Identify risks to achieving quality outcomes and measures implemented or needed to control these risks.
- e. Focussed meetings are to be held to discuss significant quality incidents.
- f. Include quality topics during daily prestart meetings.

5.4 Quality Delivery

5.3.1 Quality Planning and Delivery

- a. Plan and deliver the Contract Works in accordance with the specified requirements.
- b. Create a work breakdown structure (WBS) that facilitates management of the physical work packages and associated QA process, and delivers transparent, progressive verification and completion of the works.
- c. Establish a process for the compilation, review and approval of construction lot packages as per WBS (See Section 6 of this Specification).
- d. Plan and qualify the key on-site construction processes, including methodology, material, plant and operators, e.g.:
 - layer compaction – plateau tests.
 - chip seal – spray and chip schedule, etc.
- e. Plan and review contract specific hold and witness points in conjunction with the Principal and Contract Administrator (CA) and obtaining all necessary approvals to proceed.
- f. Plan the close-out of discrete work packages in collaboration with the CA to ensure timely sign-off of complete and compliant works.

5.3.2 Inspection and Testing

- a. Inspection and testing shall be carried out as per Standard Z08: *Inspection, sampling and testing*, lot element Technical Specifications, and ITP for that lot;
- b. Inspection and testing shall be in accordance with a clear and concise list of referenced regional, national or international standards, completed by suitably skilled and experienced personnel, and include as appropriate IANZ Accredited test results.
- c. Undertake and report on the outcomes of the Inspection and Testing as per approved ITP in order to provide explicit, unambiguous evidence to demonstrate to the Principal and Construction Quality Advisor that the contract deliverables are being delivered in accordance with specification and designer's intent.
- d. Undertake and achieve sign-off for contract specific Hold Points including consideration of feedback from random verification tests (RVT), and thereby confirming approval to proceed.
- e. Respond to feedback from the CA led RVT to reaffirm that the Contract Works are being delivered in accordance with the specification and the design intent.
- f. All contracts with IANZ accredited laboratories shall be in favour of the Principal, where and when applicable. In other words, where the Contractor enters into an agreement with the IANZ accredited laboratory, the Principal shall be deemed the 'customer' in terms of ISO/IEC 17025.
- g. All test records, including test reports from IANZ accredited testing laboratories, pass or fail, shall be available to the Principal, Contractor and CA by the laboratory/testing agency simultaneously.

5.3.3 Material Traceability and Preservation

- a. Provide procedures and methods, for supply, handling, transport, storage and use of materials needed to demonstrate conformance with specifications, standards and guidelines.
- b. Provide consent approvals and records for both sourcing and disposal of material, where appropriate.
- c. All material used during construction shall be traceable to evidence of conformance held on the Quality File.

5.3.4 Reporting

- a. Quality reporting shall be included into monthly project management and board reports and should as a minimum cover:
 - A summary of inspection and test results for the reporting period, and should include both pass and fail test results.
 - Results from RVT obtained from the Contract Administrator.
 - A summary of the cause and impact of NCR's raised during the reporting period, as well as a status report on the NCR register in terms of open, outstanding and closed reports (time to close-out NCR's).
 - A summary of the reason and impact of RFI's raised during the reporting period, as well as a status report on the RFI register in terms of open, outstanding and closed reports.
 - A summary of Notices to Contractor / Contract Administrator raised during the reporting period.
 - Report on improvement initiatives.
 - Report on ongoing performance against contractual requirements to the Construction Quality Advisor.
 - Report on the status of quality risks.
 - General condition of work sites.
- b. Verification of design and construction assumptions, calculations, estimates, drawings, reports and as-built documentation, including relevant asset data.
- c. Report on external audit results.
- d. Conduct and report on internal audits with the purpose of confirming adequacy of the quality management system and processes, with specific focus on:
 - Construction work component planning
 - Inspection and testing
 - Material conformance
 - The completeness of quality records and verification of conformance
 - Adherence to the quality system and construction processes.
 - Document control
 - Change management

5.5 Measure, Analyse and Improve Quality

- a. The Contractor shall collect, analyse and review quality data generated during construction and construction monitoring processes, and report on these for discussion at Quality meetings.

- b. Conduct and report on internal and external audits with the purpose of confirming conformance with specifications and other requirements.
- c. Quality information shall be used as input to regular reviews by project management as described in Paragraph 5.1.c. to improve the quality management system, products, and services.
- d. Report on ongoing contract performance against the specified contract deliverables, milestones and Hold Points to the Principal.

5.6 Managing Non-Conformances

- a. The QMP shall describe procedures for discovery and control of any work that is not conforming to specified requirements or designs.
- b. All non-conformances shall be recorded, investigated, remedial action agreed and implemented. Acceptance of remedial work shall be a Hold Point to be released by the Principal;
- c. Manage and implement corrective and preventive action, continuous improvement and lessons learnt migration in response to non-conformance when and wherever this occurs.
- d. Remedial action is witnessed and/or confirmed by the CA.

See NZTA Z08 – Standard for inspection, sampling and testing, for more detail on requirements to non-conformance to a specification or other compliance requirements.

5.7 Quality Records

- a. Keep digital records from all Contract specific quality assurance and control activities in a Quality File, to thereby provide explicit, unambiguous evidence to demonstrate to the Principal and CA compliance to their approved QMP and that the quality objectives for the Contract are being met.
- b. Quality records shall be traceable to material and products used during construction and linked to relevant ITP.
- c. Ensure that quality records are accessible to the Principal and Construction Quality Advisor on a real time basis by way of agreed "Cloud" or "Intranet" based recording system and distribution.
- d. At the end of the Contract, the complete Quality File remains with the Principal.

5.8 Progressive Close-Out and Completion

- a. Prepare and deliver Construction Certificates and/or Producer Statements as applicable for specified Contract deliverables.
- b. Construction records shall be certified by the Contractor as complete and compliant for each section of work being completed as part of the Project's progressive closeout procedure.
- c. At the end of the Contract, before Practical Completion is agreed, supply all quality information and records as specified in the Contract in acceptable digital format to the Principal, as the completed Quality File.

6. Quality Plans for Separable Work Packages

6.1 General

The Contractor shall prepare and implement quality plans for separable work packages as per work breakdown structure. Work Package Plans (WPP) shall as a minimum address the following activities and requirements:

6.2 Review and Approval

- a. The Contractor's Quality Manager or Construction Lead responsible for the Contract Works shall

develop the WPP.

- b. The WPP shall be reviewed and endorsed by the discipline leads involved in the specific scope of works, as well as the Contract Administrator or their Advisor to ensure proper planning of all project aspects.
- c. The WPP shall be approved by the person authorised by the Principal prior to works commencement, and available at the place of work to those involved in the works.
- d. Updates to the WPP shall be reviewed and approved by the same parties who did the initial review and approval.

6.3 Project Scope and Overview

The scope of the works covered by the WPP shall clearly define the boundaries of the works, magnitude, construction components or elements, as well as what is out of scope where applicable.

The WPP shall include an overview of the project to provide context of what the works entail. This can include:

- a. Nature, location and terrain situation
- b. Project start and end date
- c. Critical dates, e.g. long lead items
- d. Design outcomes sought:
 - The design report and drawings
 - Design assumptions
 - Material parameters/specifications
 - Construction methodology considerations
- e. Construction components
- f. Other works in the project vicinity to be considered.

6.4 Project Risk Assessment

The Contractor shall conduct a risk assessment applicable to the specific works as input to works planning. The following risk groups are considered:

- a. Design risk
- b. Management risk
- c. Construction risk
- d. Quality and other compliance risk
- e. Health, safety and environmental risk
- f. Stakeholder risk

6.5 Methodology statement

The methodology statement shall be clear on:

- a. Site pre-construction conformance requirements such as stakeholder communication, site set up, mark-outs, traffic management, and environmental controls.
- b. Any processes required to be qualified pre-construction, such as:
 - layer construction (i.e. plateau tests)

- stabilisation
 - sealing – spray and chip
- c. The steps in sequence to be followed for executing the works within scope.
- d. Task descriptions to allow the person or crew responsible to accurately carry out the works as planned. Use sketches or diagrams to explain the works where necessary.
- e. Responsibilities for each step or task.
- f. Referring to the design specifications and documentation.
- g. Actions following completion of the works, e.g., site decommissioning, tidying up and records management.

6.6 Resource requirements

The WPP shall outline the resources required to carry out the works, including:

- a. work crew members with the required competency and experience,
- b. subcontractors and material suppliers,
- c. Quality Manager or Engineer independent of day-to-day construction activity,
- d. Competent site supervision,
- e. plant and machinery and the maintenance thereof,
- f. construction material and its delivery to site, including storage and preservation requirements.

Note: Resource allocation shall align with those determined during process qualifications.

6.7 Team briefing

- a. The WPP shall state the format, timing and frequency of team briefings to ensure that those involved in carrying out the works are clear on their roles and responsibilities and objectives to be achieved.
- b. What resources are allocated to the works.
- c. Briefings shall highlight task relevant hazards and risks.
- d. Records of team briefings shall be kept, including names of the attendees.

6.8 Construction review

- a. The WPP shall define construction reviews and refer to all inspection, sampling and testing as defined within the Inspection and Test Plan (ITP), approved for the project works. The ITP's shall meet the requirements of NZTA Z08: *Standard for Inspection, Sampling and Testing*.
- b. The ITP's shall cover all the works described in the project scope of works and methodology statement.
- c. The Contractor shall have a plan to review conformance to the QMP, WPP and quality systems. This plan shall include all subcontracted works.
- d. The Contractor shall collect, analyse and review quality information generated during the project to ensure conformance and for improvement opportunities.
- e. The Contractor shall develop and implement a system to manage non-conformance to project specifications. This should include both corrective and preventive actions to avoid repeated defective work and agree remediation of defective works.

6.9 Works Close-out and Handover

The WPP shall define the following:

- a. completion requirements to be met before closing-out the project works,
- b. process to be followed to handover completed project works, including check lists,
- c. reports, records and certificates to be handed over to the Principal. The format of these must be agreed with the Principal at the start of the project.
- d. the recipient of the completed project works. Take note that there might be additional works required before being handed over to the Principal or end user.

6.10 Support Documents

Documents needed for executing the project works in support of the WPP shall be available, and controlled to ensure project works are carried out to the relevant versions of these documents. These typically include:

- a. Resource consents
- b. Programme
- c. Resources plan
- d. Inspection and Test Plan (See Z08 – *Standard for inspection, sampling and testing*)
- e. Communication Plan / Works Start Notice
- f. Traffic Management Plan
- g. Safety and Environmental Management Plans
- h. Temporary Works
- i. Permits
- j. Construction Drawings
- k. Crew briefing plans