



Contract Specifications General Clauses NZS3910:2013

Palmerston Island Cyclone Shelter

Contract No. CK171823

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1 Preliminary & General

1.1 Scope of Works

The scope of Works of this Contract is set out in the RFT and supporting documents. Unless otherwise specified The Contractor shall be responsible for the construction, completion and correction of defects of the Contract Works in line with, and so as to meet all requirements and provisions of the contract and Project Specifications. This shall include the supply of all labour, plant and materials and the like required for the construction of the whole of the Contract Works.

The Contract Works shall comprise the works described within the various Contract Documents.

The provided scope summarises work that is included in the contract. It is provided for general information only, and is not necessarily a complete list of all the requirements.

The Contractor should note that the RFT and Contract Documents as a whole describe the scope of works.

1.1.1 Background Information

The Infrastructure Cook Islands (ICI) acting for the Cook Islands Government (CIG), is inviting tenders from Contractors for the construction of the Palmerston Island Cyclone Shelter project.

Palmerston Island is at high risk from cyclones and storm surges due to its isolated location and low lying island. A cyclone shelter is required to house up to 80 residents during a cyclone event. During other times the facility will be used by the Island Council, as a medical clinic and for other general purposes.

The outcomes to be achieved by the Project are:

- The completion of a Cyclone Shelter;
- Installation of water storage tanks;
- Upgrade of the existing septic tank system;
- Completion of construction within 6 months.

ICI has completed the detailed design for the Palmerston Island Cyclone Shelter and has applied for building consent through the building regulator. Consents will be issued prior to works commencing.

ICI wishes to proceed with the tendering phase of the Project, with construction planned to start in mid 2018.

1.1.2 General

The works for the Cyclone Shelter is for the complete buildings, services, furnishing and commissioning of the works within the designated works area.

1.1.3 Cyclone Shelter

The cyclone shelter is an approximately 160m² two-story masonry building. The building will house up to 80 people in a cyclone and typically 5 people during other times.

The building typically has the following construction type:

- Concrete slab on grade raised 800mm above existing ground level with masonry footings extending 700mm below ground level for scour protection.
- Masonry columns supporting the first floor beams. The first floor will be a 'rib and timber' concrete floor.
- The ground floor will have an ablutions block and clinic room, with masonry cladding. Ramps and stairs will be provided to the ground floors. The rest of the ground floor area can be used for functions and other activities.



- The first floor external cladding will be masonry walls and columns (pilasters). Large cyclone rated aluminium louvres will be installed throughout.
- The first floor will have a large open area for sleeping during a cyclone. A kitchen, and toilet areas. Two offices will also be provided for day to day operations, which will be converted to emergency operations during a cyclone event. These rooms will be constructed with timber partitions clad in plywood.
- The roof will be large scale timber trusses installed on the masonry columns, with timber purlins.
- High quality roofing materials, building paper, insulation and support netting will need to be installed.
- A storage area will be installed in the ceiling for storage of bedding and other emergency supplies.

1.1.4 Rain Water Tanks

Four 5000 litre tanks are to be installed alongside the building. Two on a suspended stand and two at ground level. The tanks will be connected to the downpipes around the building.

The four external tanks are to each have two stainless steel ropes connecting them to their concrete support slabs.

A pump will be installed in the building roof space to pump water from the tanks to a 450 litre tank in the roof space.

The header tank will supply water to the building via gravity. A filtration system will be installed in the building to the kitchen area, located under the sink.

1.1.5 Septic Tank Systems

The existing septic tank for the clinic is to be extended with an additional tank installed on the end of the existing tank to act as an extension to the first chamber.

An overflow is also to be installed at the end of the discharge trench and taken to the nearest low-lying ground.

1.1.6 Petrol Generator

A petrol generator is to be supplied as part of the building furnishings. The Contactor may use the generator for the works as required to ensure constant supply of power to the site. The generator is to be a well-known brand and have the following size:

Generator: A 5-7 kVA generator, petrol.

The generator must be capable of connection to the mains power board.

1.1.7 Additional Scope Items

Subject to the prices compared to the project budget, additional items will be added to the project. These items will be priced by the contactor as provisional items, which will be approved by the Engineer on award of the project.

The additional items are as follows:

- Tiling: Tiling for 180m² area of the floors is to be costed, inclusive of any extension of time, margin and overheads. Refer to schedules for details.
- Tank & Filter: Additional 5000 litre tank and foundation, tapped into the rainwater tanks with control valves between tanks. The outlet of this tank is to have a connected package filtration system such as the FASTFLOW Pump Systems, Booster/UV Filtration Packaged Pump Stations, model number BPP HSJ370. This is to have a tap outlet for Community drinking water use.



1.1.8 Inception Visit

At the start of the project the contractor shall travel to Palmerton Island and review the site conditions, constraints etc.

This trip involves, but is not limited to, the following investigations:

- Availability of local labour, with possible engagements made at that time
- Review of the site conditions and any restrictions that can be foreseen.
- Review of the boat landing conditions and transportation restrictions.
- Local accommodation for site staff.
- Communications needs.
- Power and telecommunication connections and locations of required cabling.
- Location and assessment of existing septic tank system.
- Ground conditions compared to that assumed.
- Condition of the existing plant that will be used in the works.

The Contractor is to clearly state in their tender what assumptions they have made in their bid in relation to the items above. A \$10,000 provisional item has been allowed for the supply of spare parts and requirements generally relating to the above.

Following the visit the Contractor is to provide a report to the Engineer outlining the above points including any areas which are materially different than the tenderers assumptions, or any items of concern.

1.1.9 Scope

The scope of work in the contract includes, but is not limited to the following:

- Inception Visit
- Ordering and consolidating all materials including all required logistics required for incorporation into the contract works.
- Construction of cyclone shelter including the following activities:
 - supply and delivery of all materials;
 - construction of the building structure, including foundations and bulk filling;
 - installation of all ancillary building services, including but not limited to electrical, plumbing etc.
- Design, supply and installation of electrical systems for the building;
- Design, supply and installation of the plumbing for the building;
- supply and delivery of furniture, appliances and fixtures as specified;
- Extension and modification of the septic tank system;
- Installation of rainwater tanks, tank stand, pump system and filtration system;
- management of the environmental and associated issues during the construction;
- quality assurance including testing, material certification etc. as part of the contractors quality management plan.
- preparation of operations manuals for maintenance personnel;
- removal of rubbish, tidy up and re-vegetation of the site;
- management of the customs clearance and quarantine risks from imported plant, equipment and materials.
- Liaison with Engineer and Island Council on the site for:
 - Power and water supply
 - Access
 - Accommodation

1.1.10 Local Plant

As part of the works the Island Government will make available local plant which can be used for the project.



A list of the available plant is as follows:

- Excavator - Lovol 12tonne. Hireage is indicated at \$25/hr;
- Liugong Loader and Backhoe. Hireage is indicated at \$25/hr;
- Komatsu WA80SS loader. Hireage is indicated at \$25/hr;
- Tractor - CASE 70 and 1 x 3 tonne trailer with tip and 1 x 4 tonne trailer no tip, cartage, indicated at \$5/trip.

There are two local personnel competent as operators for the excavator, backhoe, and loader as well as for the tractor.

Following the inception visit a list of spares needed or items to bring to a usable condition is to be provide to the Engineer for approval. Any spares purchased as part of the project will come under the ownership of the Island Council.

1.1.11 Local Labour

Labour from the island is available for hire and it is encouraged for the contractor to engage with the local labour force.

The island has advised that up to 3 labourers will be available for employment during the works.

The contractor is to allow for a suitable rate for labouring type works, such as painting, hammer hand, digging, manual handling to be undertaken by the local labour force. There are no qualified tradesmen available on the Island.

As part of their tender bid, the prospective tenderers are to note what assumptions relative to the number of labours available on the island they have made.

1.1.12 Shipping & Landing Condition for Materials

The contractor is to make their own assessment of the requirements and make suitable arrangements and allowances relating to the shipping and supply of materials and the like to the site.

Available information for the landing of materials to the site is as follows:

- Materials are typically unloaded from the small landing barge on the beach,
- Once the barge leaves the beach, typically the unloaded material will be moved further inland to clear congestion at the beach landing. Depending on how long it takes to unload from the ship and for the barge to return some material may be delivered to the site storage area.
- The most utilised machinery during the unloading is the loader due to the fork attachment making it easier to load and unload. The excavator and back hoe are also utilised dependent on the material and if slings are used generally one sited at beach to load the other at the site material storage area.

Pallets and materials should be shrunk wrapped and covered/protected from weather/rain.

Cement and similar materials should be packed in 25kg bags on pallets of 1 tonne. Which will enable transport, loading and unloading.

The above is provided for information and the prospective tenderers are to make all allowances for the safe shipping and handling of the projects materials and resources.

1.1.13 Electrical

The electrical works for the building are effectively for a residential building, and as such, specific design for the electrical has not been provided.



The Contractor is responsible for the design and layout of the electrical systems for the building, based on the positioning of equipment and devices as shown in the drawings.

The Contractor is to provide a shop drawing of the switchboard and electrical system as required for the building, for approval by the Engineer prior to construction.

The installation is to be approved and signed off by the Contractors Registered Electrician and in accordance with Cook Islands Electrical standards.

1.1.14 Plumbing

The plumbing works for the building are effectively for a residential building, and as such, specific design for the plumbing has not been provided.

The Contractor is responsible for the design and layout of the plumbing for the building, based on the positioning of equipment and devices as shown in the drawings.

The Contractor is to provide drawing(s) of the plumbing works as required for the building, for approval by the Engineer prior to construction.

The installation is to be approved and signed off by the Contractors Registered Plumber and in accordance with Cook Islands standards.

1.2 Contract Commencement

Prior to the Contractor commencing physical works, the Engineer shall have received the following documentation:

- Signed copy of the pre-start meeting minutes (if undertaken)
- Construction programme.
- Approved and signed Site Specific / Activity Specific Health and Safety Plan.
- Approved and signed Quality Management Plan (QMP)
- Contractor's construction team, plant & resourcing (as per the tender submission)
- List of Subcontractors (if changed from tender submission)
- Insurance Certificates
- Copy of Contractor's notification to relevant agencies of commencement of works

The Contractor shall attend (if required by the Engineer) a pre-start meeting to be held following the award of the contract. This pre-start meeting will include other specialists and stakeholders as deemed necessary by the Engineer to the Contract.

Any claims for extension of time and/ or costs for delays caused by the Contractor's failure to comply with the above requirements will be rejected by the Engineer.

1.3 Contract Documents

1.3.1 Use of Drawings

Only drawings which have been clearly marked as having been issued **FOR CONSTRUCTION** are to be used by the Contractor for setting out and construction of the Contract Works.



1.3.2 Specification

The specifications are divided into sections for convenience and reference and no claims will be accepted in respect of work not specifically mentioned in a particular section but which is provided for, expressed or implied, elsewhere in the specification or drawings.

1.3.3 Standard Specifications

All standard specifications and codes referred to in this Document shall form part of the specifications.

1.3.4 Document Precedence

Should any ambiguities exist in the Contract Works Specification, precedence shall be as follows:

1. Technical Clauses
2. General Clauses
3. Standard Specifications

1.4 Ownership and use of 'material' and information

The Principal will remain the sole owner of all rights (including copyright and other intellectual property rights) in all material which the Principal, or any other party acting for the Principal, has provided to the Contractor for use on the Contract Works. The term 'material' includes material in all forms or media without limitation.

Copyright and all other intellectual property rights in all material produced or prepared by the Contractor predominantly for the performance of the Contract Works, are hereby unconditionally assigned to or retained by the Principal. The Principal may use the material (including making copies of it) for any purpose. Where any such material is used for any purpose other than that for which it was originally prepared, then the Contractor will have no liability resulting from such use.

All data and information collected or collated by the Contractor and paid for by the Principal will be owned by the Principal upon payment.

If the Contractor wishes to make any use of the material, the Contractor must obtain the Principal's written consent.

1.5 Health & Safety

The Contractor shall be responsible for the health and safety of all those working on the site and for seeing that its actions or failures to act do not harm any other person. The Contractor shall also be responsible for the effects of the work on health and safety of its employees, Subcontractors and to the Public. In particular, but without limiting the obligations of the Contractor under this Contract, the Contractor shall;

- Provide and maintain, so far as reasonably practicable, a working environment that is without risk to health and safety;
- Provide and maintain adequate welfare facilities for those working on site;
- Provide and maintain equipment, structures, and plant so that it is safe for use;
- Provide and maintain safe systems of work;
- Provide all information, training, instruction, or supervision that is necessary to protect all those working on the site;
- Ensure that no persons are unduly exposed to hazards arising out of the arrangements, disposal, manipulation, organisation, working, or use of things in the place of work or near the place of work.
- Develop procedures for dealing with emergencies that may arise.



- Follow correct procedures in respect of any notifiable works

Section 4.1 Health & Safety Management Plan covers the mandatory requirements including:

- Provision and maintenance of Site Specific Safety Plan
- Risk management
- Notification and reporting of incidents
- General reporting requirements
- Management of Subcontractors
- Competency and training
- Supervision and monitoring

1.5.1 Incident Notification

The Contractor's responsibilities shall include reporting in writing to the Engineer of all incidents and injuries in the work place during the execution of the Contract Works. Furthermore, where death, notifiable injury/event, or serious damage is caused, or that have the '**potential**' for significant injury or fatality, the incident shall be reported immediately (by telephone or messenger) to the Engineer and appropriate authorities/agencies as required by law. Failure to do so or to comply with any such request may result in the Contract Works being required to cease until written reports and/or records are received by the Engineer.

It must be noted that the purpose of this process is to enable 'notification' that the event occurred only and that Infrastructure Cook Islands are **not** seeking the provision of an investigation into the root cause or contributing factors in the first instance, and as a result there shall be **no delay** in receiving this notification. The process required from incident occurrence to written notification to the Engineer and to Infrastructure Cook Islands shall take no longer than four hours maximum. Verbal notification to the Engineer of serious harm shall be immediate.

All incidents requiring medical assessment/ treatment, or which have the potential for notifiable injury or fatality shall be followed up by an investigation from the Contractor to determine the root cause and contributing factors. The investigation report shall be forwarded to the Engineer and to Infrastructure Cook Islands within 10 working days of the incident so that obligations may be met as required by law.

Any notifiable event is to be investigated and reported in accordance with the relevant authority/agencies requirements. A copy of this report shall be provided to the Engineer and to Infrastructure Cook Islands.

1.6 Environment

The Contractor is responsible at all times during the Contract to ensure that no person is inconvenienced or suffers hardship from noise, vibration, dust or other processes arising from any means whatsoever from the Contract Works. The Contractor is to allow for the prevention of such occurrences by the use of practicable means approved by the Engineer. Allowances shall be made for dust control at all times.

The Contractor shall comply with all relevant statutory consents, Government laws, and with all lawful direction made by Infrastructure Cook Islands or Palmerston Island Council.

The Contractor shall exercise due care and responsibility to minimise damage to plants and animals and shall ensure that no polluting substance shall be discharged onto the land or into the air or any water body.

In particular, the Contractor shall:

- a) Have an emergency spill response kit and have regular training with its personnel on how to properly use it.
- b) Not allow hydrocarbons to drain to ground during any operation; all leaks are to be collected in drain trays or collection vessels.
- c) Store all petroleum products away from any water body. An oil tray and suitable absorbent material shall be placed on the ground under all petroleum product storage tanks, drums, etc. The



oil tray and absorbent material shall be removed and disposed of by the Contractor prior to Contract completion.

- d) Keep all valves, taps, pumps etc. on tanks containing petroleum products locked or secured at all times and all reasonable precautions against release of the contents due to vandalism shall be taken.
- e) Protect all trees, palms, tree ferns, shrubs and vegetation against damage caused by the Contractor's operations. This requires that suitable protective measures are put in place prior to commencement of any relevant portion of the Contract Works. Such protective measures will need to be maintained and remain in place until completion of the relevant portion of the Contract Works. Under no circumstances shall any work or activities be undertaken within the driplines of protected vegetation unless the work is in full compliance with the Consents, or, in the absence of such consent, the proposed work has the written approval of the Engineer. Damage to trees and vegetation can occur as a result of activities including but not limited to:
- Vehicle and machinery access within the dripline (dripline means all that area below the canopy spread of a plant)
 - Trenching and excavating within the driplines
 - Storage of materials within the driplines
 - Cutting or crushing roots
 - Exposure of roots to the elements
 - Soil compaction within the driplines
 - Leaching of chemicals within the driplines
 - Fire
 - Alteration of water tables
 - Storage of spoil within the driplines.
- f) Not permit material containing hydrated or unhydrated cement particles (concrete cutting slurry, concrete washing, grout washing and spillage, raw cement, etc.) from entering any water body or stormwater system under any circumstances. Wash down of concrete mixing and delivery trucks shall be carried out off the Site in a location to be selected and arranged for by the Contractor. The location shall be to the Engineer's approval. Concrete cutting shall be wet-cut using a minimal amount of water.
- g) Ensure silt and sediment originating from the Contract Works cannot be eroded and/or carried by any water flowing into or through the Contract Works and is not allowed to discharge without control into water bodies. This may require installation of erosion and silt controls. If required, the erosion and silt controls shall be provided in accordance with the Auckland Regional Council Standard TP90 'Erosion and Sediment Control - Guidelines for Land Disturbing Activity' and must be installed prior to commencement of the Contract Works. Erosion and silt controls shall be maintained and remain in place until completion of the Contract Works. A limit on the acceptable concentration of silt and sediment in any discharge from the Contract Works may be imposed by the relevant authority and the Contractor shall ensure any such limits are not exceeded.
- h) Not permit entrance or spillage of solid matter, contaminants, debris, oil, cement, drilling mud, sanitary waste, oil and other industrial pollutants into flowing or dry water courses, stormwater drainage systems or underground water sources.
- i) Ensure disposal sites for surplus material and construction rubbish have the prior approval of the Engineer.
- j) Ensure that all vehicles used for the collection of surplus material and/or debris is designed to contain such debris within the Contractor's vehicles.
- k) Fit compressors, percussion tools and other noisy machinery with effective silencers of a type recommended by their manufacturer.



- l) Take all necessary precautions to promptly prevent nuisance from water, smoke, dust, rubbish and other causes.
- m) Ensure excavated material not required for re-use shall be immediately taken away to an approved tip-site. Stockpiles of salvaged materials for re-use (if any) shall be stockpiled at an approved location and protected to avoid any erosion into streams and drainage systems and any surplus shall be removed as soon as practicable.

1.6.1 Environmental Incidences

The Contractor is responsible for ensuring its activities do not harm the environment. Where an incident occurs that causes discharge into the environment, the Contractor shall:

- a) Cease the activity
- b) Contain/isolate any spill
- c) Clean up the spill
- d) Immediately notify the Palmerston Island Council and Infrastructure Cook Islands
- e) Immediately notify the Engineer

All waste shall be correctly identified, properly contained, securely transported and disposed of at a correct waste disposal facility.

1.7 Quality Assurance

The Contractor shall have a Quality Manager assigned to producing and managing the Quality Management Plan, gathering and certifying all documentation, maintaining a file of all quality control documentation, communications and test results and liaising with the Engineer on all quality control matters.

The Contractor is responsible for quality control measures which incorporate all techniques including checking and testing required to ensure the Contract Works meet all the requirements of the contract documents.

The Contractor shall carryout regular routine inspections and testing by experienced employees. These employees shall be able to comprehensively observe conditions and make sound judgements as to the nature of any defects of workmanship or hazards and their degree of urgency for corrective action. Such inspections shall be allowed for in the submitted tender price.

The Principal may also audit the Contractor's quality assurance procedures and quality control at any time.

1.7.1 Testing

The Contractor shall be responsible for all costs associated with testing of the work as detailed within the contract, specifications, drawings and as required to confirm that the works have been constructed to the contract's required standards.

The Contractor shall supply supporting documentation covering all sampling, testing inspection and proving compliance with the specifications contained in this Contract, for all materials and workmanship required to complete the Contract works.

Materials which are considered key to the successful undertaking of the contract works shall be sampled and tested as required to confirm compliance with the material specifications at commencement of the contract works. Certificates and testing records shall be provided to the Engineer demonstrating compliance prior to incorporating these materials into the contract works.

1.7.2 Records

The Contractor is to supply the Engineer with copies of the test results as they become available and furnishes the Engineer with a full report at the completion of the Contract detailing test results and their compliance with the standards.



1.8 Materials and Workmanship

All materials used shall be new, unless approved as part of an Infrastructure Cook Islands specification, and the best of their representative kinds, suitable for the purpose for which they are intended, and comply with the relevant CI Standard or other standards called for in the Specification.

It is the Contractor's responsibility to obtain all necessary licenses for imported materials and to place all orders to ensure their delivery to suit its programmed time for the Contract Works.

It is expected that all workmanship will be of the best standard and will be required in all sections of the works.

Despite the Engineer or their Representatives having inspected or given approval for construction, the Contractor shall ensure that the work so completed shall still be in accordance with the plans and specifications.

1.9 Hours of Work

Unless otherwise instructed or by approval, the hours of work available shall be 7.00am to 7:00 pm on Working Days as defined in Clause 1.2 Definitions of [General Conditions of NZS3910:2013](#). The Engineer's approval is required for work being carried out outside these limits.

Work on site is restricted to:

Weekdays: 7am to 7pm, Wednesdays and Fridays works should be deferred until after prayer service which finishes approximately 7am.

Saturdays: 8am to 12pm

Sundays: No Works

Public holidays: No Works are permitted Christmas Day & Easter/Good Friday. No Works are permitted during the national commemorative ceremonies on Anzac day, Ra o te Ui Ariki and Constitution Day.

Work outside these hours may be permitted, but will need formal consultation and approval from the Engineer.

The Contractor is to inform themselves of local holidays and observations of local cultural requirements.

1.10 Public Notification

The Contractor shall not make any public communication or announcement at any time to any third party, including any section of the media, about the contract or the project without gaining written approval from the Principal beforehand.

The Contractor shall only release information or detail of the Contract Documents "In Confidence" to those who have a legitimate need to know or with whom they need to consult to carry out the Contract Works.

The Contractor may not erect promotional or publicity signage on any part of the Site without gaining written approval of the Engineer beforehand.

Where required as part of the works the Contractor shall deliver circulars approved by the Engineer notifying the nature of the Contract Works to all properties bordering and affected by such works at least 48 hours before any work is commenced. As a minimum, the circulars shall be delivered to all bordering properties including those 100m beyond any advance warning signs. For work undertaken at night, the circular delivery shall be extended to properties within a 200m buffer of the work area (as designated between the signage area). The circular shall outline the nature of the works, working times, work duration, expected delays, restraints etc. and provide the Contractor's contact details. This circular shall be approved by the Engineer prior to circulation.

1.11 Corridor Access Request (CAR)

Not in this Contract



1.12 Protection of Property

The Contractor shall take all necessary precautions to avoid damage to road signs, property or chattels. All damaged property shall be restored to its original condition at the Contractor's expense. All paths, fences, drives, etc., which are disturbed must be restored to their original condition within a reasonable time frame. Any excavations in close proximity to buildings or other structures shall be left open for the minimum time possible.

1.13 Contractors Personnel

The personnel (including nominated Subcontractors) put forward in the tender submission are deemed to be those available to work on this contract. In the event that the Contractor wishes to change personnel, the Contractor shall request this in writing to the Engineer within 5 working days of Acceptance of the tender and provide the CV of replacement staff detailing their level of experience. It will be expected that substituted personnel will only be replaced with personnel of at least the same level of experience relevant to the scope of work in this contract.

The site supervisor or the foreman is to be present on Site during working hours. The Contractor shall also provide afterhours contact details for nominated staff who must be available by phone outside normal working hours to respond to issues, enquires and emergencies.

1.14 Toolbox/Tailgate Meetings

The Contractor shall carry out weekly 'toolbox/ tailgate' meetings with the site staff during the period where site works are undertaken. These meetings shall be specific to the Site. Infrastructure Cook Islands has a specific interest in the following items:

- a) Health and Safety:
 - Site specific hazard
 - Hazard controls
 - Traffic management
 - Emergency planning and the like;
- b) Environmental considerations;
- c) Plan of activities for the week.



2 Information to be submitted by the Contractor

2.1 Programme of Work

The Contract Programme, progress reports, subsequent updates, revisions and supplementary programmes as detailed in this section are an essential part of the project control system used by the Engineer and Contractor for managing the Works and in monitoring the progress of the work under the Contract.

In accordance with Clause 5.10 of the General Conditions of Contract, the Contractor shall submit a Programme to the Engineer for approval. This shall be done within the period specified in the General Conditions of Contract Clause 5.10.1 and before commencing any of the Contract Works unless otherwise instructed by the Engineer. Works on site shall be continuous during the normal hours of work.

In addition to the requirements under Clause 5.10, any revision to the Programme, necessitated during the construction of the Contract Works, shall be submitted to the Engineer for approval.

Where the contract specifies the contract period Schedule 1 Special Conditions of Contract – Specific Conditions of Contract Clause 10.2.1, this shall be deemed to include all the works identified in the Schedule of Prices, including works identified as **Provisional Items and Provisional Sums**.

The Programme shall clearly show the contract allowance for inclement weather as per the Schedule Special Conditions of Contract – Specific Conditions of Contract Clause 2.5.4 under B3 Time for completion.

The Contractor shall provide programmes identifying the critical path(s), together with the total float.

2.1.1 Programme Content

All Programmes shall include the following relevant activity information as a minimum in activity bar format:

- Commencement Date of the Project;
- All key milestones
- Any establishment and mobilisation periods required;
- Start of physical works;
- Principal nominated milestones or notice periods;
- Design deliverables and approval periods;
- Procurement periods for key suppliers and subcontractors;
- Manufacture / Fabrication periods;
- Construction activity periods;
- Possession / access restrictions (If required);
- Testing & Commissioning periods where necessary;
- Sectional (or Phased) Completion milestones;
- Practical Completion milestone, logic linked to projects critical path;
- Handover / Occupation milestones and activities;
- Close out and demobilisation periods.

As the project progresses the following activities shall also be added periodically to the Progressed Programme as they occur:

- Significant variation or change to milestones
- Variation to activity periods
- Delay periods
- Changes in constraints e.g. possessions, working conditions

Activity durations are estimated in working days of normal duration and shall be realistic and based on quantities and applied resources.

The calendars used are based on normal working hours per day and working days per week or as prescribed by the in accordance with the Contract. It shall recognise all official public holidays in the Cook Islands, as well as making provision for Contractor's year-end holidays.



2.1.2 Extension of Time Claims

The particular method of delay analysis shall be agreed with the Engineer prior to the preparation of any claim for an extension of time.

All extension of time claims will be assessed using programmes that have been supplied to the Engineer and approved under this specification.

2.2 Progress Reporting

2.2.1 General Progress Reporting

The Contractor shall submit to the Engineer the below progress reports:

a) **Monthly Report**

The report shall include:

- Itemised progress to date,
- past months' progress of work (proposed and actual),
- any adjustment proposed for the future programme,
- accurate report of the preceding months Health and Safety activities and any incidents which have occurred,
- a summary of environmental controls and any environmental incidents which have occurred over the past month.
- Certification that the work has been carried out in accordance with the Quality Plan,
- A summary of quality testing undertaken and any non-conformances,
- projects financial status and projection including any variations to the contract,
- and other details as may be reasonably requested by the Engineer.

It is preferable to include pictorial evidence of the work completed.

The report shall be submitted to the Engineer no later than the 10th working day of the following month.

b) **Weekly Reporting**

Brief weekly written progress reports detailing work undertaken, problems encountered, progress against performance, forward weekly activities, and plant/labour returns. These shall be submitted until the Certificate of Practical Completion has been issued.

The reports shall be submitted to the Engineer on the Monday following the week to which the report relates.

c) **Final Report**

A final report for the Contract Works shall be prepared by the Contractor's Representative and three copies submitted to the Engineer.

The report shall:

- Be in the same format as the monthly report;
- Advise the Engineer of the estimated value of any claims which may be submitted with the Contractor's Final Claim;
- Include confirmation of consenting authorities' acceptance of final compliance;
- Be submitted attached to a completed and certified Contract Quality Plan.

The report shall be submitted to the Engineer within 10 Working Days of date of issue of the Practical Completion Certificate.

2.3 Progress Payment Claims

The Contractor shall submit one claim per calendar month for the works associated with this Contract. The Contractor shall submit this claim promptly following completion of each claim period and no later than 5 working days after the end of the claim period.



2.3.1 Monthly Payment Claim

Further to Clause 12.1 Contractor's payment claims of the [General Conditions of NZS3910:2013](#), all Contractors claims for payment shall:

- a) Be in the format of the Schedule of Prices and shall include and separately show the quantity and value of all works:
 - Completed for the period;
 - Completed for each period prior; and
 - Total summary of each period prior;
- b) Include any deductions, additions, amendments and unscheduled work as advised and in the format specified by the Engineer;
- c) Append any necessary supporting information (e.g. measurements, calculations, tabulations, invoices and drawings) clearly and accurately demonstrating quantities claimed for each item in the Schedule of Prices;
- d) Provide references and/or tabulations of all Quality Assurance records assembled demonstrating that the works completed comply in all respects with the Contract, and that relevant criteria (e.g. required frequencies of testing) have been achieved; and
- e) The Contractor shall supply all supporting documentation to confirm all measures and claimable items when submitting a progress claim. Should there be insufficient evidence in support of the claim; the Contractor will be required to provide further information or documentation as necessary to substantiate the claim. If the information provided is not forthcoming or still insufficient the item in question shall not be paid until such time the required information has been submitted;
- f) The Contractor is also to include a Financial Summary which shall comprise of the following:
 - Accepted Contract Value;
 - Value of Work Completed and Certified to Date;
 - Estimated Value of Work to be completed for each month to the end of the Contract;
 - Estimated Final Contract Value;
 - Claimed Variations
 - Accepted Variations; and
 - Variations Completed;
- g) Financial Summary Meanings:
 - The 'Accepted Contract Value' is the value stated on the Acceptance of Tender, unless advised otherwise by the Engineer.
 - The 'Value of Work Completed and Certified to Date' is the total value of work completed in the contract to date, claimed by the Contractor and certified for payment by the Engineer in the Contractor's previous monthly claim;
 - The 'Estimated Final Contract Value' is the Contractor's estimate of the total value of work that will be completed as part of the contract, including contingency risk allowance.

2.3.2 Final Claim

The Contractor shall submit their Final Claim in accordance with Clause 12.4 of the [General Conditions of NZS3910:2013](#) Final Claim. The Final Claim shall be in the same format as the Monthly Progress Claims.

2.4 As-built information and asset data handover

The as-built drawings and asset data, where applicable under Clause 5.20 of the General Conditions of Contract, shall comply with this clause and/or as otherwise specified in the Schedule 1 Special Conditions of Contract – Specific Conditions of Contract.

As-built drawings and asset data must be submitted for all validation activities.



As-built drawings and asset data information that does not meet the Infrastructure Cook Islands standards will be returned to the originator for correction and re-submission. Projects will not be considered complete until the as-built drawings and asset data has been received, checked and approved by Infrastructure Cook Islands.

Where applicable, the Contractor will be supplied with electronic versions of the construction drawings to assist in the preparation of the as-built drawings.

For all Infrastructure Cook Islands generated capital projects (both new and renewal), construction drawings (if not already with Infrastructure Cook Islands) and as-built drawings together with the asset data information must be submitted before the Practical Completion Certificate is issued.

A Practical Completion Certificate may be requested before a project is completed, or an asset is made operational, without the as-built drawing or asset data being accepted by Infrastructure Cook Islands. The Practical Completion Certificate will be issued at Infrastructure Cook Islands discretion with a condition placed on the certificate requiring submission of as-built drawings and asset attribute information within a discretionary time period. If as-built drawings and asset data is not submitted to the satisfaction of Infrastructure Cook Islands within the discretionary time allowed, Infrastructure Cook Islands will arrange for the creation of as-built drawings and collection of asset attribute information at the Contractor's expense.

Any further changes made during the Defect Notification Period that need to be shown as as-built drawings and data, should be submitted and approved before the Final Completion Certificate is issued.

2.4.1 As-built Information and Standards

As-built drawings to be provided in accordance with below specification. This will depend on the nature of the project specifications.

For all capital works (new and renewal), as-built drawings must be provided in digital format (DWG or DXF files), as well as one hard copy of the as-built drawing(s).

For digital plans:

- a) All dimensions must be in millimetres, and all levels and lengths in metres.
- b) All locational data must be plotted in WGS84, Zone 4 South.
- c) Infrastructure Cook Islands will require all graphical data to be located / plotted to the following accuracy:
 - X & Y coordinates $\pm 100\text{mm}$
 - Z coordinates $\pm 50\text{mm}$ (e.g. lid level) in terms of the MSL Datum, (to be identified by the contractor)
 - Invert levels $\pm 20\text{mm}$

The hard copy of the as-built drawing (generated from the digital format) must include:

- A signed certification statement by the responsible chartered professional engineer or registered surveyor.
- Submitted on standard ISO metric plan sheets, drawn at scales 1:100, 200, 250, 500 or 1000 as appropriate or as specified by Infrastructure Cook Islands.
- The information should fit on one sheet where possible. If this is not possible at A3 size, multiple plan sheets must be submitted with an index sheet.
- Hard copy plans may be saved and submitted in portable document format (pdf) for ease of transmission.

If a validating process for existing assets for any particular project is specified, an accurate hard copy as built drawing (sketch or aerial photo with appropriate dimensions or locations marked from the existing known assets) and asset information will be acceptable.

Existing assets, and assets that must be removed or abandoned must be shown on all as-built drawings.



All private roads affected by the as-built work must be shown on the plans.



3 Consents

3.1 Environmental and Building Consents

The Principal shall make application and obtain all Environmental and/or Building Consents normally required for the execution of the Contract Works. The Contractor is responsible for obtaining and paying for any necessary consents (or amendment to consents) required for any alternative methodologies etc. that the Contractor proposes other than what is covered under the existing consents.

The Contractor is to comply with the conditions of any Environmental and/or Building Consent, copies of which will be made available as necessary, and which form part of the Contract Documents. The Contractor must hold a copy of any Environmental and/or Building Consent and its conditions on the Site at all times.

The Contractor shall allow in its tender submission for the costs associated with compliance with any consents. The Contractor shall be entitled to claim for a Variation in respect of the cost of compliance with the conditions of Consents only when such conditions are:

- a) Could not reasonably be foreseen by an experienced Contractor.
- b) In excess of those normally associated with the nature of the works.
- c) Notified to the Contractor after the Tender Closing Date.

The Contractor shall ensure that all personnel and Subcontractors for this Contract are familiar with the consent conditions.

The Contractor shall allow for the costs associated with any Site meetings to review and implement consent conditions.

3.2 Access to Properties for Construction Purposes

Notwithstanding the granting of possession of the Site by the Engineer for the purpose of carrying out the Contract Works, the Contractor shall arrange for access onto any part of the Site considered necessary, unless already agreed by the Principal with the property owner. Any access required through private property not already agreed by the Principal will require the written consent of the property owner.

The Contractor shall not enter upon any private property without first notifying the owner (or occupier) at least 24 hours in advance of their intention to enter.

On completion, the Contractor shall leave the Site in as good a condition as when first entered by the Contractor.



4 Contract Management Plans

Contract Management Plan (CMP) should consist of the following as appropriate for the contract works:

4.1 Health & Safety Management Plan

The Contractor shall submit a detailed Health & Safety Plan, including a copy of any approved Traffic Management Plans (TMP's as approved by the Road Manager) if required for the contract works, specific to the activities and location of the Contract Works. The Health & Safety Plan shall identify all risks associated with the Contract Works, and present details of the proposed methods of controlling these identified risks and/ or their effects.

No works on site shall commence until the Contractor has submitted and received the approval of the Site Specific Safety Plan by the Engineer to the contract.

The Engineer will arrange for the Site Specific Safety Plan to be reviewed at no cost to the Contractor and will submit any comments arising there from to the Contractor for consideration. This review process will take one week.

Where, in the opinion of the Engineer the Site Specific Safety Plan is inadequate, the Contractor shall, within 3 days, make all necessary amendments to the Site Specific Safety Plan and resubmit to the Engineer.

As a minimum requirement, the plan shall:

- a) Identify all significant health and safety risk associated with the works.
- b) Present details of the proposed methods for identifying controlling and managing the risks associated with the site and proposed works. The Contractor is obliged to take full account of the Health and Safety legislation and associated regulations.
- c) Provide details of health and safety monitoring activities, including frequency. Detail the safety communication processes including site induction, daily activity briefings/ tool box talks, and ongoing safety training, including frequency and recording of these.
- d) Detail emergency planning and response, including proposed rescue plans, location of first aid kits and trained first aid officers.
- e) Detail measures that will be implemented to ensure the safety of the works outside of normal working hours or working alone.
- f) Information on how the Contractor will audit the site to comply with the Contractors' Health & Safety Plan, including an indication of the frequency of such audits.
- g) Detail the specific protective equipment to be provided for carrying out the works.
- h) Include detailed Traffic Management Plan (TMP) with Site traffic movements and Pedestrian management if required for the contract works.
- i) Detail how incidents are notified and investigated.
- j) Outline process for monthly Health and Safety reporting to Infrastructure Cook Islands.
- k) Detail Subcontractor management processes relating to H&S

The plan shall also contain:

- The contract specific Risk and Hazard Register
- Mandatory Safety Rules that will be adopted and will be enforced on site
- Identified Critical Risks that are inherent in the scope of work to be undertaken.
- Hazard Control Plans, Safe Work Method Statements (SWMS), Job Safety Analysis (JSA), Safe Systems of Work or other site specific references that will be referred to that will manage the critical risks the workers are exposed to.

In Particular:



- Working from any height above or below ground level;
- Work or entry into confined spaces;
- Lone working;
- Manual handling operations or significant ergonomic risks;
- Work involving mobile plant and equipment;
- Electrical work;
- Work in or nearby the road corridor;
- Work in other areas where people are exposed to road traffic;
- Work in or nearby a body of water;
- Risk of disturbing below-ground or overhead utility services;
- Excavation or earthworks;
- Exposure or potential exposure to asbestos;
- Exposure or potential exposure to hazardous fumes, dusts or vapours;
- Hazardous and dangerous substances;
- Exposure to extreme environmental conditions;
- Hot works (including welding, grinding, cutting and any operation which presents a source of ignition);
- Slip, trips and falls.

Include process for updating procedures post incident or change in work activity.

Should the Contractor fail to comply with the Site Specific Safety Plan or otherwise fails to comply with Health and Safety requirements specified in the Contract such as the requirements in this clause, the Engineer may take emergency action as provided in Appendix B under the clause B2 Engineer's powers and responsibilities, or may order a suspension of the whole or part of the Contract Works until deficiencies are attended to. Any such action shall not be grounds for a Claim for Extension of Time.

Where the Engineer or Principal considers the work environment to be unsafe or deficient, in their opinion (and without assuming any of the responsibilities of the Contractor), after notifying the Contractor in writing where possible. The Engineer or Principal may employ others, or may itself provide such other protection, or warning as it considers necessary, at its sole discretion. The Contractor shall meet all costs related to this additional work. Furthermore the Engineer or Principal may instruct the Contractor to cease any operation or activity until such time as the Site is made safe. Any such instruction shall not be a Variation nor be grounds for a Claim for Extension of Time.

4.2 Traffic Management Plan (TMP)

Not in this Contract.

4.3 Quality Management Plan (QMP)

Quality is planned for and managed through the 'Plan-Do-Check-Act' cycle for project execution, program management, and business processes.

The Contractor shall develop and maintain a quality management system that meets the minimum requirements of this contract as specified in:

- Clause 5.18 of the [General Conditions of NZS3910:2013](#)
- The Schedule 1 – Special Conditions of Contract – Specific Conditions of Contract
- The particular requirements of these General Clauses and any additional requirements specified in the [Contract Specification - Specific Clauses](#)

The Engineer may consider alternative quality management systems submitted by the Contractor provided that these assure the required outcomes.

The QMP describes the specific construction related quality assurance and quality control procedures that are appropriate to the size, complexity, and nature of the project.

Quality improvements are also documented and may be included as an integral part of the overall Contract Management Plan (CMP).



Where not specified, the Quality Management Plan shall, as a minimum, meet the requirements of Transit New Zealand Quality Standard TQS2. This standard requires the Contractor to develop and work to a Quality Management Plan for each contract. The Contractor is also required to operate a simple quality system during the Contract Period, which provides the supporting structure for the Quality Management Plan. There is no certification requirement for compliance with Standard TQS2. However, the Engineer will carry out surveillance during the contract, which may include checks of the Contractor's system and records.

The Contractor shall include an inspection and testing plan which shall include the type and number of tests to ensure full compliance with the requirements of this Specification or the [Contract Specification - Specific Clauses](#). It shall include Contractor materials testing (where so required) and workmanship testing. Hold-point verification inspections shall also be detailed. Details of personnel responsible for such testing (e.g. Quality Manager) shall be provided in the QMP.

The Engineer will arrange for the QMP to be reviewed at no cost to the Contractor and will submit any comments arising there from to the Contractor for consideration. The review process will take about one week. Where, in the opinion of the Engineer, the QMP is inadequate, the Contractor shall, within 3 days, make all necessary amendments and resubmit to the Engineer.

4.3.1 Quality Control Inspection

The Contractor shall be responsible for undertaking inspection and test work to verify that materials and workmanship forming part of the Contract Works comply with the specified requirements in accordance with the provisions of Clause 6.4 of the [General Conditions of NZS3910:2013](#).

Personnel appropriately trained and experienced in the test to be performed shall undertake all testing. Details of the tests shall be included in the Quality Management Plan. The name and signature of the person undertaking the test shall be included on the test record documentation. Where testing is specified to be by an IANZ registered laboratory, personnel with IANZ signatory approval shall supervise it and test certificates shall show the IANZ marking.

All test and inspection results shall be made available to the Engineer following either completion of the test or inspection, or being issued by a third party testing / inspection agency, whichever is applicable, unless agreed otherwise in writing.

The Engineer is entitled in the course of surveillance of the Contract Works, to take independent samples, tests, measurements or observations to confirm that the Contractor is complying with the specified requirements. All of the Contractor's quality control records are to be readily available to the Engineer upon request and shall be issued to Infrastructure Cook Islands as a digital document upon the issue of Practical Completion Certificate.

Details of the testing and inspection requirements including minimum frequencies are specified in the [Contract Specification - Technical Specification](#) of this Contract.

The standards to be achieved for individual work tasks are detailed in the relevant sections of the specification. Should the Contractor consider that either construction methods adopted, or the material supply performance are such that the minimum test frequencies specified should be reduced, prior written acceptance is to be obtained from the Engineer.

4.3.2 Re-inspection by the Engineer

Should the Engineer find evidence of non-conforming materials or workmanship or results at variance with any certified Quality Control Form, the Quality Manager, on request from the Engineer, shall supply within two working day a written explanation for the variance detailing what remedial action has been taken.

Where the Contractor advises the Engineer that some aspect of the Contract Works is complete and the Engineer finds on review and/or inspection that the work is either not complete or does not meet the requirements of the Contract Documents, then all costs of the subsequent reviews and/or re-inspections by the Engineer may be deducted from the Contractor's payments.

4.3.3 Implementation of the Quality Assurance Requirements

In the event that the Contractor fails to comply with the Quality Assurance specification it will be deemed in default of contract and, in addition to any other remedies available:



The Engineer may suspend the Contract Works until the requirements are met in which case the provisions of Clause 6.7 of the [General Conditions of NZS3910:2013](#) shall apply; or

The Principal may resume occupation of the site or terminate the contract in which case the provisions of Clauses 14.2.3 or 14.2.5, as the case may be, of the [General Conditions of NZS3910:2013](#) shall apply.

4.4 Environmental Management Plan (EMP) (including Noise)

There are a range of Best Management Practice (BMP) guidelines for Contractors and Consultants to help minimise adverse effects arising from works. These are available as a download:

<http://www.aucklandcouncil.govt.nz/EN/environmentwaste/stormwater/Pages/home.aspx>

Refer also to Auckland Regional Council's document Technical Publication No. 90 (TP90) "Erosion and Sediment Control Guidelines for Land Disturbing Activities" (1999) and amendments. (Special attention to section 2.2, changes to TP90)

The Contractor is responsible for the development, implementation and management of the EMP. The EMP sets out the requirements for the prevention and mitigation of any adverse environmental effects associated with the Contract Works. The EMP shall include an emergency response plan. The EMP shall include, but is not limited to:

- Overall person responsible for the implementation of the EMP
- Key personnel and their responsibilities
- Identification of site specific environmental risks
- Operating procedures which will control identified environmental risks and impacts
- Compliance monitoring including frequency of inspections
- Procedures in the event of an incident
- Reporting of environmental incidents to the authorities and Principal
- Contact details of emergency response services
- How to contain, dispose and clean up spillages
- Provision for site containment
- Post-spill actions to re-establish controls over the remaining materials
- Protocols for investigating spills and near misses Silt and runoff protection shall include:
 - Ensuring an appropriately equipped, stocked and maintained emergency spill response kit is present on site (check expiry dates).
 - Erosion and sediment control devices on existing outlets, catchpits, across water table drains, etc. and management of devices and measures.
 - Cesspits within the construction zone during excavation times are isolated by plugging off the outlet pipes. The plugs are to be removed as soon as possible when backfilling is completed.

The Engineer will arrange for the EMP to be reviewed at no cost to the Contractor and will submit any comments arising there from to the Contractor for consideration. The review process will take about one week. Where, in the opinion of the Engineer, the EMP is inadequate, the Contractor shall, within 3 days, make all necessary amendments and resubmit to the Engineer. The EMP shall be approved by the Engineer prior to commencing work.



5 Occupation of Site

5.1 Establishment

The Contractor may allow for whatever items it considers appropriate in Preliminary and General/ Site Establishment. The Contractor shall note that unless specifically itemised there is no separate inclusion in the schedule for Preliminary and General items. These costs shall be incorporated within the Contractor's rates.

These items may include, but are not limited to:

- a) The establishment on site of all works facilities and removal of same on completion.
- b) The setting out of the works and assuming responsibility for the same.
- c) All Contractors supervision and administration.
- d) Barricading the site to prevent public access to the Contract area during hours of darkness. To place signs warning public of danger and prohibiting access to unauthorised persons. The Contractor should provide safety fencing with the protection of small children in mind and should understand the responsibility of the Contractor under the existing relevant statutory Acts.
- e) Giving notices and paying all fees which may be required.
- f) Cost for providing Public Liability and All Risks Insurance as specified herein.
- g) Allowances to record "As-Built" drainage, water and service reticulation etc where this has been altered or is new as part of the contract works, and to provide completed as built information/drawings data in the respective service authorities required standard to the Engineer for comment, to enable certification to be obtained.
- h) Allowing for co-ordination, liaison and co-operation with work carried out by other approved Contractors.
- i) All costs associated with the preparation and implementation of the Health and Safety Management Plan, Traffic Management Plan, Environmental Management Plan and Quality Management Plan for all contract works.
- j) The identification, location and protection of all existing services within the Contract area whether indicated on the drawings or not.

Unless otherwise noted, Preliminary and General / Site Establishment shall cover all of the above aspects at all work sites (i.e. not individual sites).

5.2 Public access to and through the Site

The Contractor shall ensure that pedestrian and suitable vehicular access is maintained at all times to all properties bordering the Contract Works. Arrangements to the contrary made with individual owners or users of the property shall be notified to and approved by the Engineer.

Access to commercial properties shall be maintained unless essential work is being carried out at the entrance. The Contractor shall advise the owner/ user of the duration of the disruption to the access.

The Contractor shall provide safe and suitable alternative pedestrian access through and/ or around the work area.

5.3 Access onto the Site

Notwithstanding the granting of possession of the Site by the Engineer for the purpose of carrying out the Contract Works, the Contractor shall arrange for access onto any part of the Site considered necessary. Access through private property will require the written consent of the owner.

The Contractor shall not enter upon any private property without first notifying the owner (or occupier) at least 24 hours in advance of their intention to enter.



On completion of the works, the Contractor shall leave the Site in as good a condition as when first entered by the Contractor.

5.4 Temporary Power & Water

Unless specifically noted otherwise, the Contractor shall make such arrangements as may be needed and as the relevant authorities may require for the temporary supplies of water and power for the Site. The Contract Price shall be deemed to allow for all costs in connection with such requirements and for the removal thereof and restoration of the Site on completion of the Contract Works.

Water may be available from Infrastructure Cook Islands Mains or the Island Council, however the cost of connection and water usage if levied will be borne by the Contractor.

5.5 Traffic Management

Not in this Contract.



6 Construction

6.1 Existing Services

The existing services, where shown on the drawings, are supplied to the Contractor as a guide only that such services may be encountered. The Contractor shall be responsible for the location and the protection of all services within the construction zone.

Prior to commencing any excavation work the Contractor shall confirm to the Engineer or his representative in writing that all services within the site are located and service providers have been notified.

The Contractor shall immediately inform the appropriate authority and the Engineer of any damage to any utility resulting from the works. Any damage caused as a result of the Contractor's works shall be repaired immediately at the Contractor's expense.

6.2 Survey Marks

The Contractor's attention is drawn to Clause 5.8.3 of the [General Conditions of NZS3910:2013](#). Particular care must be exercised whilst work is carried out in the vicinity of any survey mark. Any disturbance, displacement or destruction of such marks shall be rectified at the Contractor's expense.

6.3 Archaeological Sites

If any material is discovered that could be an Archaeological Site, all work in the Discovery Area shall stop and the Contractor shall notify the Engineer. Following the discovery the Contractor shall be directed by the Engineer in accordance with the relevant authority's requirements.

6.4 Relocation of Existing Services

Where existing services (including pipes, ducts, cables, etc.) are required to be lowered and/or protected, the Contractor shall carry out this work under the supervision of the appropriate utility company's representative. Services known to require lowering and/ or protection are generally noted on the drawings and will be scheduled in the Schedule of Prices.

6.5 Water Supply and Wastewater

All watermain and wastewater construction shall be carried out by a suitably competent contractor who has been approved by Infrastructure Cook Islands to undertake construction of these assets. Any work on or within the vicinity of Water or wastewater assets shall be in accordance with the requirements set by the appropriate standards and codes of practice. The Contractor shall ensure that all staff and sub-Contractors are aware of these requirements.

6.6 Setting Out

The data for setting out co-ordinates and levels are as shown in the drawings or in the [Contract Specifications](#).

The Contractor shall set out the works from the information shown on the drawings and approved by the Engineer. Notwithstanding this, as the work proceeds it may be necessary to adjust particular points that are, in the opinion of the Engineer, necessary to ensure satisfactory completion of the work.

6.7 Alternatives

Where any item is mentioned by trade name or by any other specific reference, it shall be deemed to mean the type of article or material so mentioned, or any other approved by the Engineer, as equal thereto in price, quality, finish, durability and serviceability for the purpose intended.



6.8 Proprietary Processes

If any proprietary process is used, the Contractor shall follow the proprietor's instructions as closely as possible and shall be responsible for patent rights. Where no indications are given to the contrary the Contractor shall allow for that process which ensures the best result, provided that no process shall be used which does not comply with the general intention of the Specifications.

6.9 Source of Supply of Materials

The Contractor shall submit with the documents before acceptance the source of supply of materials i.e basecourse, pipes, hardfill, etc.

The Contractor shall also satisfy themselves that the quality meets the requirements of the Contract. All materials supplied must meet the relevant standard as detailed.

6.10 Signboards

Where scheduled, the Principal may require such signboards on the site, as the Principal deems necessary. These signs will depict the nature of the development and may bear the names of the Principal and the Contractor, together with other information deemed appropriate by the Principal. All signage displayed on site is to be approved by the Engineer.

6.11 Construction Monitoring

In addition to the expected Contractors construction monitoring of the contract works, Infrastructure Cook Islands will undertake monitoring for the Principal own purposes. Such monitoring will not be continuous.

The Principals nominated personnel will generally be available when required for specific inspections with appropriate notice, generally, 48-hours.

The Contractor shall afford the Principals nominated personnel access to every part of the works at any time during normal working hours. The Contractor shall also permit the Principals nominated personnel reasonable access to the Contractor's surveying instruments if necessary to check setting-out and levels.

The Contractor shall not accept any Instructions to vary the work in this Contract from any other than the Engineer to the Contract or the appropriately authorised Engineer's Representative.

6.12 Contract Supervision

The Contractor shall nominate their site representative who shall be available on site at all times and who will have the authority of the Contractor to receive instructions from the Engineer. The Contractor's Representative shall be experienced in all aspects of the works in the Contract and shall be thoroughly familiar with the scope, intent and detail of the works.

6.13 Plant and Equipment

All plant and equipment is to be:

- Compliant with normal operational and safety requirements;
- In good condition;
- Free of oil or fuel leaks;
- Free of excessive noise or fume emissions through the exhaust system;

Hire companies, lease companies, and Contractors are responsible for having an internal system that verifies that the plant item being made available for use by the Contractor, or to be used on Infrastructure Cook Islands work sites by a Contractor or Subcontractor, is safe to use and complies with all applicable legislation.

Contractors and Subcontractors must undertake their own checks in order to maintain compliance.



6.14 Tip Sites

Infrastructure Cook Islands waste sites may be available for disposal of excess or waste material as agreed prior.

Unless noted otherwise or agreed by the Engineer, all waste material not required for the completion of the Contract Works, shall be removed from the Site. Prior to commencement of the Contract Works the Contractor shall advise details of the proposed disposal site or facility to the Engineer.

Unless noted otherwise all excavated material not required for the completion of the Contract Works shall become the property of the Contractor on leaving the Site.

It shall be the responsibility of the Contractor to ensure that disposal of material is in accordance with the any Acts, Bylaws etc. No contaminated waste shall be disposed of as 'clean' fill.

6.15 Daily Maintenance

At the end of each work day the following maintenance tasks shall be carried out by the Contractor: a

- a) Clear site, roadway and footpaths of debris and sweep if requested by Engineer.
- b) Place safety barriers next to excavated areas and maintain in place until reinstatement is complete.
- c) Check and maintain where required site environmental controls.

6.16 Protection against Weather

The Contractor shall take all necessary precautions, to the satisfaction of the Engineer, to protect the works against the effects of any inclement weather which might adversely affect the quality of the work.

6.17 Reinstatement

The Contractor shall reinstate all Works and make good any damage caused by its operation to as good as or better than original condition.

The Engineer will seek written certification from property owners for approval of the reinstatement work. Should there be issues raised by the owners or occupiers, which in the opinion of the Engineer require further reinstatement or remedial work to be undertaken by the Contractor, these shall be made good as instructed by the Engineer. Such work may be required to be completed prior to issue of either the Practical Completion Certificate or the Final Completion Certificate.

6.18 Variations / Dayworks

No variation to the Contract work may be undertaken without a variation order signed by the Engineer, or by the Engineer's deputy duly authorised in writing by the Engineer.

Where it is inequitable to apply the Schedule of Prices to a Variation, the Engineer shall obtain a quotation for the work to be undertaken from the Contractor including all onsite/offsite overheads and profit. If this is acceptable the Engineer shall issue a Variation Order authorising the work to be done.

6.19 Issue of Practical Completion Certificate

The Contractor shall apply for the Certificate of Practical Completion in accordance with NZS3910: 2013 and shall notify the Engineer in writing, signed by the Contractor's Representative, stating that the works have been inspected and are free of omissions and defects and that the asset handover and as-built details have been provided.

If there are omissions or defects that, in the opinion of the Contractor's Representative do not impede the full use of the works then these shall be listed in the correspondence with a proposal on the rectification of such defects and the suggested timeframe for attendance of these.



The Engineer or Engineer's representative, and Infrastructure Cook Islands representatives will then jointly undertake an inspection of the works with the Contractor and add to (or delete) from the original defects list provided by the Contractor and the revised defect list will be given to the Contractor for rectification. The Engineer is not required to accept any outstanding defect that, in their opinion, the Contractor has no grounds for promptly rectifying and may require them to be rectified in accordance with [General Conditions of NZS3910:2013](#) Clause 10.4.1 prior to the issuance of the Certificate of Practical Completion or the Certificate of Completion. Issuance of these certificates shall be delayed until such items have been rectified. If the defects list contains items that, in the Engineer's opinion, are insignificant and they do not affect the unimpeded use of the new works and the Contractor has reasonable grounds for not promptly rectifying them, then the Engineer may agree to issuing of the Certificate of Practical Completion but the assessed value of the items requiring rectification may be retained until such items have been rectified. The Engineer will review the Contractor's proposal and suggested timeframe as submitted and will place a reasonable time limit on the completion of the remedial work. Where the defect works are not completed within this time, the Engineer may carry out the work using others at the Contractor's expense under the provisions of [General Conditions of NZS3910:2013](#) Clause 11.2.

6.20 Issue of Final Completion Certificate

The Contractor shall apply for the Final Completion Certificate in accordance with Clause 11.3 of NZS3910: 2013 as amended by the Special Conditions.

There is nothing in this clause which implies that the Engineer will issue the Final Completion Certificate with outstanding defects.



7 Definitions

These terms are additional to those defined in the [General Conditions of Contract \(NZS3910:2013\)](#). These are selected definitions and are not intended to be comprehensive.

Term	Definitions
As-built drawing	Means As-built plan.
BMP	Means Environmental Best Management Practice Guidelines.
CAR	Means Corridor Access Request. Required before works can be undertaken within the road corridor.
EMP	Means Environmental Management Plan. This is a contract specific plan prepared by the Contractor which sets out the means by which the Contractor intends to meet its environmental obligations under the Contract.
Environmental incident	Means an unplanned event that could cause (potential) or has caused (actual) impact (change) on the environment resulting from activities or services undertaken as part of this contract. For the purpose of these specifications, a subset of environmental incidents are those events which do not comply with statutory environmental requirements (i.e. Environment Act-related, permitted activity criteria, consent conditions, etc.).
NZS3910:2013	New Zealand Standard for Conditions of contract for building and civil engineering construction (for definitions refer to 1.2 Definitions)
NZTA	Means New Zealand Transport Agency
Quality Assurance	Means the management actions covering planning, quality control, testing, inspection and verification procedures integrated with production to provide a product fit for purpose.
Quality Plan	Quality Plan is quality assurance documentation specific to the Contract that describes the procedures for meeting the quality requirements of the Contract and complies with the minimum requirements of NZTA Quality Standard TQS2.
TMP	Traffic Management Plan
Work Instruction'	Means a document that specifies the key steps and sequences in the manufacture/construction for an activity: what, how and by whom it shall be done and what materials and equipment shall be used to achieve the required quality standards.

