

SECTION 160 - PRELIMINARIES – CONSTRUCTION (TASMANIA)

##This section cross-references Sections 176, 177, 199, 714 and 860.

If any of the above sections are relevant, they should be included in the specification.

If any of the above sections are not included in the specification, all references to those sections should be struck out, ensuring that the remaining text is still coherent:

##Section 176 must be included in the specification:

##The term Independent Reviewer should be amended to Superintendent or Independent Certifier as applicable to selected project delivery model.

This section covers the Project Specific, Standard Specification amendments and administration items relating to construction contracts and should be read in conjunction with Sections 176, 177 and 199.

160.00 GENERAL

##DRAFTING NOTE: The following clauses are project specific and can be amended or additional clauses added to meet the specific requirements of the contract works. The formatting of the clauses and tables should be maintained to ensure consistency of presentation across contracts. When an existing clause is deleted the title "Not Used" shall be used beside the number and the subsequent numbering shall not be changed to ensure that any cross referencing is maintained. Any new project specific clauses shall be inserted after Clause 160.16.

160.01 CONDITIONS OF CONTRACT

General- To AS 2124 General Conditions of Contract as amended.

160.02 COMMENCEMENT OF WORK

HP *The Contractor shall not commence work on site within 10 days of submission of the following documents to the Superintendent:*

- (a) Evidence of insurance conforming to the requirements of the General Conditions of Contract
- (b) Work Health and Safety Management Plan
- (c) Environmental Management Plan
- (d) Traffic Management Strategy and Traffic Management Plans
- (e) Stakeholder and Community Engagement Plan (SCEP)
- (f) A list of 2 emergency contacts
- (g) Construction Program
- (h) Information required under Clause 160.91 Work Health and Safety Incident Reporting
- (i) ##List any additional project requirements.

160.03 CONSTRUCTION PROGRAM

A Construction Program is

##Complete below as applicable

- Not required refer to Clause 160.72(b)(i)
- Is required in the format stated in Clause 160.72(b)(ii)
- Is required in the format stated in Clause 160.72(b)(iii)

160.04 ADJUSTMENT OF CONTRACT SUM

The following applies to the Adjustment of the Contract Sum in accordance with Standard Specification Section 199.

- Cost Adjustment for Materials- ##Applicable/ Not Applicable

- Cost Adjustment for Bitumen for Supply and Placement of Asphalt- Applicable
- Cost Adjustment for Bitumen for Supply and Placement of Priming, Primersealing and Sealing- Applicable

DRAFTING NOTE: Ensure that Table 199.071 is completed and included in the Specification.

Cost Adjustment is to be calculated in accordance with the requirements of Section 199.

160.05 CODES OF PRACTICE

The Standard Sections reference VicRoads Codes of Practice. The Department of State Growth has prepared a Tasmanian Supplement to the VicRoads Codes of Practice for Pavements and Surfacing that reflects Tasmanian conditions and required jurisdictional practices. These amendments mainly relate to design matters. The Contractor must inform itself of the requirements of these referenced Codes of Practice and the Tasmanian Supplement applicable to the Works.

160.06 EXTENT OF WORK AND LIMITS OF WORK

The Works involve construction/reconstruction of ####. The works are located on the #### between ## and ## The Link Map references are Road A##, Link ##, Ch #.## to Ch #.##.

The relevant Department of State Growth Link Map is included in Appendix ##.

The ### Main Road / ### Highway is classified as a Category # Road under the State Road Hierarchy.

Scope of Works:

The Contract involves the following works:

##DRAFTING NOTE: Provide a description of the works required to be undertaken.

Limit of Contract:

Further to the Limits of Contract shown on the Drawings, the Limits of Contract includes those portions of the abutting properties sufficient for structures to be surveyed in accordance with Clause 160.82.

160.07 TRAFFIC MANAGEMENT

Standards and Guidance

The Contractor shall manage traffic in accordance with:

- The Tasmanian *Traffic Act*;
- The Tasmanian Traffic (Road Rules) Regulations;
- Traffic Control for Works on Roads, Tasmanian Guide 2020.
- AS 1742 Manual of Uniform Traffic Control Devices in particular Part 3 Traffic control for works in Roads 2019.
- As at 1 January 2021, the 2019 Austroads Guide to Temporary Traffic Management (Part 1 – 10) will be formally adopted in Tasmania. It is the Contractors responsibility to conduct Traffic Management in accordance with this Guide at this time.

##DRAFTING NOTE: Use either alternative 1 or 2 below. Alternative 1 shall be used for all works where traffic volumes are below 3,000 vpd except for works on Category 1 roads or on the National Highway where Alternative 2 should be used. **The clauses may be amended to suit project specific requirements.** The unused alternative is to be deleted.

Delays to traffic

The stopping of traffic is only allowed for "long term" worksites and bituminous surfacing operations where works cannot occur under traffic only.

Where there has been no advance warning, the stoppage time shall not exceed 8 minutes and

where advance warning has been provided, the stoppage time shall not exceed 15 minutes.

The stoppage time shall be measured from the time at which the first vehicle is stationary and in total, the delay to traffic including queueing time and travel time through the worksite must not exceed twice the stoppage time.

##Alternative 1## Traffic management General

This is not a "High Profile Site" with the traffic volume on this section of highway approximately ## vehicles per day (AADT – two way) with ## heavy vehicles.

Traffic Management Plans shall as a minimum allow for the following:

- One lane of traffic no less than 3.0m in width during working hours;
- Two lanes of traffic outside of working hours;
- The length of activity interfering with traffic not greater than 500m;
- No section of road trafficked under gravel greater than 1km in length with gravel sections separated by no less than a 1km of sealed road;
- Ensure access to local connecting roads is maintained at all times

##Alternative 2## Traffic management General

The site or part of the site is to be considered a High Profile site being where Annual Average Daily Traffic is equal to or greater than 3,000 vpd (sum of two directions).

For these sites the Traffic Management Plan shall also include the following:

- Identification by name and contact number for the person who shall be on site at all times during work with responsibility for implementing the traffic management. In areas outside mobile phone range other communication systems shall be provided to communicate back to the Contractor's Operations Management base.
- Provide for addressing any special needs for local landowners and businesses and the nature and timing of personal contact to advise of the effects of traffic management.
- Co-ordination of works with adjacent work by other contractors or Government Authorities.
- The nature of actions to cover the contingency where procedures do not achieve the requirements of this Specification.

Traffic Management Plans shall as a minimum allow for the following:

- Two lanes of traffic shall be open at all times;
- Maintain a 80km/h speed limit through the site during working hours and after working hours except for;
 - No more than #1/2# sections of road of no greater than #2km# in length separated by no less than a #2km# section of road at 80 km/h speed limit;
- Ensure access to local connecting roads is maintained at all times.

Roadwork Speed Limit Spray Sealing Works

Sprayed sealing or other activity requiring works to occur without temporary safety barrier, thus requiring a lower speed limit, is restricted to a maximum length of 2km.

The speed limits following spray sealing must be maintained as detailed in the schedule below.

Period following Sealing	Speed Limit	Requirements
First 24 Hours	40 km/h	The surface shall be suction swept prior to opening to traffic. The depth of loose aggregate build-up along the edge of traffic lane shall not exceed 20mm.
From 24 to 48	60 km/h	Ensure adequate rolling to retain aggregate and

Hours		regular sweeping to remove loose aggregate.
From 48 Hours	80 km/h	Complete line marking and increase speed limit to 80 km/h.

Temporary Pavement Markings

All temporary pavement marking shall be the same colour over the entire length of the site.

All redundant line marking and Raised Reflective Pavement Markers (RRPMs) within the limits of work shall be removed or covered so that they are not visible to road users under all conditions, including dark and wet conditions.

There is to be no evidence of temporary pavement markings on the final surfacing.

Over Size-Over Mass Vehicles

The Contractor must recognise the ongoing and legitimate need to reasonably accommodate Over Size-Over Mass vehicles travelling through the site. The Contractor will provide the Superintendent with contact details for the site supervisor with the authority to reach agreements with operators and facilitate travel through the site where appropriate.

Information about agreements are to be provided to the Superintendent prior to the time of travel. The contact details will be made available by the Department to Over Size-Over Mass operators.

Prior to travel through any State road work site, where the vehicle inclusive of load exceeds 3.0 metres in width, the Over Size-Over Mass vehicle operator is required to make direct contact with the Construction Contractor to agree travel arrangements and conditions and to ensure that the vehicle, together with its load, can safely negotiate the site without unreasonably disrupting other road users or causing damage.

Where a Transport Escort is involved in the activity, written confirmation of the agreement between the operator and the site supervisor must be made available and agreed with the Transport Escort at least ten (10) days prior to travel.

Roadworks Roundup

The Principal maintains a Roadworks Roundup published on the Transport Services website every Monday morning that advises the community of scheduled works taking place on the State road network over a two-week period – see https://www.transport.tas.gov.au/road/closures_delays

The Contractor must submit to the Principal details of new works or amendments to existing works that require traffic management by COB Wednesday of every week (submission day) such that the works can be included in the Roadworks Roundup that will be published the following Monday.

The Contractor shall not commence work where the traffic management details have not been submitted to the Principal and where scheduled to commence prior to 12 days following the submission day.

160.08 STATUTORY REQUIREMENTS

The Principal before entering into the Contract, has given the notices, paid the fees, and obtained permits, approvals and other authorisations stated in the Prior Applications and Approvals Schedule below.

Prior Applications and Approvals Schedule

Prior notices given and applications	Fees Paid	Permits, approvals and authorisations received
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made		
## Add details		

The Contractor shall comply with the conditions stated in the Authority Condition Schedule below.

Authority Conditions Schedule

Authority	Document	Conditions
## Add details of all conditions		

160.09 ENVIRONMENTAL MANAGEMENT

160.09A Threatened Flora Exclusion Zones

The locations outlined in the Exclusion Zone Schedule contain Threatened flora species and shall be protected in accordance with Standard Specification Clause 176.I(c).

Threatened Flora Schedule

Location	Details of Threatened Flora
## Add details	

160.09B Weed Management

Weeds have been recorded in the vicinity of the proposed works. A weed survey of the project footprint identified weed locations as outlined below.

Weed Schedule

Location	Details of Weeds
## Add details	

Weeds shall be treated in accordance with the requirements of Clause 160.42B.

160.09C Aboriginal and European Heritage

Details of Aboriginal and European Heritage sites recorded in the vicinity of the proposed works are shown in the schedule below.

Heritage Site Schedule

Location	Description	Action Required
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## Add details		

160.10 PROJECT INFORMATION SIGNS

Project Information Signs ##are required/ are not required##

Where required the Project Information Signs are to be placed at the following locations:

DRAFTING NOTE:(the sign types/drawing numbers in the schedule below are applicable to State Government funded works only - in the case of Federal Government funded works contact State Roads Project Manager for information on project information signing requirements, and insert details in the schedule below.

Project Information Sign Schedule ##(type in the appropriate requirements below):

Serial	Sign Type	Drawing No.	Number Required	Location
(a)	Type 1	658003B	##:	##:
(b)	Type 2	658004B	##:	##:
##:				

Project Information Signs are to be installed and removed in accordance with the requirements of Clause 160.71.

160.11 VARIABLE MESSAGE BOARDS

Variable Message Boards ##are required/ are not required##

##DRAFTING NOTE: Where VMB's are required complete the following as applicable. Note the location is optional.

The Contractor shall provide #No Variable Message Boards.

The Variable Message Boards are to be located as follows:

- ##insert location

Variable Message Boards are to be installed in accordance with the requirements of the Stakeholder and Community Engagement Plan produced in accordance with Specification Section 177.

160.12 EXISTING SERVICES

The Works are in close proximity to the following known services:##DRAFTING NOTE: Amend schedule below for known services

Services Schedule

Service Owner	Details and Location	Agreement Details
##Amend list below as required	## Add details	## Add details
Tas Networks Pty Ltd		
Telstra Corporation		
Optus Ltd		
NBN Co		

Tas Water Pty Ltd		
Tas Gas Pty Ltd		

Before commencement of the Works the Contractor shall convene a meeting with the relevant Service Owner to determine the programming necessary for coordination of the work of the Contractor with that of the Service Owner.

160.13 UNSUITABLE MATERIALS

##DRAFTING NOTE: It is essential that the designer undertakes a risk assessment to determine the location and quantity of Unsuitable Material and includes this information on the Drawings.

Further to Standard Specification Clause 204.07 locations and volumes of unsuitable materials are shown on the drawings.

The replacement of Unsuitable Material identified on the drawings is deemed to be included in the Contract Sum. Any additional replacement shall be a variation to the Contract.

For all unsuitable materials replaced the Contractor shall record the quantity and have the record certified by the Quality Assurance Verifier.

160.14 SPRAY SEAL TREATMENTS

##DRAFTING NOTE: The following section shall be used where the Spray Seal treatments are to be selected by the Contractor as part of the works to be undertaken. Also note that Table 408.171 will still need to be populated with information such as locations and Traffic Data but no seal information is to be provided. Drawings are only to specify the location of the seal treatment.

The Contractor is to select all Spray Seal surfacing treatment for the works including both the initial and secondary treatments.

Further to section 408 the treatment shall be selected in accordance Austroads Guide to pavement Technology Part 4K- Selection and Design of Sprayed Seals.

The secondary treatment is to be applied over the area shown on the drawings or specified elsewhere in the Contract and incorporate a minimum 10mm size aggregate. The secondary treatment shall use aggregates with a minimum PSV stated in the Bituminous Surfacing Requirements Schedule.

Any initial treatment which is intended to be trafficked for more than 6 months shall use aggregates with a minimum PSV of 48.

160.15 POLISHED STONE VALUE (PSV) REQUIREMENTS

The following minimum PSV values apply for the following bituminous surfacing products and locations:

Bituminous Surfacing Requirements Schedule

Bituminous Surfacing	Location	PSV Value
## Add details		

160.16 RIDE QUALITY FOR PAVEMENTS CONSTRUCTED UNDER TRAFFIC

##DRAFTING NOTE: The following clause is to be included where it is expected that some or all of the pavement is to be constructed under traffic e.g. overlays on existing roads, tie-ins at the ends of new construction.

Where pavements have been constructed under traffic the Superintendent shall add an additional 0.2 IRI to the Maximum Mean Lane Roughness value in Table 180.092- Standard of Ride Quality for the part of the works that is constructed under traffic.

For the purpose of applying this clause "pavements constructed under traffic" are deemed to be in areas where traffic is applied to the pavement during all stages of the construction and cannot be diverted during construction. This does not apply to works where the construction is substantially undertaken clear of traffic and the Contractor chooses to divert traffic onto the new pavement for short periods of time.

160.40 AMENDMENTS TO STANDARD SECTIONS

##DRAFTING NOTE: The following clauses are amendments to the Standard Specifications Sections and can be included or deleted as required. No changes to the wording of these amendments are to be made, or new amendments added, unless approved by State Growth as a Departure from Standard. When an existing clause is deleted the title "Not Used" shall be used beside the number and the subsequent numbering shall not be changed to ensure that any cross referencing is maintained.

160.41 NOT USED

160.42 ENVIRONMENTAL MANAGEMENT

160.42A Existing Seal

The following is added to Clause 176.E1.

Where the existing seal is to be removed or re-used, all material containing existing seal shall be considered contaminated material.

160.42B Weed Management

The following is added to Clause 176.I2.

The Contractor is to;

- ensure compliance with the *Weed Management Act 1999* which requires all works undertaken within weed infested areas to be appropriately managed to reduce further spread,
- undertake works in accordance with the following manuals;
 - Keeping It Clean – A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens:
<http://dipwe.tas.gov.au/invasivespecies/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-fieldhygiene-manual>
 - Tasmanian Washdown Guidelines for Weed and Disease Control, Ed.1
www.dipwe.tas.gov.au/invasive-species/weeds/weedhygiene/washdown-guidelines
 - Weed and Disease Planning and Hygiene Guidelines 2015
www.dipwe.tas.gov.au/Documents/Weed_Management_and_Hygiene_Guidelines.pdf

160.42C Tasmanian Devil

The following is added to Table 176.K1.01.

Where the Contractor identifies any potential dens for Tasmanian Devils during works, the Contractor shall notify the Superintendent immediately and seek direction.

160.43 SITE EXCAVATION

Clause 204.07(b) is amended by deleting the last paragraph commencing with "Where material" and the sub clauses (i), (ii) and (iii).

160.44 SHOULDER SEALING AND MINOR WIDENING WORKS

##DRAFTING NOTE: The following Clauses 160.43A, 160.43B and 160.43C shall be used for Shoulder Sealing or other minor widening works (such as minor curve widenings) where excavations are required to be back filled on the day of excavation. These clauses are not to be used where there is extensive pavement widening such as the addition of adjacent lanes.

160.44A SITE EXCAVATION

The following Clause shall replace Clause 204.6(e)

The material at the Cut Floor Level shall have a CBR of not less than that specified for Type B material. The CBR can be measured using either of the following methods

- (i) Soaked CBR in accordance with VicRoads Code of Practice RC 500.20
- (ii) In-situ field assessment using a Farnell Penetrometer in accordance with the State Growth procedure
- (iii) In-situ field assessment using a Dynamic Cone Penetrometer in accordance with AS 1289.6.3.2 and the State Growth procedure

Where the In-situ methods in (ii) and (iii) above are used testing shall be undertaken at a rate of 1 for every 200m² of subgrade.

In-situ material below the Cut Floor Level having a CBR less than that specified for Type B material shall be removed to a depth shown on the drawings or as directed by the Superintendent. The material shall be replaced with conforming Type B material.

Where removal and replacement of material is not required the cut floor level will not require any additional treatment.

160.44B PAVEMENT COMPACTION

The following amendments are made to Specification 304.

The Scale for Assessment of Compaction specified in Table 304.121 shall be Scale B.

Further to Clause 304.06 the Contractor may elect to construct the Lower and Upper Sub-Base layers using the same material specified for the Upper Sub-Base layer. The combined Sub-Base layers shall be tested as a single layer to a minimum depth of 300mm.

Further to Clause 304.08(b)(iv) test rolling of the Sub-Base layers may be omitted on narrow areas of widening where it cannot be practically undertaken. Test rolling of the Base layer is still required.

160.45 SPRAY SEAL SELECTION

The following is added to Clause 408.11(a).

When selecting binder types in accordance with the requirements of Part 4K- Selection and Design of Sprayed Seals the temperature environment used for selection is deemed to be as follows:

- Cool for initial seals in accordance with Table 4.6
- Low for other seals in accordance with table 4.7

160.46 AGGREGATES FOR ASPHALT USED AS WEARING COURSE

The following is added to Clause 407.03(g).

Notwithstanding the other requirements of this clause where a minimum Polished Stone Value (PSV) is specified for asphalt wearing courses all individual components of the Coarse Aggregate

shall meet the minimum specified Polished Stone Value.

160.47 BRIDGE NUMBER, LOAD CAPACITY AND DATE MARKS

The following is added to Section 610.

The Contractor shall provide the necessary stencils for placement on the face of formwork to show clearly on the finished concrete, the bridge number, the design loading and year of construction. The stencil lettering shall be 75mm high, 5mm deep and be clearly legible.

The depth of the lettering shall not reduce the minimum cover to the reinforcement below that specified. The lettering shall be mirror checked prior to placement of concrete.

For bridges, culverts, pedestrian and stock underpasses, the asset number; design loading and the year of construction shall be marked into the inside face of the left hand kerb at Abutment A (Abutment A is the abutment listed on the lower link map reference chainage) and on the diagonal kerb face at the other abutment unless otherwise approved by the Superintendent.

160.48 FENCING (W-BEAM SAFETY BARRIER)

The following is added to Clause 708.07(b)

New W-beam safety barrier shall be supplied as 4-metre lengths and include Motorcycle Impact Attenuator.

The following is added to Clause 708.07(c)

All road safety barrier terminals shall be redirective non-gating terminals and shall be installed in accordance with the manufacturer's recommendations.

160.49 PERMEABILITY TESTING

The following is added to Section 812.

Permeability testing shall be carried out for Class 1 and Class 4 crushed rock. The test results shall be supplied to the Superintendent along with other pavement test results. Notwithstanding the specification, material that does not meet the permeability requirements can still be used as Class 1 and class 4 material.

160.50 – ADMINISTRATION

##DRAFTING NOTE: The following clauses are related to the administration of the contract. No changes to the wording of these amendments are to be made unless approved by State Growth as a Departure from Standard.

160.51 QUALITY MANAGEMENT SYSTEMS STANDARDS

The Works under this Contract shall be undertaken in accordance with a Quality Management System that meets the requirements of relevant AS/NZS ISO Standards. The Standards specified in this clause form part of this Specification. Copies are not included in this document.

These Standards include:

AS/NZS ISO 9001	Quality Management Systems - Requirements
AS/NZS ISO 14001	Environmental Management Systems - Specification with guidance for use
AS/NZS 4801	OHS – Management Systems

The Quality Systems shall demonstrate compliance with all relevant Acts and Regulations and the requirements of the Contract Specification and as a minimum must include:

- a Quality Plan which addresses the requirements in this Specification and demonstrates compliance with relevant AS/NZS ISO Standards;
- Templates for Inspection and Test Plans and templates for all Lot Records required by Inspection and Test Plans;
- Commissioning Plans required by the Contract;
- Construction Procedures required by relevant specifications;
- Procedures and systems for management of design and construction records.

The contractor must exercise quality control of the Works, including works undertaken by sub-contractors, and must establish systems and procedures that will provide the information specified in this section to provide assurance of that control.

160.52 QUALITY TERMS AND DEFINITIONS

Quality terms and definitions shall be as defined by the Australian Standard AS/NZS ISO 9000 Quality management systems – Fundamentals and vocabulary.

Other definition and terms shall be as follows:

'asset component' means a component part of a road, bridge or other asset forming part of the works.

'accredited laboratory' or **'accredited method'** means -

- for all inspections (other than for material which is supplied from outside Australia) a laboratory or method (as the case requires) accredited by the National Association of Testing Authorities (NATA) for those inspections or inspection methods;
- for all material which is supplied from outside Australia, a laboratory or method accredited by NATA for those inspections or inspection methods or by another laboratory or method accredited by a recognised certifying body approved in the Contract or, if the Contract does not provide such approval, then by a recognised certifying body approved by the Superintendent.

'Independent Reviewer' means the independent reviewer appointed by the Superintendent to undertake audits of the Quality Management System.

'inspection' means and incorporates measuring, testing or otherwise examining goods and services or works or materials (including, where appropriate, raw materials, components and

intermediate assemblies) for determining conformity with the specified requirements.

'lot' (or 'work lot') means a discrete element of work which has been constructed in a continuous operation under essentially uniform conditions and is essentially homogeneous with respect to material properties, general appearance and construction process. A lot must only comprise a single layer, batch or area of like work and unless otherwise specified the extent of each lot must not exceed one day's production.

'lot Diagram' means a diagram showing the location and bounds of each Work Lot within an Asset Component comprising multiple lots that are not identified separately on the design drawings or in the Work Breakdown Structure. (e.g. an earthworks embankment, a section of pavement, or a soil nail wall).

'lot Records' means all test and inspection records and certificates required by the applicable Inspection and Test Plan.

'lot Register' means a register or system that enables identification of each lot within the Work Breakdown Structure and the completion and conformance status of each lot.

'measuring' includes checking for line, level, dimensional accuracy and quantity.

'on-line access' means accessible via the internet as an electronic record.

'test' includes taking of samples and specimens and preparation of materials and work for testing.

'Hold Point' means those points beyond which the stated activity must not proceed without the Quality Assurance Verifier's approval to proceed. The Quality Assurance Verifier's approval to proceed beyond the Hold Point does not relieve the Contractor of responsibility for satisfactory execution or performance of the work.

Hold Points are identified in the specification by the letters HP in the left margin and by bold text print or arise from a nonconformity.

Text which is bold typed but not identified by the letters HP in the left margin does not reflect a Hold Point. Such text reflects specified obligations on the Contractor requiring the review or approval of the Quality Assurance Verifier. They are bold typed for ease of identification.

'Quality Assurance Verifier' – a person engaged by a contractor to undertake specified quality assurance functions as identified in this specification, including release of Hold Points.

'Review Point' – Verification check points identified in the Inspection and Test Plans requiring verification of requirements and collection of records.

'Witness Point' - Verification check points identified in the Inspection and Test Plans that are not designated as Hold Points but require inspection by the Superintendent.

'work package' – one or more lots of the same work kind covered by a single Inspection and Test Plan.

160.53 QUALITY REPRESENTATIVES

The Contractor shall appoint persons to the following Quality Representative positions:

- a Quality Management Representative to manage and administer the Contractor's Quality Management System in accordance with the appropriate Australian Standard(s) and the Contractor's Quality Plan; and,
- one or more Quality Assurance Verifiers to manage and administer the releasing of Hold Points, the closure of Work Packages and the closure of Notices of non-conformance relating to Work Lots. The Quality Assurance Verifiers, must:
 - be accountable to the Contractor, but required to act as independent verifiers of the quality assurance process;

- not be involved in the day-to-day construction or supervision of construction;
- have appropriate qualifications, experience and competence to undertake their role proficiently;
- have a thorough understanding of relevant design documentation and specification requirements;
- be the only persons authorised to release Hold Points and close Work Packages within their designated scope of authority;

The Quality Assurance Verifier is to meet the following requirements:

- For road construction works a minimum of 5 years experience in design or construction of roadworks in particular earthworks, pavements and sealing.
- For bridge construction works an Engineer eligible for membership of Engineers Australia and a minimum of 8 years experience in design and construction of bridges.
- For bridge rehabilitation works in addition to the requirements for bridge construction above where the works require preparation or repairs to concrete or steel structures experience in major structure rehabilitation is also required.
- Experience in the implementation of quality assurance systems.

The following Hold and Witness Points are to remain with the Superintendent all other Hold Points are to be undertaken by the Quality Assurance Verifier:

Specification Clause	Description
160.02	Commencement of Work
160.42C	Tasmanian Devil Dens
160.85A	Wording on VMB's
204.09	Approval of Borrow Excavation in Road Reserve
205.04	Use of Oversize Rock
408.13	Treatment of Seal Defects
430.10	Treatment of Defects
431.12	Treatment of Defects
605.12	Treatment of Defective Piles
610.07	Approval of Concrete Mix Design
610.24	Repairs of Cracked Concrete
611.05	Use of Reinforcing Steel not covered by Third Party (ACRS) certification
630.07	Use of Weld Repaired Steel
680.05	Use of Alternative Anchor
680.10	Rectification proposals for failed anchors
683.14	Rectification proposals for failed anchors
688.09	Approval of Repair Procedure
689.08	Deviation from manufactures repair specifications
701.25	Approval of Repair procedures
721.A12	Approval of removal of unsuitable pavement marking
765.03 & 04	Changes to approved design details
801.03	Use of non-compliant materials with proven record
	Any other Hold Point or Specification requirement not listed above which requires approval or rectification of non-compliant product

Any proposed changes to the nominated Quality Representatives must be notified promptly to the Principal and the Superintendent. Within 10 working days of receipt of the notice of nomination of Quality Representatives, the Superintendent shall issue advice of acceptance or rejection of the nominations.

160.54 QUALITY PLANS AND PROCEDURES

(a) General

The Contractor shall submit for consideration by the Superintendent a controlled copy of the quality plans and procedures relating to each stage of the work under the Contract not less than 10 business days prior to the commencement of that stage of the work unless specified otherwise.

The quality plans and procedures required under the Contract shall cover but not be limited to the following management systems:

- Quality
- Traffic
- Environmental
- Work Health and Safety
- Incident Management and Reporting.

The Quality Plan must:

- Nominate and define the responsibility, authority and reporting function of personnel primarily responsible for ensuring the effectiveness of the Quality Management System, including:
 - a Quality Management Representative who has responsibility for ensuring that the requirements of the Quality Plan are implemented and maintained, and for authorising closure of Notices of non-conformance that are not related to Work Lots; and
 - one or more Quality Assurance Verifiers responsible for releasing Hold Points, authorising closure of Work Packages and authorising closure of Notices of non-conformance relating to Work Lots,
- Designate for each Quality Assurance Verifier the scope of construction activities that they are authorised to verify; and,
- Provide for all Quality Representatives sufficient information to demonstrate relevant qualifications, experience and required competencies to exercise the designated scope of their authority.

A quality plan or procedure shall be changed if it:

- (i) does not adequately address the specification requirements;
- (ii) is causing non-conformity;
- (iii) has to be changed because of an audit; or
- (iv) no longer represents current or appropriate practice.

The Contractor shall immediately notify the Superintendent of any change to the plans or procedures and the amended documentation shall be submitted to the Superintendent within 5 business days of such notice.

(b) Management System Plans

The quality plan for a stage of the contract shall require the preparation of the following management system plans and shall be forwarded to the Superintendent by the nominated time:

- Traffic Management Plan [refer Section 160.07]
- Environmental Management Plan [refer Section ##176:]
- Work Health and Safety Management Plan [refer Annexure Part B to the General Conditions of Contract].

(c) Work undertaken by subcontractors

The Contractor must ensure that all works carried out by subcontractors complies with the

requirements of this Specification.

The Quality Plan must include:

- procedures and criteria for the evaluation, selection, supervision and monitoring of performance of subcontractors;
- procedures that will ensure that subcontractors comply with the Quality Plan requirements relating to:
 - the Work Breakdown Structure;
 - Inspection and Test Plans;
 - Hold Points and Witness Points;
 - Product identification and traceability;
 - Construction procedures;
 - Control of non-conformance;
 - Progressive closure of Work Packages;
 - Management of Defects
 - On-line access to records

160.55 WORK BREAKDOWN STRUCTURE

The Work Breakdown Structure:

- Must be subdivided into discrete sections of the Works between readily identified points such as intersections, interchanges, cross roads, stream crossings, or other points established by the Contractor to manage staging of the Works;
- Within each discrete section, must be structured in successive layers of:
 - Assets, classified by standard Asset Types;
 - Asset Components within each Asset, classified by standard Component Types; and
 - Work Packages within each Asset Component, where each Work Package represents a group of Work Lots covered by an Inspection and Test Plan
- Must include a system of uniquely identifying each separate element within the structure
- Must be progressively defined and maintained in the contractor's record management system.

Unless otherwise specified, the standard Asset Types and Asset Component Types must conform to the Austroads Guide to Project Delivery Part 5: Road Construction Quality Assurance.

The Quality Plan must include the following details for the Work Breakdown Structure:

- A definition of the discrete sections of the Works.
- The standard Asset Types and Asset Component Types.
- A system that will be used to uniquely and consistently identify each element of the Work Breakdown Structure in the Design and Construction Program, Design Documentation, and Construction Records.

160.56 INSPECTION AND TEST PLANS

The content of the Inspection and Test Plans and associated lot records must conform to the Austroads Guide to Project Delivery Part 5: Road Construction Quality Assurance.

The Contractor must:

- ensure that Inspection and Test Plans include all verification check points required by relevant specifications;
- prepare a template for each of the Construction Records designated in each Inspection and Test Plan; and,
- submit each Inspection and Test Plan template and the associated Construction Record templates at least 10 Work Days prior to commencing any related construction activities.

Verification check points identified in the content of the Inspection and Test Plans shall be designated as either a **Review Point**, **Hold Point** or **Witness Point**.

Construction Record templates must show the specified inspection and test requirements and acceptance criteria, and require entry of the actual inspections and tests performed and test results.

The submitted templates must be amended to address any non-conformances notified by the Superintendent.

Prior to commencing any Work Package, an Inspection and Test Plan and associated Construction Record must be prepared using the relevant template.

The Superintendent may review the Inspection and Test Plans and may elect to nominate one or more Hold Points as Witness Points or as Superintendent-released Hold Points in addition to those in Clause 160.53.

160.57 NOMINATED HOLD POINTS AND WITNESS POINTS

The Contractor's quality plans and procedures shall identify all Hold Points and Witness Points including all Hold Points identified by the Specification.

The Superintendent must be given reasonable notice of each Witness Points and the intended release of each Hold Point and may nominate persons to attend each Witness Point and the release of each Hold Point. Unless otherwise specified or agreed by the Superintendent, reasonable notice means at least 2 Business Day.

A Hold Point must only be released by the nominated Quality Assurance Verifier, who must physically inspect the works and the completed Lot Records to verify compliance with the Inspection and Test Plan and the Design Documentation before releasing the Hold Point.

160.58 PRODUCT IDENTIFICATION AND TRACEABILITY

The Contractor's procedures and systems for records management must ensure that:

- every Work Lot required to construct the Works is uniquely identified;
- each Work Lot is recorded on the Inspection and Test Plan for the relevant Work Package within the Work Breakdown Structure;
- the Lot Records for each Work Lot are traceable to the Work Lot and to the relevant checkpoint within the applicable Inspection and Test Plan; and,
- all requisitions for testing and the corresponding test certificates are traceable to the relevant Lot Record.

160.59 CONSTRUCTION PROCEDURES

The Contractor must ensure that documented construction procedures:

- will achieve specified requirements;
- are understood and used by construction personnel;
- identify Hold Points and Witness Points that must be notified to the Superintendent; and,
- are reviewed for corrective action in the event of non-conformance.

Construction procedures that are required under the Contract to be submitted for review:

- must be identified in a schedule in the Quality Plan which shows the proposed date for submission;
- must be submitted to the Superintendent at least 10 Business days prior to the planned commencement of the respective construction activities; and,
- must be amended to address non-conformances notified by the Superintendent before the construction activities commence.

160.60 CONTROL OF NON-CONFORMING PRODUCT

The Contractor must;

- notify the Principal and the Superintendent of any non-conformance with respect to the contract requirements within 2 Business Days of the non-conformance being identified by the Contractor or notified by the Principal or the Superintendent;
- maintain a register in which each Notice of Non-Conformance and the status of each Notice is recorded;
- review and analyse the cause of all non-conformances and develop a plan of corrective action to minimise the likelihood of re-occurrence.

The Quality Plan must include a procedure for managing non-conformances and identify which of the following options is proposed:

- rectification to achieve full compliance, thereby extinguishing the non-conformance;
- a Design Change, to accommodate the non-conformance whilst still meeting all specified requirements;
- repairs permitted by the relevant Reference Documents, subject to the Principal accepting proposed repair procedures and Inspection and Test Plans;
- the Principal accepting the non-conformance as a Defect.

A Work Lot non-conformance must be treated as a Hold Point which must not be released until:

- a procedure for managing non-conformances acceptable to the Principal is submitted to the Principal and the Superintendent;
- the Superintendent has been notified of the intended release of the Hold Point;
- the works and the lot records have been inspected to verify that the accepted procedure for managing non-conformances has been implemented; or
- any Work Lot non-conformance accepted by the Principal as a Defect has been recorded in the Defect register; and

Each Notice of Non-Conformance must be recorded in the register as either a Work Lot non-conformance or a process non-conformance, and the status of each Notice of Non-Conformance must be recorded as 'Open' in the register until;

- in the case of process non-conformances, closure has been authorised by the Quality Manager; or
- in the case of Work Lot non-conformances, the associated Hold Point has been released.

The register must enable each Work Lot non-conformance to be traced to the affected Work Package in the Work Breakdown Structure.

160.61 PROGRESSIVE CLOSURE OF WORK LOTS

The Quality Plan must include procedures that will ensure that Work Packages are closed as soon as practicable after completion of the Work Lots within the Work Package.

Work Packages must not be closed until:

- all related inspections have been completed;
- all tests have been completed and the results recorded;
- all non-conformances have been notified and recorded in the register of Notices of non-conformance;
- all non-conformances have either been closed or with the Superintendent's approval, transferred to the Defects List;
- all changes to design details have been recorded and cross referenced to the relevant Design Change Notice on a marked up and certified copy of the relevant drawings;
- the complete set of Construction Records are available for inspection by the Principal and the Superintendent via the on-line access service;
- the designated Quality Assurance Verifier authorises closure of the Inspection and Test Plan to which the Work Lots relate; and,
- closure of the Work Package is recorded in the Contractor's records management system.

Work Packages must be closed before:

- The Work Package is covered up, unless approved otherwise by the Superintendent;
- Manufactured components, including precast and fabricated components, are erected or installed into the Works;
- The Work Package can be recorded as completed on a Progress Certificate.

160.62 DEFECTS

Prior to completion of the Works and for the duration of the Defects Liability Period the Contractor must maintain a register for monitoring the rectification of any Defects:

- recorded in the process of closure of Work Packages; or
- identified by the Contractor or notified by the Principal or Superintendent after closure of the respective Work Packages.

Records of Defects must not be deleted from the Defects Register.

The Defects Register must:

- identify the Asset Component to which the Defect relates;
- include sufficient detail to enable the Defect to be readily located;
- identify any Defects proposed to be accepted by the Principal and include references to any correspondence between the parties in respect of such Defects;
- show details of the proposed rectification plan;
- record when the Defect is rectified and when the Defect is closed.

A Defect must not be closed in the Defects Register unless:

- the rectification plan has been accepted in writing by the Principal;
- a nominated Quality Assurance Verifier has physically inspected the rectification works and verified compliance with the rectification plan; and
- a nominated Quality Assurance Verifier has authorised closure of the Defect; or
- the Defect has been accepted in writing by the Superintendent.

160.63 AUDITS BY THE CONTRACTOR

The Contractor shall carry out audits in accordance with the requirements of AS/NZS ISO 19011:2002 'Guidelines for quality and/or environmental management systems auditing'.

The Contractor shall prepare an audit and surveillance schedule for each subcontractor, which shall be submitted to the Superintendent for review prior to the commencement of work by the subcontractor. The Contractor shall conduct regular surveillance and audits of all on-site and off-site subcontractors, sufficient to ensure that all work and materials comply with the Contract.

The Contractor shall notify the Superintendent of the times when formal audits of a subcontractor are to occur.

The Contractor shall carry out surveillance for precast concrete, structural steelwork and protective coatings of structural steelwork in accordance with the following references:

VicRoads Technical Bulletin No 46 - Guide to Surveillance of Structural Steelwork

VicRoads Technical Bulletin No 47 - Guide to Surveillance of Precast Concrete

VicRoads Technical Bulletin No 48 - Guide to Surveillance of Protective Coatings of Structural Steelwork.

The Contractor shall comply with all the requirements of these references including using companies accredited by NATA for surveillance of these respective activities and surveillance officers engaged by these companies having the qualifications and experience specified in these respective references.

160.64 RECORDS

During the execution of work under the Contract, the Contractor shall maintain records pertaining to the Contract in accordance with the Contract and the Contractor's Quality System.

The Contractor shall maintain the following records as a minimum:

- all test records;
- all Hold Points;
- all Inspection and Test Plans;
- all relevant survey information;
- all plant and labour records confirming daily usage and work activities throughout the Contract;
- all weather records; and,
- copies of all construction programs.
- The Contractor must establish records management procedures and systems that will ensure that:

- the construction records identified in the left column of table below, including records for works undertaken by subcontractors, are integrated within a system managed by the Contractor;
- the Principal and the Superintendent have convenient on-line access (electronic documents accessible via the internet) to the design and construction records; and.
- design and construction records are recorded progressively and promptly in the system to show, as far as reasonably practicable, the current status of the Works.

Construction Records

Design & Construction Records	Reporting Variables
The Work Breakdown Structure	Project Section or Asset Type
Construction Procedures	
ITP & Work Lot Record Templates	
Work Lot register	Work Breakdown Structure or Status
Closed Work Lot Records	Work Breakdown Structure
Sampling and test results register	Work Lot or Test Laboratory
As-Built drawings	Work Breakdown Structure
Notice of non-conformance register	Work Breakdown Structure
Defects register	Work Breakdown Structure

The Contractor shall make all records pertaining to the Contract available to the Superintendent at all times and when requested by the Superintendent, the Contractor shall provide a copy of the requested records within 5 business days.

The on-line access must:

- present records in a format acceptable to the Principal and the Superintendent
- enable convenient searching and selection of records
- enable printing of reports or downloading of reports in electronic (Microsoft Office or Adobe PDF) format.
- all current and superseded versions of documents must be accessible at all times with the current version being predominant and each superseded version clearly distinguishable from each other.
- to protect against tamper or fraud, documents must be protected from either accidental or intentional deletion or modification (i.e. restricted to read only access). Access to documents must be restricted to only those authorised by the Contractors’ Representative or the Superintendent. A register of persons so authorised is to be maintained by the Contractor and shall include a record of the written authorisation.

documents must be accessible on-line within twelve (12) hours following the completion of the respective works. Further to definition of ‘Practical Completion’ in the General Conditions of Contract, the supply of the following documents are deemed to be essential for the use, operation and maintenance of the Works:

- Completed Works Report
- Contract Records related to the Completed works (i.e. Hold Points, test records, material certificates, product compliance certificates etc.)
- As-Constructed Drawings
- Service Installations and Relocations

- Design Calculations.

The Contractor's records management system shall include the provision of these documents by the Contractor to the Superintendent for review and acceptance prior to issue of a Certificate of Practical Completion. Within 7 days of the submission of each document, the Superintendent shall advise whether the document is accepted.

The Completed Works Report in the required Microsoft Excel format is available for download at <https://www.transport.tas.gov.au/road/contractor/specifications/specification-listings-standard-sections>

The Completed Works Report shall also contain the following information:

- records on the condition of the completed works (e.g. roughness surveys, deflection surveys, baselines for corrosion or other protection systems); and,
- records relevant to assessing the structural capacity of the works, including, where applicable, sub-surface conditions, foundations and sub-structures.

The Contractor must provide an electronic copy of the design and construction records to the Principal prior to Final Completion in a format that will enable the records to be archived in the Principal's Asset management System

160.65 AS-CONSTRUCTED DRAWINGS

An digital version of the design drawings will be supplied to the Contractor by the Superintendent prior of giving possession of site. Changes made by the Contractor to the supplied AutoCAD drawings (dwg) shall be in accordance with State Growth Standard Specification T13 CADD Manual.

A set of As-Constructed drawings in both AutoCAD drawing format (dwg) and Adobe Acrobat PDF format, generated from AutoCAD drawing files, shall be produced at a resolution suitable for effective interpretation.

Drawings should be marked with the latest revision number and titled "As Constructed" on each drawing. Any changed information on drawings is to be enclosed in a "revision cloud" for easy identification.

"As Constructed" information for installed and relocated services shall be included on the drawings and shall also be provided to each Service Authority with the relevant details and in the required formats to meet their individual requirements for this documentation. Copies of this information with confirmation of receipt and acceptance by the Service Authority shall be supplied by the Contractor to the Superintendent.

For works requiring the design and construction or renewal of structures, the design calculations pertaining to the Issued for Construction design drawings will be supplied to the Superintendent. This shall be completed by the Contractor prior to the Superintendent issuing the certificate for practical completion

160.66 SURVEILLANCE AND AUDITS BY THE SUPERINTENDENT

The Superintendent will arrange surveillance and audits to ensure that the Contractor is complying with the Quality Management System.

The Contractor shall, upon being given reasonable notice by the Superintendent, make or arrange to be available all facilities, documentation, records and personnel, including those of any sub-contractors, that are reasonably required for audits to be undertaken.

Notwithstanding that the Principal may have previously undertaken audits of a sub-contractor's quality management system in connection with other work, the Contractor shall include the operations of all such sub-contractors in the Contract quality plan and shall fulfil all the quality obligations of the Contract.

The Principal will carry out audit and surveillance of the work of all sub-contractors as it sees fit, in the same way that it may carry out audit and surveillance of all work done and materials supplied by the Contractor. The Superintendent may for this purpose have recourse to audit and surveillance carried out for other contracts with the Principal. Copies of any such audit and surveillance reports used by the Superintendent will be provided to the Contractor.

The Superintendent must be granted access to inspect and audit the contractor's design and construction records and if requested by the Superintendent, the Contractor must arrange for personnel to explain the design and construction records.

The Superintendent must notify the Contractor at least 2 Business Day prior to an inspection specifying the scope of the records to be made available for audit.

160.67 ROAD SAFETY AUDITS

Where a Road Safety Audit has been undertaken the Contractor shall promptly address all issues raised in road safety audits, and shall prepare a written response to the audit that:

- details action taken/to be taken to address each issue raised
- provides justification for proposals not to undertake action on particular issues raised
- highlights issues raised not considered to be the responsibility of the Contractor.

Where the Contractor proposes not to undertake action in response to identified issues, the approval of the Superintendent shall be obtained.

The Contractor shall prepare and maintain a register of all road safety audits. The register shall include:

- Audit stage and date
- Summary of each issue
- Status of action to address each issue
- Verification of completed action.

160.68 CONTRACTOR'S SITE COMPOUND

The Contractor shall erect, maintain, secure and subsequently remove such buildings, compounds, sanitary accommodation, explosive magazines and associated services as required by the Contractor for the supervision and construction of the Works. The Contractor shall obtain all necessary local municipal permits and approvals associated with the site establishment and access arrangements associated with its site compound.

The location and form of such buildings and compounds shall:

- (a) minimise noise, disturbance and inconvenience to all abutting properties
- (b) maintain a minimum clearance of 30 m to the closest boundary of all abutting properties
- (c) be consistent with, and complement the Environmental Management Plan and Health and Safety Co-ordination Plan
- (d) provide suitable hard-stand areas for storage of materials and equipment and parking vehicles
- (e) allow for all pedestrian traffic.

The Contractor, subject to the agreement of the Superintendent and the local municipal authority, may be permitted to use portions of the Site, for establishment of buildings and compounds.

The buildings, compounds, associated services, sanitary accommodation and explosive magazines erected by the Contractor shall be regarded as Materials or Constructional Plant and as such shall be considered as constructional plant under the General Conditions of Contract.

At the completion of the Works, these facilities will remain the property of the Contractor and shall be removed from the Site and the area reinstated to the satisfaction of the Superintendent.

160.69 SANITARY ACCOMMODATION

The Contractor shall allow its toilets and washing facilities to be used by the Superintendent's representatives.

160.70 WATER FOR CONSTRUCTION PURPOSES

The Contractor shall make its own arrangements for water supply to provide the quantity and quality required to complete the work. For any chosen source of water supply, the Contractor shall obtain the necessary approvals from the appropriate authorities and shall act in accordance with any conditions stipulated.

160.71 PROJECT INFORMATION SIGNS

The Contractor shall supply, install, maintain and later remove project information signs as specified below:

(a) Supply

The Contractor shall supply information signs in accordance with the requirements of Section 860 - Manufacture of Road Signs. Information signs shall be regarded as a Category B Sign for the purposes of Section 860. The letter size and style of the sign legend shall comply with the requirements of the Drawings specified in the Project Information Sign Schedule in Clause 160.10.

(b) Mounting and Location

The Contractor shall mount the information signs on timber frangible posts in accordance with Section 714 - Erection of Signs.

(c) Removal

The project information signs shall remain in place for the defect liability period and be removed within 7 days of the issuing of Final Certificate.

160.72 CONSTRUCTION PROGRAM

(a) Interpretation

For the purposes of this sub-clause, 'construction program' means a program in the format of an activity orientated, critical path network which shows how the Contractor proposes to complete the Works or any separable part of the Works within the period or by the respective dates for Practical Completion.

(b) Construction Program Requirements

(i) No Requirement:

A construction program is not required to be submitted by the Contractor. Items (c), (d), (e), (f) and (g) of this clause do not apply.

(ii) Minor Construction Contracts:

Before commencing work under the Contract the Contractor shall supply to the Superintendent for review a construction program illustrating the planned sequence of work. The program shall be in bar chart form, including the principal activities to be undertaken and restraints clearly identified with a time scale shown in weeks and months. The program shall identify critical path activities, include dates for starting and completion of the principal activities and planned dates for practical completion of the Works or separable parts. Items (c), (d), (e), (f) and (g) of this clause shall apply as far as they are applicable.

(iii) Major Construction Contracts:

Where a program has been provided as part of the tender, it shall be incorporated into the Contract until the Construction Program has been reviewed by the Superintendent.

Within 20 business days after the date of acceptance of tender, the Contractor shall submit to the Superintendent for review a construction program which takes into account the requirements of the Contract. The program shall be submitted in both electronic format and hard copy.

The program shall be computer based using 'Microsoft Project 2007' or an alternative computer program approved by the Superintendent. It shall be in sufficient detail to demonstrate any entitlement that the Contractor may from time to time claim to have pursuant to the General Conditions of Contract and be capable of providing reports which are able to identify the following features in acceptable formats:

1. detailed activities for all work elements including design activities, construction activities, service relocations and work by statutory authorities;
2. procurement periods and delivery dates for major items of goods, plant and materials;
3. activity dependencies;
4. critical path activities identified for the Works and any Separable Portion of the Works;
5. duration, earliest and latest start and finish dates and total and free floats for each activity;
6. dates by which decisions or materials are required from the Superintendent or the Principal;
7. milestones which identify significant events including completion of Separable Portions;
8. allowance for adverse weather and other time risk allowances;
9. non-work periods;
10. dates by which design work or drawings to be produced by the Contractor or samples will be submitted to the Superintendent including allowance for reviews and re-submittals;
11. the estimated value of work to be done each month throughout the Contract.

The Contractor shall submit with the construction program the estimated contract value of work to be done each month throughout the Contract and detailed reasons for any divergence from the program and cash flow submitted with the tender.

Items (c), (d), (e), (f) and (g) of this clause shall apply.

(iv) Utility Service Relocation

In developing the construction program, the Contractor shall consider all issues associated with the relocation of public utility services. The Contractor shall fully inform itself of the impact of the works under the Contract on existing services and make allowance in its construction program for the lead times required by each service authority for design, liaison, supply of materials, notification to residents and construction periods, including making allowance for any periods of the year when services cannot be relocated.

The Contractor shall consider the impacts of its Service Relocation Strategy in the development of its Construction Program.

(c) Review of Submitted Program

- (i) If the Superintendent considers that the submitted construction program or any subsequent revision thereto does not show sufficient details, or is impractical, or does not comply with the requirements of the Contract, or will not result in completion of the

Works or any separable part of the Works by the relevant Date for Practical Completion, the Superintendent may direct the Contractor to resubmit to the Superintendent an amended construction program within 5 business days for further review.

- (ii) Should the submitted construction program provide for completion of the Works or a separable part of the Works in advance of the relevant times for Practical Completion and the Superintendent does not direct the Contractor to supply an amended construction program, the Contractor may proceed to prosecute the work in accordance with the submitted construction program at the Contractor's own risk. The dates for particular activities or Practical Completion shown on a construction program will not be accepted as a substitute for any corresponding specified dates in the Contract which shall continue to be the basis for assessment of progress of work and any claims made under the Contract for extensions of time and additional costs.

(d) Review of Progress

At generally monthly intervals unless otherwise agreed, the Contractor and the Superintendent shall together review the progress of the work under the Contract in comparison with the current construction program. Prior to the meeting, the Contractor shall update the current construction program to show the status and progress of work on each activity. Progress shall be recorded by means of actual start and actual finish dates for activities, together with percentage completion and/or remaining duration of incomplete activities.

The review of progress will be conducted at the monthly site meeting or at shorter intervals as decided by the Superintendent.

(e) Updating and Reporting on Construction Program

The Contractor shall maintain a complete record of the construction program and its changes on CD/DVD and in hardcopy, throughout the contract.

- (i) The Contractor shall submit to the Superintendent updated construction programs:
 1. at intervals not exceeding 3 months during the Contract; or
 2. within 10 business days of any change to the critical path for the Works or any separable part of the Works.
 3. within 5 business days of a request to do so from the Superintendent including, if applicable, an explanation in writing of delays in execution of the work under the Contract in comparison with the construction program.
- (ii) Updated construction programs shall provide the same level of detail as the original Construction Program and shall:
 1. show the 'as-constructed' program in respect of all work carried out to the time of updating;
 2. be accompanied by a statement of the reasons for any changes from the previously submitted Construction Program;
 3. incorporate all extensions of time which have previously been granted or allowed up to that time by the Superintendent pursuant to Clause 35.5 of the General Conditions of Contract;
 4. be accompanied by a statement of any claims for extensions of time which have previously been notified by the Contractor in accordance with Clause 35.5 of the General Conditions of Contract in respect of which the Superintendent is yet to determine.
- (iii) Any updated construction program submitted in accordance with (i) above shall be reviewed by the Superintendent on the basis set out in item (c) above.

(f) Rate of Progress

Where the Superintendent at any time considers that the rate of progress is insufficient to ensure completion of the Works or any separable part of the Works by the relevant Date for

Practical Completion, the Superintendent may direct the Contractor to submit within 10 business days written details of the intended procedure for the execution of the remainder of the work under the Contract.

160.73 SITE MANAGEMENT AND SUPERVISION ~~##(strikethrough inapplicable requirements below):~~

(a) Site Supervision

The Contractor's site management, programming and program control, quality assurance and methods of work shall be supervised daily by an experienced and qualified engineer. This engineer shall possess the experience and qualifications which would be acceptable to the Institution of Engineers Australia as satisfying the requirements for Corporate Membership, including at least 5 years experience in the relevant construction field.

(b) Site Survey

For the purposes of setting out the Works in conformity with the specification and drawings, the Contractor shall engage an experienced and qualified surveyor. This surveyor shall possess the experience and qualifications which would be acceptable to the Institution of Surveyors, Australia as satisfying the requirements for Corporate or Associate Membership or alternatively, possess the experience and qualifications which would be acceptable for Membership to the Institution of Engineering and Mining Surveyors, Australia.

The surfaces and quantities measured by the Contractor under this Contract shall be made available to the Superintendent in an electronic format or other format approved by the Superintendent.

(c) Landscape Supervisor

The Contractor shall nominate a Landscape Supervisor to be on site for the duration of all landscape work. This person shall have a Landscape Trade Certificate (TAFE), equivalent qualification or at least 2 years horticultural expertise on work of a similar size and scope.

Should the Contractor's site supervisory staff prove unsatisfactory with respect to progress, quality of work and methods of work, the Superintendent may direct the Contractor to provide such additional competent and experienced staff as may be necessary to ensure satisfactory progress of the Works and that the quality and the methods of work are acceptable.

160.74 CO-OPERATION

The Department of State Growth reserves the right to perform work or award other contracts for work on or adjacent to the site. The Contractor shall co-operate with all other contractors and other work forces so as to avoid delay or hindrance to their work and to ensure that all work is performed expeditiously.

160.75 MAINTENANCE OF SITE

The Contractor shall engage the Department of State Growth Maintenance Contractor to maintain the roads and all other road reservation areas within the Limits of Works for the period between the date of possession of site and Practical Completion of the whole of the Works including periods of suspension. The maintenance shall be undertaken to the requirements of the relevant State Growth maintenance Contract.

160.76 EXAMINATION AND TESTING OF MATERIALS AND WORK

(a) General

The Contractor shall be responsible for carrying out all examination and testing of materials

and work under the Contract in accordance with the requirements of the specification.

Unless otherwise specified, materials and workmanship shall comply with the relevant standard as defined in Section 175.

(b) Allowance for Testing in Construction Program

The Contractor shall make allowance in the construction program for the time necessary to arrange for and to carry out examination and testing of materials and work.

(c) Notification

Where inspection of materials or work by the Superintendent or his representative is specified as a hold point, or where a hold point is created by a nonconformance, at least 24 hours notice of testing and/or inspection shall be given to the Superintendent.

(d) Tests

Unless otherwise specified, all tests and sampling shall be undertaken in accordance with the appropriate VicRoads codes of practice and applicable test methods as current at the time of performance of the tests. Unless otherwise specified, all tests shall be conducted by experienced testing officers in a laboratory accredited by the National Association of Testing Authorities (NATA) for the test methods used under the Contract and all tests shall be endorsed in accordance with the NATA registration for that laboratory.

Lists of current VicRoads codes of practice are available online at the VicRoads website www.vicroads.vic.gov.au.

All construction materials sampling shall be undertaken by either:

- (i) personnel from a NATA laboratory accredited for the appropriate sampling methods; or
- (ii) personnel who have successfully completed an accredited TAFE course in sampling of construction materials delivered by a registered training organisation, and have taken a refresher course in sampling of construction materials every three years.

The sampler shall be identified on the test report.

(e) Test Results

The Contractor shall submit to the Superintendent a monthly summary, or if requested by the Superintendent a weekly summary, of testing undertaken. The summary shall include details of all tests undertaken, the result of each test and sufficient additional information to demonstrate that the specified minimum frequency of testing is being complied with.

The summary of test results shall be submitted to the Superintendent by the second day of the week following the relevant period.

(f) Calibration

All test equipment used for tests, carried out in accordance with Clause 160.76(d) above, shall be calibrated by a laboratory accredited by NATA for the particular calibration method.

160.77 DRAINAGE OF WORK SITE

The Contractor shall at all times provide for the safe discharge of seepage, drainage and stormwater during the execution of the works under the Contract. The Contractor shall be responsible to obtain all approvals from the local authorities and accept all costs associated with the discharge of any water into an existing outfall on a temporary or permanent basis.

160.78 CLEAN UP OF SITE

The Contractor shall be responsible for the proper disposal of the temporary or surplus material and no additional payment will be made for this work.

160.79 INSTRUCTIONS BY OTHER GOVERNMENT DEPARTMENTS AND AUTHORITIES

Other government departments and authorities and their representatives, whether federal, state or local, often have responsibilities that impact on Department of State Growth's works.

The Contractor shall report any instruction (orders or directions) given by an authorised representative of these government departments and authorities to the Superintendent immediately by mobile phone or as soon as practicably possible.

The Contractor shall co-operate with an authorised representative who is requesting access to the site under powers conferred by legislation and follow any instructions given by the authorised representative in the format nominated by the legislation.

160.80 SERVICES**160.80A Proving of Services**

Prior to commencing works, the Contractor shall make appropriate enquiries to confirm the location of all services and service authority assets.

HP Underground services shall be proved by clearly marking the location of the service on the ground and physical exposure of appropriate locations in accordance with service authority requirements.

The Contractor shall construct the works so as not to interfere with or impact on any service infrastructure. However if in proving the services it becomes apparent that the Works cannot proceed as designed, the Contractor shall immediately advise the Superintendent.

160.80B Private Service Connections

Where Private Service Connections be impacted by the works, the Contractor shall be responsible for liaising with the service connection owner in regard to any interruption or service re-instatement.

160.81 Property Accesses

Unless otherwise agreed in writing with the property occupier, both pedestrian and vehicular access to adjacent properties shall be maintained at all times.

Where an accesses has been identified for permanent closure, the Contractor shall advise the relevant landowner in writing not less than two (2) weeks prior to closing the access.

160.82 INSPECTION OF PROPERTY

Prior to commencing operations, the Contractor shall engage a suitably qualified and experienced Building Surveyor to undertake inspections on all buildings and structures (including heritage structures) within a minimum distance of 100 m for general construction works and 200m of any blasting. Two copies of the written existing conditions report for each property, including any photographs, shall be prepared and signed by the property owner.

The condition of the buildings, structures and the property shall be detailed in the existing conditions reports which shall form the basis of assessment of any structural damage to buildings and structures arising out of the Contractor's operations in the event of a claim by the owner/occupier. The Contractor shall be responsible for the repair of any damage caused to property due to the Contractor's operations.

The Contractor shall submit to the Superintendent a copy of all existing condition reports of property and buildings prior to commencing work adjacent to such property or building.

For the purposes of this clause the Site is defined as the nearest point of the work adjacent to any building or structure.

The Contractor shall bear all costs associated with any claim for damages resulting from the effects of the Contractor's operations, including ground vibration, directly caused by the Contractor's construction methods. The cost of such damage shall be in addition to damage caused by other action attributed to the Contractor's work.

Before final payment is made, the Contractor shall obtain written clearance from all landowners and occupiers affected by the provision of this clause, to certify that the landowner and occupier have no claim for any loss or damage due to the Contractor's operation. A copy of all written clearances shall be forwarded to the Superintendent prior to the Contractor's Final Claim.

160.83 WORK IN PRIVATE PROPERTY

Where the Contractor is authorised by the Superintendent to enter private property to carry out work under the Contract, the Contractor shall give the owner and occupier of the land a minimum of 5 business days notice of intention to enter or to remove any fence and shall also erect any temporary fencing that may be necessary.

Entry shall be by a gate, or gates to be erected by the Contractor which shall be kept securely locked when not in use. Where fences are rabbit proof, the gates erected shall also be made and kept rabbit proof, and the Contractor shall be responsible and liable for the trespass of vermin.

160.84 CLEARANCES FROM LANDOWNERS AND OCCUPIERS

Before final payment is made, the Contractor shall produce written clearances from all owners and occupiers whose properties have been entered by the Contractor or the Contractor's employees or agents, for the purpose of carrying out work under the Contract.

160.85 NOT USED

160.86 USE AND CARE OF ROADS

The Contractor shall be responsible for repair of damage caused to any roads, bridges or other structures by transporting material under the Contract. The Contractor is advised that the Department of State Growth and municipal councils have power under their respective Acts to recover the cost of repair of damage to roads. If requested by the Superintendent, the Contractor shall submit clearances from municipal and other authorities concerned before the Final Certificate is issued. In respect of repair of damage to roads, the Contractor will be deemed when tendering:

- (a) to have inspected the roads used for transport;
- (b) to have acquired, by consultation with the municipal or other authorities concerned, knowledge of the roads and any existing or likely restrictions upon their use which could affect the transport proposals;
- (c) to have assessed the possibility and extent of any damage to the roads which may be caused by transport under the Contract;
- (d) to have made due allowance for the effects of such restrictions and for the cost of rectification of such damage in accordance with the requirements of the authorities concerned.

160.87 INCIDENT REPORTING

This Clause and the following Clauses 160.88, 160.89 and 160.90 are not applicable to Work Health and Safety which is to be in accordance with the requirements of the General Conditions of Contract.

The Contractor shall implement and maintain an Incident Reporting System for the duration of the

Contract. The Contractor shall enter, into the Incident Reporting System, details of all incidents (including 'near incidents') arising from or relating to the work under the Contract, or on or adjacent to the site, during the Contract term, which may, or could, have resulted in claims for personal injury or property damage to third parties.

The Incident Reporting System shall record all incidents in respect of which any third party may claim. This shall include any possible claim for personal injury and all damage to property.

The Incident Reporting System shall also record details of notes, records and photographs or any other evidence relating to any incident.

The Incident Reporting System shall also record details of any injury or damage caused by registered motor vehicles.

160.88 ACTIONS IN RESPECT OF INCIDENTS

The Contractor shall take immediate steps to minimise the extent of personal injury or property damage arising from an Incident. The Contractor shall take careful note of the evidence surrounding the Incident, including notes or reports of the facts relating thereto and photographs.

The Contractor shall, as soon as practicable, inform the Principal in writing of any Incident that may give rise to a claim under an insurance policy effected as required by any of the insurance clauses under the General Conditions of Contract and shall ensure that the Superintendent is kept fully informed of the Incident, the subsequent action and developments concerning the claim.

The Contractor shall take such steps as are necessary or appropriate to ensure that a sub-contractor shall, in respect to an event or claim of a like nature arising out of or relating to the operations or responsibilities of the sub-contractor, take in relation to the Superintendent the like action to that which the Contractor is required to take under this clause.

Where the Incident is reportable to the Principal's Insurer under its Policy, the Contractor shall, at its own expense, in accordance with Policy conditions:

- (a) notify the Principal's Insurer immediately -
 - (1) by telephone if the matter is sufficiently serious to alert the Principal's Insurer and seek advice
 - (2) in writing, with a copy to the Superintendentand preserve any evidence, such as notes or photographs;
- (b) send to the Principal's Insurer immediately upon receipt any letter of demand, writ, claim, summons or proceedings or other like documentation;
- (c) co-operate at its own cost with the Principal's Insurer in the investigation and defence of claims, including attendance at court if required.

160.89 MONTHLY REPORTING

The Contractor shall report monthly to the Superintendent on all incidents included in the Incident Reporting System, including details of which matters have been reported to the Principal's Insurer (together with the date of such report) and the status of resolution of each Incident.

160.90 AUDITING OF INCIDENT REPORTING SYSTEM

The Contractor shall permit the Superintendent, staff of the Principal's Insurer, its auditors or any other auditors approved by the Superintendent to access and audit the Incident Reporting System and any documentation associated with claims or relating to Incidents or near Incidents and to take copies of any documents associated with claims or relating to the Incidents.

160.91 WORK HEALTH AND SAFETY INCIDENT REPORTING

Further to the requirements of the General Conditions of Contract the Contractor shall undertake

incident reporting through the State Roads' Contractor Work Health and Safety incident management software.

The Principal will provide the Contractor with up to 5 accounts under the Contract (for Site Supervisor, WHS Advisor and any others requested). To enable this access to be provided the Contractor shall provide the following information, for each user, prior to commencing work on site.

- Full name
- E-mail address
- Phone number

Following receipt of this information the Principal will provide login details and any familiarisation training required.

160.92 USE OF HEAVY VEHICLE TRAILERS AT WORKSITES

160.92A Scope

The following describes the requirements for use of heavy vehicle trailers on State Growth worksites.

160.92B Background

There is a history of heavy vehicle dog trailers rolling over on State Growth worksites due to the size and higher centre of gravity of these trailers.

The Department of State Growth has deemed that the risk of future incidents can be best mitigated by the application of Teflon lined floors, or an alternative material that meets or exceeds the performance standards of Teflon lining, to heavy vehicle dog trailer trays.

The Principal requires that all contractors will work towards meeting the requirements of this Specification immediately, noting that by January 2022 specified heavy vehicle dog trailers **must** be compliant with this requirement.

160.92C Application

This applies to the following heavy vehicle dog trailers used to run out material delivered to sites under contract with the Principal:

- Quad (four axle) dog trailers
- Quin (five axle) dog trailers

Materials relevant to this Specification relates to all materials which are run out on State Roads worksites.

160.92D Requirements

The following requirements shall apply to all contracts:

(a) Responsibilities

The following are the responsibility of the head contractor:

- Ensure the safe delivery of materials to all worksites including the undertaking of pre-delivery risk assessments to consider issues such as – wind, ground conditions, centre of gravity of load, load type, and experience of driver.
- Ensure that all drivers are trained and verified as competent to perform the tipping task.
- Undertake a risk assessment when material is to be unloaded within 10m of live traffic. This shall include an assessment of suitable traffic management controls.
- Manage sub-contractors compliance with above requirements
- Monitor and document compliance through regular audits

(a) Equipment

- Heavy vehicle quad dog and quin dog trailer trays must have a Teflon lined floor, or an alternative material that meets or exceeds the performance standards of Teflon, to perform the tipping task when running out material.
 - Any proposed alternative materials e.g. Steel trailers must be approved by the Principal prior to use on State Roads worksites.
 - Heavy vehicle trailers without approved controls can only be used for stockpiling on worksites.
 - Heavy vehicle semi-trailer tippers must not be used to run out material with a lifted tray under any circumstances.
 - Heavy vehicle semi-trailer tippers can be used as a side tipper or for stockpiling of material when normal risk assessment processes are followed by the contractor.
- (b) Technology
- All future engineering control technologies developed for market use to minimise the likelihood of trailer rollover not specified above must be approved by the Principal prior to use on State Growth sites.

SUPERSEDED

REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision
May 2019	All	New document to include project specific clauses replaces previous Section 160- Construction-General and Project Specific Clauses
April 2020	160.02 160.09 A,B & C 160.16 160.49A 160.64 160.85 160.91 160.92	Additional items added Clause numbering corrected New clause New clause Updated records requirements Clause removed now in new Section 177 New clause New clause
August 2020	160.41D	New clause