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| **Annexure MRTS25.1 (January 2018)** |
| **Steel Reinforced Precast Concrete Pipes** |
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| **Specific Contract Requirements** |
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| **Contract Number**  |  |
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| Note: | Clause references within brackets in this Annexure refer to Clauses in the parent Technical Specification MRTS25 (January 2018) unless otherwise noted. |

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| Clause 1 in this Annexure will be completed by the Designer under the contract. |

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| If applicable, additional construction loads and or combinations of construction loads and fill heights considered by the designer in addition to those nominated in MRTS25 shall be as listed below: |
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| The following amendments shall be applied to the Technical Specification |
|  | Clause 1 IntroductionClause 1 IntroductionThe following paragraph shall be added after the first paragraph of Clause 1:"Pipes shall be designed, manufactured and installed in accordance with AS/NZS 4058 ‘Precast concrete pipes (pressure and non-pressure)’ and AS/NZS 3725 ‘Design for installation of buried concrete pipes’ except where modified by this Technical Specification".Clause 2 Administrative RequirementsClause 2 Administrative RequirementsThe following paragraph shall be added after the first paragraph of Clause 2:"Eligibility and capability to supply to this Technical Specification and accompanying annexure shall be satisfied by the submission of a current registered supplier certificate."Clause 5 DesignClause 5 DesignThe following paragraph shall be added after the first paragraph of Clause 5:"Design drawings shall identify pipe class, diameter, exposure classification (that is normal, marine or aggressive) and assumed construction load case(s)."Clause 5.2 Design internal diameterThe entire text within Clause 5.2 shall be deleted and replaced by the following text:"The design internal diameter as defined in AS/NZS 4058 shall not be less than 95% of the nominal internal diameter specified on the drawings for pipe classes up to and including Class 4. Designers selecting pipes of class greater than 4 shall use manufacturer’s dimensions to check if the design internal diameter is sufficient for the hydraulic performance required.Where the design internal diameter does not meet these requirements, an alternative design internal diameter may be submitted to the Administrator for approval. Drawings or tabulations showing the alternative design internal diameter shall be submitted not less than three weeks before supply of pipes is due to commence. Milestone No pipes of an alternative design internal diameter shall be supplied until written approval is granted by the Administrator. Hold PointClause 5.3.1 GeneralThe entire text within Clause 5.3.1 shall be deleted and replaced by the following text:“Environments for pipes supplied in accordance with this specification shall be defined as per AS/NZS 4058 and Clause 5.3.4”.Clause 5.3.2 Normal EnvironmentNot usedClause 5.3.3 Marine EnvironmentNot usedClause 5.7 Design for InstallationThe entire text within Clause 5.7 shall be deleted and replaced by the following text:“Steel-reinforced concrete pipes shall be designed for installation in accordance with AS/NZS 3725. Construction load cases shall be considered in accordance with Clause 5.7.1.Designs already completed to AS 5100.2 shall be deemed to comply with these requirements.”Clause 5.7.1 Construction LoadsNote: Reference to Appendix B in the commentary is no longer valid.Clause 5.7.2 Road vehicle loadsNot usedClause 6 MaterialsClause 6.1 ConcreteThe entire text within Clause 6.1 shall be deleted and replaced by the following text:“Concrete used for the manufacture of steel-reinforced concrete in accordance with this specification shall comply with AS/NZS 4058 with the following additional requirements:1. All cementitious and supplementary cementitious materials, aggregates, and chemical admixtures shall be sourced from a registered TMR supplier.
2. Cementitious material shall be a blend compliant with one of the following:
	1. Binary blend containing GP or HE Cement and a minimum of 20% fly ash.
	2. 50% to 55% GP Cement, 20% to 25% Ground Granulated Blast Furnace Slag and 25% to 30% fly ash.
	3. 65% to 71% GP Cement, 4% to 8% Amorphous Silica, and 25% to 31% fly ash."

Clause 6.1.1 Submission of informationDelete the second paragraph of this clause.Note: Milestone and Hold Point are removed from this clause.Clause 6.1.2 Batch recording and recordsThe entire text within Clause 6.1.2 shall be deleted and replaced by the following text:“The manufacturer shall maintain a batch recording system”.Clause 6.2 ReinforcementThe entire text within Clause 6.2 shall be deleted and replaced by the following text:"Reinforcing steel shall comply with AS/NZS 4671 (as per AS/NZS 4058 requirements) and be sourced from an ACRS certified supplier."Clause 7 ManufactureClause 7 ManufactureDelete parts (b), (c) and (d) of this clause and replace with:“(b) For steam curing the maximum enclosure temperature shall not exceed 70°C”Note: Witness Point is removed from this clause.Clause 8 Information to be supplied at deliveryClause 8.1 GeneralThe entire text within Clause 8.1 shall be deleted and replaced by the following text:"Information supplied on delivery shall be as per Section 6 of AS/NZS 4058. Means of demonstrating compliance (sub point j of Section 6.1) shall include either:* Each delivery docket stating conformance to AS/NZS 4058 or
* One compliance certificate stating conformance to AS/NZS 4058 per project"

Clause 8.2 Prior to delivery of pipes to the siteNot usedNote: Milestone and Hold Point are removed from this clauseClause 8.3 With the delivery of each batch of pipesNot usedNote: Hold Point is removed from this clauseClause 10 Product markingClause 10 Product markingThe entire text within Clause 10 shall be deleted and replaced by the following text:"Pipes shall be marked in accordance with AS/NZS 4058 with the addition that pipes manufactured for Aggressive environments shall note the measures used."Clause 11 InstallationClause 11 InstallationThe entire text within Clause 11 shall be deleted and replaced by the following text:"Pipes shall be installed as specified in MRTS03 *Drainage, Retaining Structures and Protective Treatments*. Pipes shall not be installed until seven days has elapsed since the date of manufacture.Where circumstances require installation before seven days additional proof loads tests shall be conducted at a rate of 1 in 20 pipes.The maximum angle of deflection of joints for pipes is two degrees.Pipes shall be installed in accordance MRTS03, the nominated loading and installation conditions in Clause 5.7 of this specification and as detailed in Annexure MRTS25.1.In accordance with MRTS03 *Drainage, Retaining Structures and Protective Treatments*, Clause 12.3.1, ‘General’, the construction loads to be placed on the pipe shall be checked by the contractor. If the Contractor chooses heavier plant and/or less cover than that indicated on the drawings, the selected pipe class and installation technique must be certified by the contractor’s RPEQ Design Engineer.For the specified pipe class and size, the contractor shall progressively backfill the pipe using the fill depth and construction equipment permissible in Table B1 of AS/NZS 3725.As-built drawings shall identify as-constructed pipe class, diameter and exposure classification.”Appendix BNot used. |

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| Additional Amendments to Technical Specification |
|  | The following modified requirements shall apply. |
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