



Pr11289 - Use of GRP Members in SPS Wet Wells Technical Note

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References this technical note complements or modifies	<p>SEQ Water Supply and Sewage Design & Construction Code Design Criteria V2.0 (SEQ WS&S D&C Code)</p> <p>SEQ Sewage Pumping Station Code WSA04-2004 V2.1 – February 2020 (WSA04-2005 SEQ WS&S D&C Code)</p> <p>AS1657: 2018 Fixed platforms, walkways, stairways and ladders - Design, construction and installation</p> <p>Drawings including:</p> <ul style="list-style-type: none"> • SEQ-SPS-1300-2 SEQ Sewage Pump Station Drawings – 2.4m Wet well Section Details • SEQ-SPS-1305-1 SEQ Sewage Pump Station Drawings – Aluminium Ladders • SEQ-SPS-1305-2 SEQ Sewage Pump Station Drawings – Aluminium Extendable Handgrip Stanchion • SEQ-SPS-1305-3 SEQ Sewage Pump Station Drawings – Aluminium Handrails • SEQ-SPS-1305-4 SEQ Sewage Pump Station Drawings – Fabricated Metalwork <p>Pr8701 - Specification for Asset Information</p> <p>Pr9903 - Specification for Building and Structural Works</p> <p>Pr11211 - Specification for Commissioning and Handover of Active and Passive Assets</p>

1. Purpose

This technical note has been prepared to provide supporting guidance to Unitywater team members, design consultants, contractors, and private certifiers on the use of Glass Reinforced Plastic (GRP) pultruded profiles and handrails in Sewage Pumping Station (SPS) wet wells.

The existing SEQ Code SPS Drawings refer to aluminium framing for internal platforms and handrails, with this technical note guiding the use of an alternative material.

2. Scope

This technical note considers the design and construction of GRP pultruded profiles and handrails for use in SPS wet wells and provided supporting guidance to the minimum requirements of these structures.

3. Definitions/Acronyms

Term	Meaning
D&C	Design and Construction
FRP	Fibre-reinforced plastic
GRP	Glass reinforced plastic
IFC	Issued For Construction
RPEQ	Registered Professional Engineer of Queensland
SEQ	Southeast Queensland



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Term	Meaning
SPS	Sewage Pumping Station
WSAA	Water Services Association of Australia
WS&S	Water Supply and Sewerage

4. Requirements

Unitywater will allow the use of the pultruded GRP profile support framing and handrails within SPS Wet Wells subject to the designers providing certified (RPEQ) designs and signed drawings demonstrating:

- Full compliance with existing WSAA product appraisals prior to commencement of delivery and construction.
- All infrastructure regardless of the construction materials must meet the WSA04-2005 SEQ WS&S D&C Code requirements in relation to design including design life.
- Written evidence that the safety of the structure has been assessed for the Safety in Design (SID) of the structure during:
 - Construction
 - Operation
 - Decommissioning (if and when that may occur).
- Design of the pultruded GRP structural members are to be compliant with loading and design criteria of the current AS1657 standard – Section 4.
- Design of the pultruded GRP handrails are to be compliant with loading and design criteria of the current AS1657 standard – Section 6.
- Integral valve chambers similar to that shown in drawing SEQ-SPS-1300-2 are preferred.
- Supports for the pipes shall be aluminium members in line with SEQ-SPS-1305-4 details.
- Ladder details for access to the internal platforms shall comply with SEQ-SPS-1305-1 and SEQ-SPS-1305-2; to be fabricated from aluminium in accordance with grades nominated in [Pr9903](#) - Specification for Building and Structural Works.

4.1 Design Requirements

The design of the GRP pultruded members depends on the site conditions, method of construction and the structural materials. A structural engineer (RPEQ) shall design and certify the platform and handrail complying with the relevant Australian Standards and Statutory Regulations.

All drawings **Issued for Construction** must provide full RPEQ certification including all relevant assessment of locality, levels, fixings, connections (including chemical anchors) and anything else that may impact on the construction and stability of the structure.

4.2 As Constructed Requirements

Contractors must provide fully certified **As Constructed** drawings in accordance with the requirements of [Pr8701](#) - Specification for Asset Information, as part of the Handover Documentation.