



South West Water's amendments & requirements for Sewers For Adoption 6th Edition

Sewers offered for adoption to South West Water should be designed and constructed in accordance with Sewers for Adoption 6th Edition. These amendments are intended to give additional information and guidance where clarification between the Developers and Sewerage Undertakers is required, specific to the area managed by South West Water Ltd.

The amendments are intended, in conjunction with SFA 6, to provide comprehensive guidance for the design, specification, agreement, construction, maintenance and inspection of the sewerage elements involved with adoptions. This does not remove the need for constructive discussions between the parties at appropriate stages or where project specific requirements need to be addressed.

South West Water has established a number of Technical Standards and Approved Listing/Supplier Agreements for the supply of products and services (eg Pumps, Motors, Valves, Pipework, Control Panels etc) all in accordance with these Technical Standards. Developers may wish to take advantage of the technical standardisation and supply agreements. However, it should be noted that there is no obligation on Developers to use SWW Framework agreements, but should they wish to do so they are listed in the South West Water Technical and Sourcing Strategy, Technical Standard SWW-TS-411. (Where required the appropriate Technical and Sourcing Strategy Variation Form, SS1 – SS9, shall be completed and returned to SWW Engineering – Technical Support.)

Further information upon the current agreements, technical standards and their availability (Hard copy or via Extranet Site) may be obtained by discussion with SWW Engineering - Technical Support on 01392 443473 (Mike Kinsey) or alternatively 01392 443683. (Jack McCarey)

Sewer adoptions within the South West Water area are administered either in-house or by our Agents. Please contact South West Water – Engineering on 01392 443412 (Alison Tregale) for details.

The following amendments are referenced to existing clauses in "Sewers for Adoption - 6th Edition". These clauses either amend or replace the original clauses and shall take precedence in all cases.

TABLE OF CONTENTS

PART 2 - DESIGN

PART 2B – PUMPING STATIONS

- 2.17.7 Storage
- 2.18.6 Layout of Pumping Station
- 2.18.7 Security Fencing
- 2.20.4 Wet Well
- 2.20.7 “
- 2.22 Access into Wet Well and Chambers

PART 3 - M & E SPECIFICATION FOR SMALL PUMPING STATIONS

PART 3A PUMPING SPECIFICATION

- 3.3.11 Wet Well Flushing/Mixing/Cleaning System
- 3.3.13 Lifting System
- 3.3.16.6 Chains

PART 3C ELECTRICAL SPECIFICATION

- 3.11.2 Kiosk Construction
- 3.11.7 Telemetry Outstation
- 3.13.4.1 Common Control System

PART 4 M & E SPECIFICATIONS FOR MICRO PUMPING STATIONS

PART 4A PUMPING SPECIFICATION

- 4.3.12 Lifting System
- 4.3.15 Chains

PART 4C ELECTRICAL SPECIFICATION

- 4.11.2 Kiosk Construction
- 4.11.6 Telemetry Outstation

Page 6 **Miscellaneous**

Page **Clause Nr** **Description**

PART 2B – PUMPING STATIONS

41	2.17.7 (Add)	Storage To ensure that sewage flooding does not occur at, or upstream of, the pumping station during plant or power failure, additional storage shall be provided. This storage shall be above the high level alarm and below the lowest connected inspection chamber soffit, and equate to the flows generated at 1 DWF over a 24 hour period. On-line tank sewers upstream of the pumping station are the preferred means of storage, but if off-line tank sewers or tanks are proposed these shall be designed to be, as far as possible, self-cleansing; details will need to be submitted for approval. Storage capacity in the sewers and manholes may contribute to the storage provision, and calculations shall be provided.
41	2.18.6 (Add)	Layout of Pumping Station Operational areas within the pumping station compound, and any access road to it, shall be suitably constructed and surfaced to ensure access for vehicles and plant, as agreed with all appropriate agencies, and to facilitate maintenance operations. Non-operational areas within the compound will normally be laid to shingle to minimise maintenance and only in exceptional circumstances, or if required as a planning condition, will soft landscaping be considered. It should be noted that the local Planning Authority may determine the requirements for site layout and location under the planning condition.
41	2.18.7 (Add)	Security Fencing Unless the planning application approval is subject to a condition relating to fencing of the compound, South West Water will determine the need for the fencing on a site specific basis. Where security fencing is required it shall comply with South West Water Technical Standard SWW-TS-122, Permanent Security Fencing.
42	2.20.4	Wet Well The Hazardous Area Zone Classification for pumping stations shall be assessed and carried out in accordance with the relevant parts of BS EN 60079 and the requirements of South West Water Technical Standard, SWW-TS-104, Hazardous Area Classification Flammable Gas or Vapour Risks. Wet Wells shall generally be classified as Zone 2. The requirement of DSEAR (Dangerous Substances and Explosive Atmosphere Regulations 2002). – Statutory Instrument 2002 No 2776 shall be incorporated.
42	2.20.7(Add)	If the depth of the Wet Well exceeds 6m, South West Water shall be consulted for the suitability of pump operation and the possible requirement for additional safety measures to be installed for

maintenance purposes.

- a. The wet well shall be so designed as, as far as practicable, to eliminate the need for man entry for maintenance.
- b. No valves are permitted in the Wet Well.
- c. Pipework within the Wet Well should be Ductile Iron or other suitable material. Corrosion protection shall generally comply with the requirements, as specified, within the Water Industry Mechanical Electrical Specification (WIMES) 4.01 – Paints and Polymeric Coatings for Corrosion Protection.

Page	Clause Nr	Description
42	2.20.7(Cont'd)	<p>d. Where practicable the Ultrasonic level sensor head should be suspended from a mounting plate affixed over an aperture in the wet well cover slab, so that it can be easily removed for adjustment or replacement, without the need for man-entry into the wet well. The mounting plate and its securing bolts shall be recessed into the cover slab to provide a trip-free level surface. Alternatively, where the design of the wet well requires the sensor head to be positioned in the opening in the cover slab it shall be affixed to a bracket in such a manner that it can be removed/adjusted with the safety grids/grills in place.</p> <p>e. Ducting for pump supply cables, fitted with a draw rope and large enough to accommodate a connecting plug fitted to the cable, to be laid between an above-ground weatherproof supply box, rated IP 67, situated at the perimeter of the wet well, and a point adjacent to the appropriate set of guide rails to facilitate safe and easy removal/replacement of the pump. The ducting may be secured to the underside of the cover slab, or incorporated in a topping to the cover slab such that there is no trip hazard.</p>
44	2.22	<p>Access into Wet Well and Chambers For safety and environmental reasons, drilled chequer plate or open mesh flooring is not permitted by South West Water as a means of venting the Wet Well. A ventilation stack or vent may require the facility for the provision of a suitable odour control facility depending on the location.</p>

PART 3A – SMALL PUMPING STATIONS – PUMP SPECIFICATION

57	3.3.11	<p>Wet Well Flushing/Mixing/Cleaning Systems It has been shown from operational experience that a wet well flushing/mixing/cleansing system can be unnecessary if the wet well is correctly sized and benched and the facilities in the ultrasonic controller for varying start levels and pump scavenging, and as detailed in SWW Technical Standards/Details, are correctly established.</p>
57	3.3.13	<p>Lifting System</p>

South West Water's lifting system requires the provision of a davit and socket(s). Currently the preferred supplier is Didsbury, and any davit sockets installed shall be suitable to accept a standard Didsbury davit.

- | | | |
|----|-------------------------|--|
| 58 | 3.3.16
3.3.16.6(Add) | <p>Chains</p> <p>The chain material shall be a grade of stainless steel appropriate to the anticipated operational environment within the wet well and in accordance with the relevant parts of BS EN 10088.</p> <p>Note – Materials. The default choice of material for all ancillary metallic components (eg Bolts, Screws, Nuts, Washers, Chains.) shall be Stainless Steel and in accordance with the relevant parts of BS EN 10088, Grade 1.4401, equivalent to 316.</p> |
|----|-------------------------|--|

Page	Clause Nr	Description
-------------	------------------	--------------------

PART 3C – ELECTRICAL SPECIFICATION

- | | | |
|----|-----------------|---|
| 63 | 3.11.2.1(Add) | <p>Kiosk Construction</p> <p>The kiosk shall be of adequate size to permit safe operation and maintenance of the enclosed equipment. Where a kiosk of non "walk-in" design is offered, this shall be so designed and supplied with a suitable weather and windproof structure which can be quickly and easily affixed to the kiosk to provide a dry and safe working environment to allow maintenance on the control panel. Where it is appropriate and as agreed with South West Water a "walk-in" kiosk may be offered. In addition there shall be a hardened drained area extending 1.5m back from the face of the kiosk so that the electrician/craftsman is not standing on a soft wet surface when working on possibly live panels. Adequate lighting shall be installed to illuminate the interiors of the panels and the working area, and the kiosk and shelter shall be of sufficient height, (Minimum 2m), to allow the electrician/craftsman to work without crouching. A separate compartment will be required in the kiosk to house the shelter and pump lifting davit. In sensitive areas, where a GRP kiosk is not visually acceptable to the Planning Authority, a low-maintenance building in materials to match the surrounding development will be considered.</p> |
| 65 | 3.11.7(Add) | <p>Telemetry Outstation</p> <p>Telemetry shall be provided at all new pumping stations that are being offered for adoption. Generally if a pumping station is incorporated as part of a submission an estimate will be provided for the telemetry by South West Water in the initial response. The estimate will be valid for 6 months. To progress the installation of the telemetry or should an updated quotation be required contact South West Water – Engineering. South West Water will provide and configure the approved telemetry outstation and will monitor for at least three months prior to the start of the maintenance period.</p> |
| 72 | 3.13.4.1c)(Add) | <p>Common Control System</p> <p>The ultrasonic level controller shall be in accordance with South West Water Supply Agreement, and will come pre-programmed</p> |

with South West Water's mode of operation, only requiring the setting of site specific parameters relating to level.

PART 4A – MICRO PUMPING STATIONS- PUMP SPECIFICATION

87	4.3.12	Lifting System South West Water's lifting system requires the provision of a davit and socket(s). Currently the preferred supplier is Didsbury, and any davit sockets installed shall be suitable to accept a standard Didsbury davit.
87	4.3.15 4.3.16.6(Add)	Chains The chain material shall be a grade of stainless steel appropriate to the anticipated operational environment within the wet well and in accordance with the relevant parts of BS EN 10088. Note – Materials. The default choice of material for all ancillary Metallic components (eg Bolts, Screws, Nuts, Washers, Chains) shall be Stainless Steel and in accordance with the relevant parts of BS EN 10088, Grade 1.4401, equivalent to 316.

Page	Clause Nr	Description
-------------	------------------	--------------------

PART 4C – ELECTRICAL SPECIFICATION

93	4.11.2	Kiosk Construction The kiosk shall be of adequate size to permit safe operation and maintenance of the enclosed equipment. Where a kiosk of non "walk-in" design is offered, this shall be so designed and supplied with a suitable weather and windproof structure which can be quickly and easily affixed to the kiosk to provide a dry and safe working environment to allow maintenance on the control panel. Where it is appropriate and as agreed with South West Water a "walk-in" kiosk may be offered. In addition there shall be a hardened drained area extending 1.5m back from the face of the kiosk so that the electrician/craftsman is not standing on a soft wet surface when working on possibly live panels. Adequate lighting shall be installed to illuminate the interiors of the panels and the working area, and the kiosk and shelter shall be of sufficient height, (Minimum 2m), to allow the electrician/craftsman to work without crouching. A separate compartment will be required in the kiosk to house the shelter and pump lifting davit. In sensitive areas, where a GRP kiosk is not visually acceptable to the Planning Authority, a low-maintenance building in materials to match the surrounding development will be considered.
93	4.11.6(Add)	Telemetry Outstation Telemetry shall be provided at all new pumping stations that are being offered for adoption. Generally if a pumping station is incorporated as part of a submission an estimate will be provided for the telemetry by South West Water in the initial response. The estimate will be valid for 6 months. To progress the installation of the telemetry or should an updated quotation be required contact South West Water – Engineering. South West Water will provide and configure the approved telemetry outstation and will monitor for at least three months prior

to the start of the maintenance period.

101 4.13.4.1(Add)

Common Control System

The ultrasonic level controller shall be in accordance with South West Water Supply Agreement, and will come pre-programmed with South West Water's mode of operation, only requiring the setting of site specific parameters relating to level.

Miscellaneous

1. Pump supply cables shall be fitted with plug(s) and sockets(s) rated IP 67 and shall connect, via ducts affixed below or in the wet well cover slab, to matching sockets in a weatherproof supply box at the perimeter of the wet well. These sockets shall be hardwired back to the pump control panel(s). The preferred make is "Icore", however similarly approved makes such as "Marechal" or "Legrande" may be offered for consideration on a site specific basis.
2. Site floodlighting, where required, shall comply with the relevant sections of South West Water Technical Standard, SWW-TS-550, Guidance for Designers.
3. Isolation of the wet well from the incoming flows shall be achieved by an on-seating penstock fitted to the outlet from the last manhole before discharging to the wet well. The upstream gravity sewers shall be designed so that all flows from the development pass through this manhole, which shall be situated within the pumping station compound. The discharge from this manhole shall constitute the only inflow to the wet well.
4. Where reasonably practicable, a potable water supply shall be provided within the compound for washing down the wet well and pumps removed for repair. No direct connection off the mains supply to a mobile jetting unit is permitted under the Water Supply(Water Quality) Regulations 2000 and the Water Supply (Water Quality) Amendment, Regulations 2001. and therefore either a pressure wash water set, or a suitable mains fed storage tank to supply a mobile pressure washer and installed in accordance with these regulations, shall be provided.

Index to South West Water's amendments & requirements for Sewers For Adoption 6th Edition.

	Clause
Access into Wet Well and Chambers.	2.22
Chains (Small Pumping Stations)	3.3.16.6
Chains (Micro Pumping Stations)	4.3.15
Common Control System.	3.13.4.1
Kiosk Construction (Small Pumping Stations)	3.11.2
Kiosk Construction (Micro Pumping Stations)	4.11.2
Layout of Pumping Station.	2.18.6
Lifting System (Small Pumping Station)	3.3.13
Lifting System (Micro Pumping Station)	4.3.12
Security Fencing.	2.18.7
Telemetry Outstation (Small Pumping Station)	3.11.7
Telemetry Outstation (Micro Pumping Station)	4.11.6
Wet Well (Hazardous Area Zone)	2.20.4
Wet Well (Depth, Design)	2.20.7
Wet Well Flushing/Mixing/Cleaning System.	3.3.11
Miscellaneous	Page 6