Curved Access Walkways Engineered for Twin 37m Settlement Tanks at Wanlip STW

Steelway designed, manufactured and installed curved perimeter walkways, a central access platform and access stairs for two new 37m diameter primary settlement tanks at Wanlip Sewage Treatment Works, supporting Severn Trent's largest capital project of the 2025 to 2030 investment period.

Project at a glance:

Item	Detail
Location	Wanlip Sewage Treatment Works, Leicestershire
End client	Severn Trent
Principal contractor and designer	MWH Treatment
Sector	Water and wastewater
Steelway package value	Circa £420,000
Scope	Design, supply and installation of access metalwork to two new primary settlement tanks, plus an access platform to the Strainpress sludge screening units
Programme	Early 2025 to autumn 2026

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Project overview

Wanlip Sewage Treatment Works is Severn Trent's third-largest wastewater treatment site. It treats around 135 million litres of sewage a day from Leicester and the surrounding area.

Severn Trent is investing more than £300 million to upgrade the works. The scheme will raise treatment capacity to 162 million litres a day and remove more phosphorus and ammonia before treated water returns to the River Soar. It is Severn Trent's single largest project of the 2025 to 2030 investment period, with MWH Treatment as principal contractor and principal designer.

Steelway's involvement began in early 2025 with an access platform for the site's Strainpress sludge screening units. The main package followed: the design, supply and installation of access metalwork for the scheme's two new 37m diameter primary settlement tanks (PSTs).

The tanks sit at the heart of the new treatment stream, and operators need safe, dependable access to them every day for inspection, maintenance and process monitoring. Providing that access meant engineering walkways that follow the full curve of each tank.

The challenge

The access steelwork had to follow the curve of two circular tanks, fit around precast concrete walls and meet a fast-tracked programme on a live site. Five factors shaped the brief.

- **Curved geometry.** Each tank is 37m in diameter, with a circumference of around 116m. Unlike a straight run, a walkway that follows a tank wall has to hold its radius around the full perimeter, so every support position, floor panel and handrail section must be set out to the curve.
- **Precast tank construction.** The PSTs are built from precast, post-tensioned concrete, so the access steelwork had to be detailed precisely around the tank walls.
- **Complex interfaces.** The two tanks share a central chamber where walkways, stairs and platforms from both sides meet. The package also had to tie in with other steelwork on the scheme, including tank bridges, aeration access, gantries and pipebridges.
- **A live, fast-tracked site.** Wanlip is an operational works and one of the busiest construction sites in the region, with several contractors working side by side. The first section of the new works is due for completion in December 2026, leaving no room for delay in design, fabrication or delivery.
- **A corrosive environment.** As with any wastewater asset, the steelwork must withstand constant moisture and corrosive conditions with minimal maintenance over its working life.

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Our approach

Steelway kept design, manufacture and installation in-house, giving one team control of the package from first model to final fix.

Designed in full 3D. Our in-house design team modelled the complete PST access arrangement alongside the tanks, pipework and surrounding structures. Working in 3D fixed the geometry of the curved walkways digitally and allowed every interface to be checked and resolved before a single component was fabricated.

Manufactured off-site. All components were fabricated at our Wolverhampton works and delivered in manageable sections. Off-site manufacture cut installation time and kept disruption on a busy, multi-contractor site to a minimum.

Installed by our own team. Steelway's site team installed the steelwork, keeping responsibility for design, manufacture and fit with a single supplier.

Responsive to change. As the scheme progressed, each follow-on order was turned around quickly by the same team, keeping pace with a fast-moving site.

The solution

Steelway delivered a complete, integrated access system around both tanks and the chamber between them.

- **Curved perimeter walkways.** Free-standing walkways follow the full circumference of both 37m tanks on steel support columns, giving operators continuous access to the tank walls and equipment.
- **Central access platform and stair tower.** A raised platform over the chamber between the two tanks links both perimeter walkways, with staircases providing safe access from ground level.
- **Ground-level access stairs.** Additional staircases on the outside of the tanks provide further routes up to the walkways for maintenance and emergency egress.
- **Handrailing and flooring.** Tubular handrailing protects operators at height along every route, with flooring that gives secure footing in wet conditions.
- **Corrosion-resistant construction.** Galvanised steelwork provides long-term protection in the harsh conditions of a working sewage treatment works.
- **Strainpress access platform.** A dedicated platform gives operators access to the site's sludge screening units.

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Programme of works

Steelway's work at Wanlip has run as a series of orders across 2025 and 2026, each delivered by the same team.

- **Early 2025:** Access platform for the Strainpress sludge screening units.
- **Autumn 2025:** Main access metalwork package for the PST area.
- **Spring 2026:** Further metalwork and modifications to the PST walkways, installed by our own site team.
- **Summer 2026:** Flooring upgrade to the PST walkways.
- **Autumn 2026:** Additional items as the first section of the new works approaches completion.

Results

The completed steelwork gives operators permanent, compliant access around both primary settlement tanks and the central chamber, delivered in step with a fast-tracked programme.

- **Safety:** Permanent, compliant access to both tanks and the shared chamber, with protected routes at height and additional stairs for emergency egress.
- **Engineering precision:** Curved walkways modelled in 3D and manufactured off-site to suit the tank geometry and adjoining structures.
- **Programme:** In-house design and off-site fabrication supported a demanding schedule on a live, multi-contractor site.
- **Durability:** Galvanized steelwork built for a long service life with minimal upkeep.
- **Ongoing partnership:** A series of follow-on orders from early 2025 through to autumn 2026, covering new metalwork, site installation and walkway upgrades.

"Wanlip is a landmark scheme for Severn Trent and the programme left no margin for error. Designing the whole access arrangement in 3D and keeping manufacture in-house meant we could respond quickly to changes on site and deliver steelwork that fitted first time."

Lee Hunt, Commercial Director, Steelway

The scheme is a key step in Severn Trent's investment in the River Soar and the communities it serves. Steelway is proud that its access steelwork forms part of it.

Steelway designs, manufactures and installs access metalwork for water and wastewater schemes. To discuss your project, contact our team on 01902 451733 or email sales@steelway.co.uk.