

# CASE STUDY



**Project:** Kilndown WTW Civil Engineering Project  
**Location:** Kilndown, Kent  
**Client:** Principal Contractor – CMDP (Costain/MWH Delivery Partnership)  
Client – Southern Water  
**Value:** £400k



## Project Introduction

Coleman Construction and Utilities Limited's contracted civil engineering project scope comprised bulk excavation, new chambers, pipework, drainage and manholes, formation of new roadways and paths, site wide ducting, draw pits and new bases.

The overall project scope will deliver deep bed tertiary treatment and provision of clean and dirty backwash tanks and includes a new pump station, new mcc panel, new P&FE and a new ferric/alkalinity dosing unit. These works were in support of Southern Water's directive to reduce the phosphorous from no permit to 0.5MG/L and the FE to 4MG/L identified in the water industry national environmental programme (WINEP3) and required by 22/12/2024.

## Project Deliverables

- Site establishment works
  - > Including groundworks, foundations and ductwork
  - > Provision of temporary footpaths utilising reusable plastic gridded matting and its removal on completion
- Pipe and manhole systems
  - > Reinforced concrete bases poured, and precast concrete manhole rings installed
  - > Manhole surround shutters installed, and concrete poured to gain a watertight seal
  - > Core drilling of pipe penetrations
- > Pipe runs excavated and installed using two types of temporary works: (1) sheet and frame in congested areas; and (2) trench boxes in areas of no obstruction
- > Pipework installed as per manufactures guidelines, air tested for drain runs and pressure tested for pumping mains
- Ferric and Alkalinity (ferric dosing unit to dose ferric sulphate to the treatment works and remove phosphates from the treatment process)
  - > Excavate and lower depth of entire footprint
  - > Installation of all required electrical and dosing line ducts
  - > Installation of 'Cubis' rapid stack draw pits
  - > Installation of pipe work for drainage, including capturing any spill of ferric during delivery
  - > Install 1No 1500mm diameter manhole (intercept chamber) to hold large spill of ferric when delivery is taking place
  - > Cast a reinforced concrete slab to house ferric dosing unit, which was constructed on compacted type 1 and concrete blinding
  - > Concrete access roads formed and poured with containment humps in case of ferric spillage
  - > Installation of pipework for delivering water to the treatment plant from the pump station and then on to FE chamber for sampling before leaving site

- > Surface water drainage manholes and pipework

### Challenges and Solutions

A number of challenges have been met and solved throughout the project by Coleman Construction & Utilities Limited. In doing so, the team delivered the project on time and within its budget:

- Deep excavations for the ferric interceptor chamber and chemical dosing interception chamber were solved with an alternative sheet and frame temporary works design and installation
- Pipes and manholes within the temporary works were installed using two systems of manhole boxes and trench boxes
- There were congested areas of where all new pipes, manholes, ducts, draw pits and chambers joined together. Coleman Construction & Utilities Limited undertook regular programme and sequencing reviews, which enabled all works to be planned in advance
- Plant deliveries required a co-ordinated plan of plant and equipment deliveries to ensure works kept on track
- Interface with other contractors/stakeholders was required throughout. The Coleman team engaged in collaborative early meetings, regular planning and coordination through weekly project meetings
- Unmarked services where located, were dealt with expediently and then marked onto as-built drawings to support as-built records and the health and safety file

### Benefits

- Coleman Construction & Utilities Limited provided a non-confrontational approach to commercial and contractual matters, preferring to work collaboratively in the interests of the project. As a result, working relationships with the client at all levels and across all disciplines were and remain at an all-time high.
- Collaborative working has become the daily norm for Coleman Construction & Utilities staff. The team always endeavour to offer a solution-based approach.
- The team were always striving for best practice working especially where health, safety and wellbeing are concerned. The team aim for zero harm every day.

- The company takes pride in its project work, leaving sites snag free. Our attention to detail is second to none.

### Testimonial

“Kilndown WTW is a very small site with lots of existing equipment and also buried services and structures. This proved to be a challenge throughout the Civils Phase of works especially during excavation works.

“Coleman worked collaboratively with us (CMDP) to resolve issues with existing buried structures and offered and suggested solutions.

“A total of 126 safe working days were achieved at Kilndown without a single incident which speaks volumes as to the safe working practices which are being upheld by Coleman.

“The level of concrete finishing and quality of work was to a very high standard with comments being made from the client (Southern Water) on several occasions during their visits to site.

“The Civils package was delivered by Colemans on time, within budget and in a professional and safe manner.

“I would like to take this opportunity to thank Billy Rixon and the workforce and look forward to working with them in the future.”

**Adam Morris**  
*Senior Site Manager, CMDP JV*