Windsor Sewerage Treatment Works

External Refurbishment & Structural Remediation

PROJECT DETAILS

CLIENT Thames Water

PROJECT Windsor STW External Refurbishment & Structural Remediation

LOCATION Ham Lane, Old Windsor, SL4 2JS

START DATE 4 October 2021

DURATION 16 Weeks

END DATE 21 January 2022

VALUE £417,715

RTM TW Refurbishment & Remediation Framework

CONTRACT TW Framework Document

ROLE Principal Contractor

PROJECT SUMMARY

Appointed as a Tier 1 Contractor on the Thames Water Refurbishment & Remediation Framework for above ground assets, McConnell were appointed as Principal Contractor for the refurbishment and structural remediation of the Windsor Sewerage Treatment Works which operates 24/7/365 days per year, providing water treatment services for major conurbations in East Berkshire and South-West London.

The works were confined to the station house including the roofs, the basement and various outbuildings which were all constructed in brick with feature stonework, decorative copes and arches, decorative ridge tiles, dormer timber ventilation and iron rainwater goods.

Very much a heritage building, the external work was undertaken carefully and products were sensitively chosen to complement existing brick, stone and timbers. Similarly, great care was undertaken with the structural remediation of the gable ends and the internal refurbishment works, all in compliance with Thames Water Operating Procedures, without any detrimental reduction in services which remained fully operational during the works.

SCOPE OF WORKS

- Non-chemical, high temperature steam cleaning of roof and all external elevations
- Slate, Stone, Brickwork and pointing repairs to match existing
- New window replacement and Dorma ventilation repairs
- Structural steel installation and wall strengthening at gable ends
- Re-bedding of ridge tiles
- Asbestos and lead compound paint removal and installation of new specialist coatings
- External decoration including specialist coatings to timbers, gutters and downpipes

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CRITICAL SUCCESS FACTORS

- All our Managers and Operatives completed the Thames Water (TW) Passport Training before commencing remedial works which were completed in compliance with TW Operational Guidance and HSE Directives on working near sewerage. Critical to our ongoing success was our close liaison and collaboration with the TW Project Manager who we met on site at the start of each working day.
- The removal of asbestos containing materials and lead compound coatings was undertaken and certified by a specialist licenced subcontractor in full compliance with COSHH regulations.
- Fragile brick, stonework and timber surfaces were cleaned using a non-chemical, high temperature, steam cleaning (DOFF) system which we have previously used on other similar heritage and listed structures to great effect. Subsequent, brick, stone and mortar repairs were sensitively matched to existing finishes to protect the architectural integrity of the block.
- We took great care to secure the unstable masonry, Working from a NASC approved scaffold design, we strengthened the gable end walls by carefully stitching and tying Helifix Cem Tie rods at staggered vertical/horizontal centres through the brickwork to hold the leaves of the wall together. We also installed Helifix Bow Ties under the coping line to tie back into the first two main roof rafters. We supported these with additional PFC steel support beams restrained at the ridge, purlins and eaves. All subsequent internal masonry repairs were co-ordinated with the roof repairs and the new structural steel frame installation.
- We carefully unclipped and removed the lead sheets to the dormer ventilation to allow the removal of the existing verge/fascia boards and mouldings. We supplied and installed new treated timber roof sheathing boards of matching size and thickness and bird and insect mesh.
- We replaced all timber louvres and neatly and carefully redressed and resecured all lead sheeting to the dormer features in accordance with the Lead Sheet Training Academy guidelines. All new lead was coated in patination oil and all mechanical fixings benefitted from welded lead cups. All timbers, metals and brackets were cleaned, prepared and painted in compliance with Thames Water's approved specifications.