

# One Nine Elms SW8

## KEY PROJECT DETAILS

<b>Client</b>	R&F Properties		
<b>Value</b>	£8.5m		
<b>Project Start</b>	October 2018	<b>Project Finish</b>	January 2020
<b>Location</b>	Vauxhall, South London		
<b>Works</b>	Design and build of 140m of online replacement of a 1.8m diameter Thames Water network critical sewer over 7m deep with associated manholes & new penstock		



### Project Background

As part of the £1Billion One Nine Elms & Nine Elms Square developments J Browne delivered the online replacement of a network critical 1.8m diameter Thames Water sewer in Vauxhall which services the majority of South London. The project was delivered to tight deadlines and in a congested site to budget and within programme.

The project was located in an area of land running through two developments where multiple high-rise towers are planned to be constructed and in close vicinity to the US Embassy. This required multiple interfaces with two site teams and numerous trade contractors.

### Thames Water Interface

We worked closely with Thames Water and the client at Early Contractor Involvement stage to design a solution to overcome the complexities of managing flows and allowing for over pumping arrangements to function during the construction activities taking into account the risk of flooding and ensuring that our mitigation dealt with all rainfall scenarios.

### Penstock Installation

A bespoke penstock and reflux valve was designed by specialists Unitspark, and our overall solution presented to Thames Water's Independent Authorising Board (IAB) who monitor access to Trunk Sewers. where approval was given to proceed. The installation of the penstock and reflux valve was carried out over a number of night shifts when flows were at their lowest point. This enabling solution allowed for an over pumping system, designed to pump approximately 1800l/s and this set up was maintained whilst phase 1 of the works was carried out.

### Phase 1

This section involved the design and build of 2 large in-situ reinforced concrete manholes and 16 linear metres of 1.8m diameter pre-cast concrete pipes in a heading in a congested part of the site. Once the heading was backfilled, including installation of flexible joints, the over pumping system was demobilised achieving the clients key date for removal.

### Phase 2

We installed 140m of 1.8m sewer pipe with a new over pumping system, this time designed to pump storm flows of 3000 litres per second.

The previous enabling works of penstock and reflux valve were removed with the penstock being CAT 3 checked and re-used further upstream to manage flows for the new overpumping system.

A bespoke hydraulic flap valve was designed and built to provide safety from any potential backflows from the sewer.

**CHALLENGES:** Client constraints within demanding working programme. Congested site working arrangements. An extensive overpumping set up, and installation of enabling penstocks & Reflux valves.

**SOLUTIONS:** Close Liaison with Main Contractor Thames Water 'IAB' and 3rd party contractors. Design and Build of suitable over pumping and enabling penstock systems. A collaborative proactive approach based on good communication and early engagement with all stakeholders.