

DELIVERING COMPLIANCE: ENVIRONMENTAL MANAGEMENT



Undertaking wintering bird surveys_Walthamstow Wetlands

Chris Rochfort, Principal Environmental Advisor with Stantec shares his thoughts on delivering compliance through effective environmental management in Thames Water's Capital Delivery Alliance eight₂0.

eight₂0 is the largest delivery alliance in the UK water sector. The partners involved are Thames Water, two design & build joint ventures, SMB and CABV with Stantec providing design and environmental capability to SMB and programme controls for the whole alliance. Together, the alliance will carry out £1.75bn of capital investment work during the AMP6 period (2015-2020).

So how are environmental risks managed on a programme of such scale, comprising thousands of infrastructure projects both large and small, planned as well as reactive? How do a group of environmental professionals from consulting and contractor backgrounds come together to deliver projects across a large area comprising 15 counties and 94 local planning authorities?

Environmental Regulation

Thames Water and its predecessors' assets were built over a 370-year period before the environmental awakening in the 1970s resulted in the first protections, such as Sites of Special Scientific Interest. Thames Water already had hundreds of kilometres of assets within these new designations, such as sewers and water mains. For the most part these assets are buried and do not affect those sites, unless they leak or if routine maintenance is required.

Even more noteworthy are entire assets, such as the Walthamstow Reservoirs complex, built on the Lea Valley in North London and subsequently designated as both a Site of Special Scientific Interest, and Special Protection Area, due to the

internationally important assemblage of birds that the reservoir attracts.

Another good example is covered reservoirs, which distribute water to customers by the force of gravity and are therefore located at high points in the countryside. But if you recall your GCSE History, you'll know that these vantage points were often also the sites of ancient settlements, such as Iron Age hill forts. Chisbury Reservoir in Wiltshire, together with its incoming and outgoing water mains, was built in the middle of what is now the Chisbury Camp and St Martin's Chapel Scheduled Monument.

Today, of course, Environmental Impact Assessments are just one of several regulatory instruments that steer

development away from sensitive sites. The important point to note here is that this is a legacy that Thames Water has inherited. It must deliver its statutory duties while managing the sensitive environment in which many of its assets are located, and that many of its grand buildings and structures are now listed.

How Environmental Compliance is Delivered in eight₂0

The key to delivering seamless environmental compliance in a joint venture is to develop consistent procedures that everyone understands. Each of the two joint ventures within the eight₂0 alliance has set up a Safety, Health and Environment team, led by professionals employed by the contractor partners, with consultants from the design partners working closely in support of them. The consultants put forward specialists such as town planners, environmental planners, permitting consultants, ecologists, archaeologists, geo-environmental engineers and landscape architects as part of their wider design offering.

A key role is that of the design environmental advisor (DEA), who coordinates the specialists and communicates key requirements to the project team. The DEA will eventually hand over the project to the construction environmental advisor (CEA), who specialises in the fast-paced construction environment.

Relationship with Regulators

Thames Water's development projects are regulated by governmental bodies including local, county and unitary authorities, Historic England, Natural England, and the Environment Agency among others.

Over the past three years eight₂0, Thames Water and Natural England have worked closely to gather and analyse evidence and data about bird distribution on the Walthamstow Wetlands, and their tolerance to a variety of different forms of disturbance. The organisations have streamlined the ability to give permission for many infrastructure projects with assurance that measures are in place that ensure the integrity of the site remains. As a result, all organisations have a better understanding of the birds' use of the sites, what works associated with infrastructure cause more disturbance than others, and what measures satisfy the Habitats Regulation Assessment and Natural England.



Water vole mitigation under class licence near Highworth Wilts

The Greater London Archaeology Advisory Service (GLAAS) is part of Historic England's London office and provides archaeological advice to developers for the whole of Greater London, except for the City of London and London Borough of Southwark. GLAAS perform the same regulatory role as County Archaeologists. Given the hundreds of projects delivered by Thames Water's contractors in London, over the years a process has been agreed with GLAAS aimed at streamlining and minimising the administrative burden on both sides, whereby projects identified as "low risk", required no further archaeological consultation. GLAAS are consulted fully on the medium-high risk projects such as those in Archaeological Priority Areas where there is a greater chance of interest features being affected by the project.

Innovation

The partners in eight₂0 have been quick to bring innovation into the alliance, to benefit projects on the ground. Being aware of emerging areas of innovation is essential to delivering value for money to the client. Examples in AMP6 are introducing eDNA testing for great crested newts, resulting in financial savings and reduced health and safety risk on certain projects, compared to the traditional presence/absence survey technique.

Other examples have included using GIS to combine reporting with accessible and easily understood constraints map deliverables, displayed in the site offices by the construction managers. A new area of innovation is GIS analytics, which when used to its full capacity can predict potential routes for new cross-country pipelines,



Undertaking bat surveys_Wood Green Tunnel_London

automatically identifying paths of least resistance, and providing an evidence-based decision-making tool.

Looking ahead

The key to the effective delivery of environmental compliance in a design and build environment is to establish an experienced, multi-disciplinary team, benefitting from clear and effective tools, templates and processes, and communicating regularly.

The team must work closely with its engineering and contractor colleagues, regulators and stakeholders, and promote best practice, learn from incidents, bring in ideas and innovation from outside the alliance, be aware of new incoming legislation and guidance, and seek continual improvement.