### Key Issues –

Where development is needed within or near highly sensitive areas such as Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites, mitigation by design can provide one of the most effective ways of avoiding impacts on the integrity of the sites and hence facilitating sustainable development.

This case study explains how an iterative process of design modification, in close consultation with Natural England, was used to overcome potential constraints relating to European sites. While it is primarily focussed on ecological impacts as assessed through EcIA and HRA, it demonstrates principles which can also be applied to EIA in a wider context.

### Description of the project –

Veolia Water Southeast Ltd (VWSE) were required by the Drinking Water Inspectorate, through a legal undertaking, to provide for iron and manganese removal from the public water supply in the Dungeness area in south east Kent. To facilitate this treatment, an extension to the existing Denge Water Treatment Works (WTW) was required.

Denge WTW is situated on the Kent coastline in an area known as the Dungeness Peninsula and is located within or in close proximity to:
- Dungeness Special Area of Conservation
- Dungeness Romney Marsh and Rye Bay Site of Special Scientific Interest
- Dungeness to Pett Level Special Protection Area

A variety of design layouts were developed for the scheme before Cascade Consulting became involved in the project. However, none of the original layouts were deemed suitable by Natural England due to potential impacts to the pristine shingle habitat to the north of the site.
Lessons learnt –

A final design layout, initiated by Cascade Consulting, was then developed to utilise the footprint of a redundant emergency water treatment facility located in the south east corner of the site. The extension works would be contained within the existing footprint and through phased demolition, construction noise could be reduced by using the walls of the redundant treatment facility as a temporary noise barrier while other parts of the structure were removed.

This solution was not only sustainable in terms of the use of brownfield land and the recycling of redundant structures, it also fundamentally ensured that no shingle habitat, of poor or pristine quality, would be permanently lost due to development.

Further mitigation techniques including avoidance and reduction in impacts were discussed with Natural England and RSPB to ensure the other qualifying features of the SAC, and those of the SPA, were not adversely affected by the development. Great crested newts were recorded as using the smaller water bodies to the south of the site. Exclusion fencing was erected along the boundary of the site. To reduce disturbance to the shingle habitat, sandbags were used to hold the fencing down rather than digging the fence into the shingle.

Lessons learnt cont. –

Through consultation with Natural England and the RSPB, an innovative and iterative design approach re-used existing buildings within the site footprint to minimise off-site impacts on pristine shingle habitat and a mitigation programme for great crested newts and birds was put in place. This led to planning consent being granted within the required deadline.

Natural England concluded that, “…they (the project team) have been committed, from the start, to minimise impact on an internationally important habitat. They took great care to develop the project with us from an early stage and we are really pleased with the outcomes.”

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