

Hawthorn Colliery and Cokeworks Reclamation to Public Open Space One NorthEast

As the regional development agency for the north east of England, One NorthEast is responsible for the reclamation of Hawthorn Colliery, funded by the government's national regeneration body, English Partnerships. Entec is 'lead consultant' for the project which includes reclamation, decontamination and landscaping on the 75 hectare site of the former colliery and cokeworks, to provide an area of public open space.

Entec developed a phased approach to the project, to ensure legal compliance, while minimising the client's financial exposure.

Phase 1 preparatory works included removal of buried foundations and investigation of the form and extent of contamination.

Phase 2 involved reclamation and remediation of the site. The site was heavily contaminated with former cokeworks' by-products and associated infrastructure, including tar storage tanks, oxide revivification plant and ammonia storage tanks. Contaminants included cyanide, polycyclic aromatic hydrocarbons, phenols and heavy metals.

While Phase 1 progressed, Entec developed the reclamation strategy using quantitative risk assessments to determine site specific clean up targets, based on the end use of the site. This approach enabled on site bioremediation to be successfully employed to treat the majority of contaminated materials. Contaminated materials were sentenced for treatment and formed into windrows with added bulking agents and nutrients, which allowed microbial organisms to degrade the contaminants to form lower toxicity materials. These bioremediated soils were then safely reused within the works. In this way the re-use of materials on site has been maximised leading to a sustainable remedial approach.



Making derelict brownfield land a local asset

Entec proposed the use of thermally dried sewage sludge (biopellets) as a soil conditioner for the site. The site has virtually no pre-existing topsoil, and the biopellets will allow the existing shales and clays to be conditioned into a suitable growing medium. This maximised the re-use of existing materials, and minimised the requirement for soil importation.

Overall, the strategy of on-site treatment and minimising imports/exports was extremely successful, with an under spend on budget in excess of £2 million. This will enable English Partnerships to bring forward the reclamation of other sites.

Phase 3 involved landscaping of the site to provide an area of open space, including the creation of visually attractive, but also new and interesting wildlife habitats.

Facts and Figures

Project

Hawthorn Colliery and Cokeworks Reclamation to Public Open Space

Client

One NorthEast

Location

Hawthorn, Murton, County Durham, UK

Capital Project Value

£16m

Key Works

- 1,400,000 m³ bulk earthworks
- 700,000 m³ material processing
- 35,000 m³ bioremediation
- 75 ha landscaping

Entec Services

- Project management
- Feasibility study on decontamination and sustainable development
- Outline and detail design and planning of reclamation works
- Liaison and negotiation with the Planning Authority and Environment Agency
- Tendering procedure and evaluation
- Contract supervision and administration
- Planning Supervision

