



BARNET, VQ: Case Study

Customer: One Housing Group

Contract Value: £4.5m

Executive Summary

Remediation and Civil Engineering of an ex-functioning Gasworks including the construction of a basement, 530m of contiguous piling and preparation of site infrastructure.

John F Hunt
REMEDICATION



REMEDIATION | REGENERATION | ENABLING

JOHN F HUNT REMEDIATION LTD

Challenges

Problems encountered were largely due to the geography of the site, which bordered residential accommodation, offices, public parks, and a primary school. As the works involved excavation and the possibility of encountering hazardous materials within the ground, public interest was high. John F Hunt Remediation implemented a rigorous monitoring plan which included VOC carbon tubes, PID and PM10 Monitoring in addition to background asbestos fibre monitoring to monitor noise, vibration, airborne asbestos fibres. Mitigation measures include odour suppression, plastic sheeting and a static jet washing system.



Solution

The project involved the relining of a river running through site to prevent future contamination of connected water courses. The company proposed a less invasive lining technology, UV Lining. The process involves inserting a Glass Reinforce Polyester (GRP) liner impregnated with a special resin into the sewer or drain. As the liner is inserted into the pipe, it is pulled into place and then inflated with free air. A UV Light Train with built in CCTV is pulled through to check the positioning and identify any obstructions. Finally, the UV lights are ignited causing the resin cure and effectively creating a new pipe within the pipe and restoring the integrity of the drain or sewer. Using this technology, John F Hunt Remediation avoided the excavation and construction of a new culvert which in turn improved surface water quality in Pymmes Brook and saved the client ~£0.5m on construction costs compared to traditional cut and cover techniques.

The company established and operated a controlled and carefully managed water treatment plant on site to collect and treat water prior to discharge into sewer, in accordance with the requirements and approval of Thames Water. The system was used to treat rainwater and recovered water from dewatering, excavation and treatment activities and separate dense and light NAPL from the inflow by gravity in a NAPL separator whilst a secondary stage of activated carbon filtration will remove the dissolved phase components prior to discharge. Treating the NAPL on site reduced the vehicle movements and cost of treating the water off-site.

John F Hunt Remediation diverted several utilities including a gas diversion through a busy park and a water mains pipe.

We also removed Japanese Knotweed from the West side of the site after conducting several surveys and segregating the area.



Benefits

- Successfully promoted the case for increasing remediation targets for reuse of chrysotile fibre tainted soils.
- Impounding water to facilitate solids and preliminary DNAPL settlement within a bunded excavation. Sand filter to mitigate tainting of carbon by solids and introduction of sparging to mitigate dissolved methane prior to discharge to sewer.
- Preparation of stabilised pile mats using OPC to geotechnically enhance load bearing properties of recovered Class 2 materials.
- Proposed less invasive lining technology to avoid excavation and construction of a new culvert.
- Stabilised pile mat solution to avoid off-site disposal of ~10,000m³ of contaminated materials and replacement by recycled aggregates.
- Improved surface water quality in Pymmes Brook and ~£0.5m saving on construction costs compared to traditional cut and cover techniques
- Avoided removal of grossly contaminated water to off-site treatment facility.