



The site was acquired by the Tauheedul Education Trust with the aim of developing the site as a girl's school. Planning permission was granted by Coventry City Council subject to the satisfactory discharge of planning conditions – these included conditions relating to contaminated land which essentially comprised:

- a requirement to carry out a satisfactory site investigation and to develop an acceptable remediation strategy for approval by the regulators
- a requirement to carry out remediation works in accordance with the approved remediation strategy
- a requirement to notify the council if 'contamination not previously identified' is discovered on-site
- a requirement to provide a validation / verification report on completion of the remediation works (to document the works undertaken and to confirm compliance with the approved remediation strategy)

### Site Background & History

The site forms part of the former Coventry and Warwickshire Hospital Site which was demolished in 2012. This area of the former hospital site was not currently redeveloped - other parts of the site have been redeveloped to create the City of Coventry Health Centre and Swanswell Point.

The site prior to redevelopment is shown in Figure 1 below.

Figure 1 – Site Prior to Redevelopment



Enviro-treat were commissioned by Thomas Vale to address the stated requirements and to enable the discharge of the relevant planning conditions.

The site is irregular in shape covering an area of circa 2.5 hectares. There were a number of stockpiles on site – these stockpiles predominantly comprised of demolition rubble (presumably relating to previous demolition works undertaken on the former hospital sites as a whole). The stockpiles were contaminated with hydrocarbon pollutants and asbestos fibres to varying degrees – the soils surrounding the stockpiles and some of the surface soils on the remainder of the site exhibited similar contamination issues. There was clearly a significant risk that the contaminated materials within the stockpiles and some of the soils could be classified as non-hazardous with the potential for localised 'hot-spots' to be classified as hazardous.

Envirotrear prepared a remediation strategy to address identified contamination associated with the stockpiled materials / contaminated soils and to satisfy the requirements of the regulatory bodies / the planning department.

The remediation strategy incorporated the following:

- A site investigation and risk assessment in accordance with the requirements of CLR 11
- An acceptable 'remediation scheme' to address previously identified contamination considered to pose a potential risk to human health and / or controlled waters
- An acceptable 'Discovery Strategy' incorporating necessary protocols to address 'contamination not previously identified' (including quarantine provisions if required). Envirotrear has an established protocol designed to ensure that the remediation works can continue in the event of discovering 'contamination not previously identified' without the need to delay the project – this was considered to be very important from a programming perspective
- A verification plan summarising the validation procedures and requirements to confirm compliance with the approved remediation strategy

A 'cut and fill' assessment was carried out which indicated that the enabling works would generate a net surplus of material. It was a requirement to retain as much of the geotechnically suitable materials on site for use as fill and sub-base etc – these materials were preferentially retained on site and geotechnically unsuitable materials / excavated natural soils were preferentially removed from site.

Envirotrear managed the soil selection process and the offsite disposal requirement – this included a targeted site investigation to confirm the suitability of respective materials for their intended use.

Envirotrear implemented a Material Management Plan [MMP] for the soil management processes on site.

Envirotrear also managed the identified site contamination issues on the site through a supporting 'watching brief'. This included the implementation of the Discovery Strategy to address and manage any 'contamination not previously identified'.

### Stockpiled Materials

The stockpiled materials are shown in Figure 2 below.

Figure 2 – Stockpiled Materials (Demolition Rubble)



One stockpile (estimated at circa 10,000 tonnes) comprised of un-screened demolition waste and arisings from the City of Coventry Health Centre and Swanswell Point Developments. This material was not considered to be suitable for reuse on-site without further processing – consequently this material was designated for offsite disposal as it was geotechnically unsuitable for potential reuse on-site.

The stockpiled material was initially regarded as hazardous waste – it was therefore decided to carry out an intensive investigation on this waste material followed by delineation as far as practically possible. Envirotrear undertook to carry out this process and was able to arrange the removal of > 98% of this waste material to a local inert landfill by investigation / delineation with supporting analysis.

The removal of this material is shown in Figure 3 below.

Figure 3 – Offsite Removal of Geotechnically Unsuitable Material



Several other stockpiles were present on site (estimated to be > 14,000 tonnes in total) – these stockpiles comprised of graded demolition waste. Previous site investigations and subsequent testing undertaken by Envirotreat identified elevated levels of hydrocarbon and asbestos contamination within the respective stockpiles.

These stockpiled materials were considered to be suitable for reuse on-site as a sub-base material without the need for further processing. Envirotreat carried out a risk assessment to determine the suitability for use in specific areas / locations within the site – it was possible to recover all of these stockpiled materials by a combination of targeted testing (to confirm compliance with designated remediation target criteria) and delineation as necessary to achieve the target objectives.

### Enabling Works

A reduced dig was required in several areas of the site to accommodate the proposed developments. The reduced dig under the footprint of the proposed Main Building involved reducing the ground level by ↑ 1.5m below the existing ground level with the foundations requiring a further reduced dig of ↑ 2.5m.

The reduced dig in the Main Building footprint area is shown in Figure 4 below.

Figure 4 – Reduced Dig (Main Building Area)



Note that sub-base is being constructed from reused / recovered demolition waste

A reduced level dig of ↑ 1m below existing ground level was required under the footprint of the proposed Multi-Use Games Area [MUGA]. The reduced level dig in this area is shown in Figure 5 below.

Figure 5 – Reduced Dig [MUGA]



Note that sub-base is being constructed from reused / recovered demolition waste

A reduced level dig of ↑ 1m below existing ground level was required under the footprint of the proposed Sports Hall with the foundations requiring a further reduced dig of ↑ 2m.

The total arisings from the reduced dig excavations were circa 14,500 tonnes (including the drainage service channels and the necessary excavations for the attenuation tank). Envirotreat was able to remove > 99% of this material to a local inert landfill site by a combination of targeted testing and delineation as necessary.

### Japanese Knotweed

Japanese Knotweed had been identified in the embankment bordering the development areas of the site. Envirotreat addressed the Japanese Knotweed by the implementation of a Japanese Knotweed Management Plan – this involved spraying with a suitable herbicide to eradicate the Knotweed growth combined with management of affected areas which overlapped the development areas (at the base of the embankments). This treatment and management plan achieved the objective of controlling / eradicating the Knotweed growth on the site

### Validation and Verification

Following completion of the requisite remediation / enabling works, Envirotreat produced an Interim Validation / Verification Report documenting the works undertaken and confirming compliance with the approved remediation strategy. The report was submitted to the regulatory bodies to obtain discharge of the relevant planning conditions. A Final Validation / Verification report was later produced following the provision of a suitable capping layer to soft landscaped areas.

There was no unexpected contamination identified during the remediation works.

The proposed Main Building is shown in Figure 6 below.

Figure 6 – Proposed Development (Main Building)



### Conclusions

Envirotreat provided significant added benefit to the project as summarised below:

- Significant cost savings were achieved by negating any requirement to dispose of stockpiled materials / soils as hazardous / non-hazardous (at a potential cost of circa £120/tonne) – this was achieved by delineating the materials / soils and ensuring that only inert materials / soils were removed from site (at a significantly reduced cost)
- Additional cost savings were generated by negating the need for offsite disposal of geotechnically suitable soils / materials and by negating the potentially corresponding requirement for importation of granular fill (for use as sub-base etc)
- The use of a local inert landfill site resulted in reduced haulage costs / impact on the environment
- Time and cost savings were achieved by effectively controlling the management of soils / materials on site and by effectively managing the identified / potential contamination