

Garston Bus Depot Redevelopment, Garston, Liverpool.

Period — 2005/7. **Value** — £2.66m
Client — Bellway Homes (West Lancashire)
Designer — Capita Symonds

The site had had a range of previous uses including a 'Destructor' (early incinerator), Tram Depot and later a Bus Depot with maintenance and fuelling sheds. Significant levels of hydrocarbon contamination had been identified in the fills underlying these areas of the site. The site was being redeveloped for residential use.

Remediation works consisted of;

- Assistance in development of a Remediation Strategy and Implementation Plan for the site with consultant Capita Symonds, Liverpool City Council EHO and the Environment Agency.
- Extensive advance site investigation including trial pitting and testing to fully identify all site abnormalities, the extent of the contamination and to confirm the initial assessment that contamination consisted mainly of Diesel Range Organics.
- This included searches of local archives which located photographs and descriptions of the tram & bus depot and identified the position of workshop & fuelling areas.
- Break out and crush for re-use oversite concrete slabs, bases and foundations together with existing stockpiled demolition materials.
- Discrete removal of hydrocarbon and heavy metal contamination to stockpile for testing and characterisation including extensive sorting and screening of excavated materials
- Protection of 1350mm dia trunk sewer running beneath this area of the site.
- Intensive testing regime established to confirm DRO contamination and non hazardous classification resulting in minimisation of off site disposal requirements.
- Disposal of 3500m³ of non-hazardous diesel contaminated soils and 1600m³ of surplus inert soils.
- Removal of 6 interceptor chambers and existing drain runs.
- Re-filling excavations with crushed concrete.
- Pumped removal of hydrocarbon contaminated perched ground water to tank farm storage facilities for testing and subsequent tankered disposal to licensed facilities.



Garston Bus Depot Redevelopment, Garston, Liverpool. (contd)

- Investigating the construction and condition of 120m of existing 5m high brick built boundary retaining walls resulting in strengthening works involving construction of reinforced concrete buttress walls drilled and dowelled into sandstone formation and tied into brickwork walls.
- Provision of access equipment and shoring scaffold to support upper sections of existing walls to enable removal of steelwork, wing walls and the top 600mm of the brick retaining wall.
- Construction of foundations to 4 apartment blocks, totalling 3376m² on plan comprising
 - ◇ 300mm dia CFA piles with approx 110 no piles per plot
 - ◇ Reinforced concrete ground beam
 - ◇ Brickwork/blockwork walling with air venting
 - ◇ Pre-stressed concrete floor units
 - ◇ DPM, insulation and concrete screed finish
 - ◇ Plot drainage & services



- 278 works to Liverpool 20/20 requirements involving highway and bus lay-by improvements to Garston High Street. Two additional bus lay-by facilities are provided by road narrowing and repositioning of existing arrangements which have required extensive traffic and pedestrian management together with complex working around and over existing utilities
- Forkers was also engaged by Bellway to construct site infrastructure works - drainage, roads, car parking, paved areas and landscaping including:
 - ◇ Access roads and drainage - 1600m²
 - ◇ Car parking - 2756m²
 - ◇ Footways and paved areas - 1254m²
 - ◇ Bin stores & cycle shelters

