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## Curriculum Vitae – Fred Higham

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Year of Birth	1980
Nationality	British
Qualifications	MEng. (Hons) Civil Engineering, 2002 CEng Chartered Engineer, 2011 MIStructE Member of the Institution of Structural Engineers, 2011
Position	Associate

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### Career Summary

Over 12 years' experience in structural engineering and construction design, working on a variety of building types with project values ranging from £300k to over £100m. Fred has worked on projects in many sectors, and has particularly detailed experience in education/research, healthcare, sports/leisure, transport and international development sectors.

- **Education/Research:** Nuneaton Academy: Lead designer for £10m new steel frame teaching block and extensive refurbishment to several other blocks to upgrade the facilities. NAMRC: circa £20m structural design engineer for new 20,000 m<sup>2</sup> Nuclear Advanced Manufacturing Research Centre (NAMRC) for Sheffield University, along with 5,000 m<sup>2</sup> Knowledge Transfer Centre and extension to the existing AMRC. High specification offices and workshop to house research into advanced manufacturing processes for the nuclear sector, with additional teaching facilities. Netherwood ALC, Barnsley (Foulstone Wombwell): circa £40m Structural design engineer for a new Advanced Learning Centre using a hybrid in-situ and pre-cast concrete frame from the Laing O'Rourke production facility at Steetley. Emmanuel School, Nottingham: circa £10m Structural design engineer for a new high specification four-block school building.
- **Healthcare:** Aga Khan Hospital, Dar Es Salaam, Tanzania: circa US\$70m – Lead designer for the Phase 2 development of the hospital. 15,000 m<sup>2</sup> extension to the existing 10,000 m<sup>2</sup> hospital. Concrete frame hospital in tropical coastal environment. Sunderland Royal Hospital Emergency Department: circa £20m – refurbishment and extension to the Sunderland Royal Hospital Emergency department. New steel frame extension and strengthening to the existing concrete structure.
- **Sports/Leisure:** London Olympic Stadium Transformation: refurbishment of the London 2012 Olympic Stadium, working with the original stadium design team, including Populous architects to convert the stadium into a combined International Athletics and Premier League football facility. Including cable net-supported solid deck roof, moveable seating and strengthening of the existing structure. Redcar Leisure & Community Heart: circa £30m mixed use development including three swimming pools, a “flow rider” (artificial surf riding machine), sports hall, community spaces, debating chamber and “enterprise centre” to encourage local businesses. Steel frame building, shortlisted for the Institution of Structural Engineers global award for regional development projects 2015.
- **Transport:** HHR, Makkah Station, Saudi Arabia: overall project value circa US\$1bn – Haramain High-speed Rail (HHR) project in Saudi Arabia. Lead structural designer on Makkah station, the largest of the four stations, working with Foster & Partners architects.
- **International development:** Orphans and Vulnerable Children (OVC) Housing and Construction Support to HIV/AIDS projects: circa €600k, Construction manager for GOAL Malawi, an international NGO. 12 month secondment from Buro Happold managing construction projects for GOAL Malawi.

### Brief Career Overview:

2015 – to date	Associate, Melia, Smith & Jones Ltd, Consulting Civil and Structural Engineers, Leeds
2006 – 2015	Senior Engineer, Buro Happold Consulting Engineers Ltd, Leeds
2003 – 2005	Engineer, White Young Green, Consulting Engineers, Leeds
2002 – 2003	Graduate Engineer, Australian Consulting Engineers (ACE), Sydney, Australia