

MARTIN HALFORD BSc CEng MICE

Profession: Independent Civil/Structural Engineer
Year of Birth: 1955
Nationality: British
Qualifications: CEng: Member of the Institution of Civil Engineers, 1981
Current Position: Director of V-Consult Limited

Key Qualifications

Chartered Engineer with over 30 years professional experience. Diverse major projects experience, primarily focussing on the design of heavy reinforced concrete and steel structures and their foundations; Most of the last 12 years spent working on the design of above and below ground works in the rail sector.

Projects undertaken have frequently required close co-operation with geotechnical engineers and the consideration of soil-structure interaction and the phasing of the construction works, particularly excavation.

Specialisms include seismic design, wind engineering, concrete durability, fatigue design, use of numerical methods for structural analysis and design; Conversant with structural design to British Standards, Eurocodes and International Standards.

Has undertaken design checking, structural assessment and peer review on projects in industry sectors ranging from nuclear to high rise buildings to rail. In undertaking these projects, has developed and operated systems for interfacing with designers and reporting to clients through the various stages of design development. Confident working in widely dispersed multi-discipline teams using e-mail and project extranets as the primary means of communication.

Managed a team of 22 civil and structural engineers and technicians on the Burj Al Arab project in Dubai; In parallel, managed input from geotechnical engineers and other specialist disciplines in the UK; Recently led a team of structural engineers for the Bahrain World Trade Centre design with the resource split between the UK, Denmark, the Middle East and South Africa.

Education

BSc (Hons) Civil Engineering, University of Nottingham, 1977

Project Experience 2002 – Present

High Speed 2, UK. Package Design Manager responsible for coordination of the conventional railway systems design for Euston Station and the HS2-HS1 Link through Camden in the lead up to submission of documents to Parliament as part of the hybrid bill process for HS2. The role involves the preparation of high level technical documents, the coordination of individual railway systems discipline designs, interfacing with consultants responsible for design of the civil works and the environmental assessment work and, in particular, securing non-objection from Network Rail and TfL where the HS2 works impact on existing and planned Network Rail infrastructure and train services [Client: Parsons Brinckerhoff] [2012-Present].

Reading Viaduct, UK. Detailed design for box structures associated with a major rail intersection, constructed in reinforced and pre-stressed concrete. Track-structure interaction studies for viaduct structures up to 450m in length [Client: Atkins Rail] [2011-2012].

Thameslink Borough Viaduct, London, UK. Acting on behalf of the lead consultant fulfilled a variety of roles over a 5 year period including design of the new 70m span tubular steel railway bridge over Borough High Street; review of an innovative temporary works proposal developed by the fabricator which allowed the bridge to be rolled out over the highway during a weekend road closure; a broader role as a key team member assisting with design of other elements of the project, both above and below ground; Track-structure interaction studies undertaken for the project using non-linear analysis

in order to investigate and limit disruption of the track due to movement of the structures beneath; Liaison role interfacing with London Underground and Tubelines in respect of piled foundations and structures to be constructed in close proximity to running tunnels and escalators; Management of concession requests; Coordination of ground movement assessment studies; Resident Engineer during construction, primarily in a design coordination role, both for railway works and for reinstatement buildings. The approximate value of the works was £60 million. The project was completed during 2012 [Client: Atkins Rail] [2007-2012].

Residential Tower, London, UK. Structural Peer Review for a 50 storey residential high rise building and associated basements and retaining walls close to the River Thames. Reinforced concrete construction [Client: WYG Ltd] [2009-2010].

High Rise Building, Al Khobar, KSA. Structural Peer Review Consultant for a 250m tall mixed use reinforced concrete framed high rise building and associated podium development and basements in Al Khobar, Saudi Arabia [Client: Confidential] [2008-2009].

School Buildings, Hackney. Scheme and detailed design for two new steel framed buildings providing new facilities, including classrooms, assembly hall and sports hall; Omnicore precast floor system with ASB beams [Client: Mouchel] [2008-2010].

Headquarters Office Building, Bahrain. Design reviews at both scheme and detailed design stages for a steel framed corporate headquarters building to be constructed on a man-made island in Manama, Bahrain. Office floors suspended from heavy cantilevered trusses at roof level.

High Rise Hotel, Bahrain. Review of the scheme stage design for a 300m high reinforced concrete framed hotel building to be constructed on a man-made island in Manama, Bahrain.

High Rise Office Development, Dubai. Scheme design and ongoing technical advice for a 68 storey 360m high office building with a slender reinforced concrete core; Detailed design of cantilevered 'Diamond Exchange' at podium level in tubular steelwork.

High Rise Office Development, Bahrain. Concept, scheme and detailed design for twin 240m high office towers framed in reinforced concrete. Detailed design for piled raft foundations and associated basements. Finite element analysis and design of primary structure. Supervision of detailed design for other elements of frame and floors. Scheme design for associated low rise steel structures and top section steel framed 'spire' and panoramic lift enclosure on the towers.

Thameslink 2000. Review of the Stage D design for the Borough Viaduct project; design development of the Borough High Street Bridge and approach viaducts. Liaison with LU on complex interfaces in the vicinity of the underground station at London Bridge.

Retail Development, Norwich, UK. Scheme and detailed design for a major new shopping development close to the City Centre. Deep basement with contiguous pile perimeter wall. In situ and pre-cast concrete framed floors. Steel framed construction for anchor store on 10.8m x 10.8m grid.

Selected Experience with Atkins, August 1977 to January 2002:

Commercial Development, Bracknell, UK. Responsible for the civil and structural engineering for a 220,000 sq. ft. corporate headquarters building in Bracknell. Reinforced concrete superstructure on piled foundations constructed adjacent to reclaimed landfill site.

Rostamani Tower, Dubai. Scheme design and review of detailed design for a 54 storey residential tower in Dubai. Reinforced concrete construction on a piled raft foundation. Core and outrigger stability system to limit sway deflections.

BA World Cargocentre, Heathrow Airport, UK. Responsible for the civil, structural and multi-discipline design management for this 300 metre long, 95 metre wide, 35 metre high cargo facility forming the 'hub' for BA's cargo operations worldwide. Reinforced concrete floors with spans of up to

15 metres. Approximately 8,000 Tonnes of structural steelwork, including plate girders spanning 30 metres.

TV3, Bangkok, Thailand. Scheme and Detailed Design for a 50 storey high rise buildings with foundations utilising diaphragm walling barrettes to a founding depth of 60 metres.

Burj Al Arab and Jumeirah Beach Hotel, Dubai, UAE. Resident in Dubai and responsible for the civil and structural engineering design of a 321 metre high 200 suite Tower Hotel located offshore on a man-made island. The hotel, which was completed in 1999, is now known as 'Burj Al Arab'. During the same period also responsible for the 600 bedroom 26 storey Jumeirah Beach Hotel and associated marine and civil engineering works.

Development at Kings Cross For P&O Developments Ltd, London, UK. Conceptual design for a 10 storey steel framed office building. Advice in connection with the King's Cross Railway Bill.

Office Development, London, UK. Conceptual designs for site redevelopment. Various options ranging from refurbishment to reconstruction with a 60 storey tower.

Buchan Alpha, North Sea. Investigations into failure of the mooring arm of the loading buoy. Fatigue assessment. Strengthening proposals.

Oil Tank Investigations for Kuwait Petroleum, Europoort, Holland. Structural investigations in connection with two 80 metre diameter oil tanks including the development of repair strategy and tender documentation for implementation of the repairs.

Structural Assessment for British Nuclear Fuels PLC, UK. Responsible for the audit of structural steelwork calculations for two major projects at the Sellafield site.

Drax Power Station Completion for The CEBG, UK. Design of the structural steelwork for the Boiler House including design of the boiler suspension steelwork and principle connections.

Publications

July/Aug 1997: Concrete Magazine - Chicago Beach Resort Development, Dubai

Nov/Dec 1998: Concrete Engineering International - A First Resort

August 2000: Modern Steel Construction - Designing a Landmark for the UAE

2001: Steel Construction Yearbook 2001 - Architectural Structures - Innovation in Steel

December 2008: Joint paper with Arshad Khan on the Bahrain World Trade Center presented at 8th International Conference on Multi-purpose High-Rise Towers and Tall Buildings, Abu Dhabi.

The paper on Designing a Landmark for the UAE can be found on the Modern Steel Construction website.

Interests

Outdoor activities such as walking, cycling, camping, canal holidays, canoeing, sailing; Computers, web design, mobile internet.