

# Red Bull Technology, Extensions to Team Headquarters

## Project Profile

**Client:** Red Bull Technology

**Designer:** ELEA, Austria

**Project Manager:**  
Ridge Consultants

**Value:** £2.3m



Restructuring and expansion of the of the team headquarters at Milton Keynes resulted in the requirement for additional buildings on the site. We were engaged to carry out all the civil works including; piling, foundations, drainage, reinforced concrete and external works together with management and support to a number of European building trades contractors including; M&E – Klampfer (Germany), Ventilation / HVAC – TVM (Italy) & Steel Structure & Cladding - GIG (Austria).

2 new buildings were constructed (building 5 & building 7) which were built to tight programmes although were phased sequentially in order to maintain production, access and deliveries on the extremely confined site. Careful planning, weekly programming and coordination meetings with all trades contractors, project managers and Red Bull management ensured that the facility remained fully functioning throughout the work. In addition the work was completed in a very busy working environment with minimal vibration or noise permitted. Deliveries had to be scheduled to specific times to ensure no disruption to the existing workshops as RB Technology work 24/7 50 weeks of the year.

The new facilities included a fully refurbished drawing office with ample space for 140 engineers, housing new and existing Matrix machines and, as part of the new machining and composites manufacturing area, a number of clean rooms were installed to ISO 4 (10,000) and ISO 5 (100,000) standards.

Main work for Building 7 included;

- Excavation of 1800m<sup>3</sup> unusable material (clay), Preparation of formation 700m<sup>3</sup> using quarried sub base.
- Excavation 2.4m deep which housed 17 foundations bases, Lift pit and interlocking beams plus 4 x large matrix machine bases with sockets inserted to tight tolerances.
- Reinforced concrete pad foundations, ground beams and machine bases.
- Alterations to existing surface water drainage system
- Anti vibration matting installed within the matrix bases.
- Concrete floor area 561.5m<sup>2</sup> power float finish with stainless steel edge protection to a tolerance of +/- 3mm.
- Concrete floor slab thickness 250mm reinforced using 8mm & 12mm reinforcement
- In-situ concrete first floor slab with Holorib deck – 140m<sup>2</sup> x 200mm thick A393 reinforcing.



# Red Bull Technology, Extensions to Team Headquarters (Cont'd)

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- Installation of fire protection / plasterboard with a 1hour rating to the existing B01 walls.
- Existing drainage re-routed to avoid clashes with foundations.
- External works – storm drainage, replace block paving to new levels, insert drainage kerbs and concrete new roadways.
- Ducting from external draw pits routed throughout the building.
- Installation of approx. 140m x 100mm water main including hydrant.
- Installation of Armco barriers.

### The main work for Building 5 consisted of;

- Install 98no x 450mm dia x 16.5m long CFA Piles (completed by Bachy).
- 785m<sup>3</sup> of excavation for pile caps, foundations and floor slab construction.
- Place 300mm type 1 sub base to underside of floor slab.
- Construct 66no pile caps with connecting ground Beams.
- 50 lin m of in-situ reinforced concrete retaining wall x 1.5m high adjacent to existing buildings.
- In-situ concrete floor slab with power float finish—275m<sup>3</sup> concrete and 65t reinforcement.
- In-situ concrete first floor slab on Holorib deck—149m<sup>3</sup> concrete, 17t reinforcement and 1998m<sup>2</sup> mesh reinforcement.
- Alterations to existing foul and surface water drainage systems.
- External works including replacing block paving to new levels, drainage kerbs, new concrete service roads and 300m<sup>2</sup> of block paving.

