

Blue Light Capability

The blue light sector is undergoing major change, with emergency services increasingly working together and modernising ageing estates. This is driving the creation of joint police, fire and ambulance facilities, as well as the replacement of outdated buildings with efficient, purpose-built schemes.

Clients are focused on energy efficiency, operational performance and reducing whole-life costs. New facilities must also support evolving working practices and incorporate advances in digital technology.

BSP Consulting has extensive experience supporting these objectives through a broad portfolio of blue light projects. Our work ranges from multi-million-pound, BREEAM 'Excellent' fire stations and co-located fire-police facilities to standalone new builds and complex refurbishments within live operational environments. Our engineers have delivered structural, civil and transportation services across a variety of specialist facilities, including operational stations, fire behaviour simulation units, training towers, and search-and-rescue environments. This depth of experience ensures we understand the technical, logistical and safety-critical demands unique to the blue light sector, enabling us to provide robust, efficient and future-ready engineering solutions.

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The new station will provide our very committed firefighters with a modern, environmentally friendly building to help them continue to keep the people of Bassetlaw safe.

Sybil Fielding, Fire Authority Member Councillor.

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Joint Fire, Police and Ambulance Site, Nottinghamshire

BSP Consulting delivered civil and structural engineering design for the new £3.6m Worksop Fire Station, replacing the 1963 facility with a modern, energy-efficient building that will self-generate up to 50% of its power. The scheme includes a training tower, generator and fuel store, and will accommodate both whole-time and on-call firefighters. BSP also provided civil, structural, transportation and geo-environmental services during the tender phase to support a robust and cost-effective design. The project forms part of the Fire Authority's strategy to modernise ageing estates and strengthen community resilience. It highlights BSP's capability in delivering complex blue light facilities that integrate renewable technology, specialist operational requirements and efficient design solutions.

Client Nottinghamshire Fire & Rescue -Turner & Townsend



Carlton Fire Station, Manor Road, Nottingham

BSP Consulting delivered civil, structural and transportation engineering for the new £3.2m Carlton Fire Station, replacing the former facility with a purpose-built station featuring appliance bays, operational areas and a five-storey training tower. The project achieved a BREEAM 'Excellent' rating and was named the most sustainable fire station in the UK. Sustainable features included a sedum roof, energy-efficient heating and cooling, low-water-use systems, and a vehicle wash facility that reduces consumption and pollution. Ecology measures, a travel plan and a robust waste management strategy—diverting over 80% of waste from landfill—further demonstrate BSP's capability in delivering low-carbon, efficient blue-light facilities.

Client Nottinghamshire Fire & Rescue



Nottingham Police & Fire HQ, Sherwood Lodge, Nottingham

BSP Consulting undertook a high-level study into the proposed consolidation of Nottinghamshire's blue light headquarters onto a single site to improve operational efficiency. Our role included assessing multiple locations, evaluating the structural condition of existing buildings, and identifying key development constraints such as flood risk, SuDS requirements and traffic impacts. Working client-side, BSP provided early strategic engineering advice to inform masterplanning for the new HQ, which includes a new control room, training centre, gym, multi-purpose hall and canteen, alongside the refurbishment of existing office accommodation.

Client Nottinghamshire Fire & Rescue -Turner & Townsend



Newark Fire Station, Boundary Road, Newark-Upon-Trent

BSP Consulting supported Nottinghamshire Fire and Rescue Service with engineering input for the redevelopment of Newark Fire Station, providing a clear assessment of site constraints and opportunities to shape early design decisions. Our work included reviewing the condition and suitability of existing structures, evaluating flood risk and SuDS requirements, and assessing access and traffic impacts associated with the operational site. Acting client-side, BSP delivered strategic civil and structural engineering advice to inform the preferred redevelopment approach, ensuring the upgraded facility can meet modern operational, training and community needs efficiently and sustainably.

Client Nottinghamshire Fire & Rescue -Turner & Townsend



Tamworth Community Fire Station, Nottinghamshire

BSP Consulting provided civil engineering design and detailing for the new purpose-built Tamworth Community Fire Station, one of five facilities delivered under a PFI programme for Staffordshire Fire and Rescue Authority. The project required significant ground remodelling using recycled aggregates, as well as the successful diversion of an unforeseen surface water sewer to maintain programme continuity. The steel-framed station incorporates community facilities, grey water systems and modern operational spaces for whole-time, retained and student firefighters. Delivered adjacent to two schools, the scheme achieved a Considerate Constructors "Performance Beyond Compliance" rating, demonstrating effective management of a complex, community-sensitive site.

Client SSFRA



Derbyshire Police and Fire Service, Joint Training Centre

BSP Consulting delivered civil, structural and transportation engineering services for the £10m Derbyshire Police and Fire Joint Training Centre in Ripley. The scheme provides a state-of-the-art shared training environment, including fire behaviour simulation facilities, training towers, search and rescue zones, specialist firing ranges and a two-storey training building with vehicle garages. BSP's work included resolving complex drainage and SuDS challenges, designing protective structures for firearms training, and developing robust, jointless floor solutions. The project demonstrates our ability to support multi-agency blue light facilities with technically demanding operational requirements and integrated, future-ready training environments.

Client Derbyshire Fire & Rescue Service & Derbyshire Constabulary



Wigston Fire Station, Leicestershire

BSP Consulting provided structural engineering for the remodelling and refurbishment of the 1950s Wigston Fire Station, a concrete-framed facility serving over 40 operational personnel. Our work included detailed investigations of the existing structure, foundation assessments, and the design of new structural elements to replace removed areas of the frame. The project was successfully delivered while maintaining the station's 24/7 emergency response operations, demonstrating BSP's expertise in upgrading live, operational blue light facilities efficiently and safely.

Client Leicestershire Fire & Rescue



Penketh Community Fire Station, Widnes Road, Cheshire

BSP Consulting provided civil and structural engineering services for the design and build of Penketh Community Fire Station, a lightweight steel-framed facility featuring a green sedum roof to enhance sustainability and integrate with its surroundings. Delivered in collaboration with David Trowler Associates and ISG Construction, the project demonstrates BSP's capability in delivering environmentally sensitive, modern blue light facilities that meet operational and community requirements.

Client Cheshire Fire & Rescue

