SPENCER
M&E

INTEGRATED M&E SERVICE SOLUTIONS

OFFERING A TRUSTED PACKAGE OF EXPERTISE AND SKILLS TO MEET THE NEEDS OF OUR CLIENTS

NICEIC APPROVED CONTRACTOR

Bridge | Build | Civil | Design | M&E Services | Rail

SPENCER British Engineering

WE ARE SPENCER GROUP - M&E SERVICES

Dan Whittle
Sector Lead
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I am proud to have a lead role in the sustained growth of Spencer Group's M&E Services business, seeing continued investment and presence across a number of key industrial and infrastructure sectors.

Our multi-skilled and widely experienced M&E professionals have been at the forefront of key innovative projects for three decades, from major rail maintenance projects and signalling control centre work, to state-of-the-art refurbishments and extensions.

Our designers work in unison with our construction delivery teams, focusing on value engineering and optioneering right from the start. Whether we are delivering stand-alone M&E services as part of an overall construction project (working alongside other client contractors) or we're combining our in-house design M&E and Civils/Building skills within existing assets, we can cater for any client requirement.

We support our client's through optioneering, early contractor involvement, buildability, programme optimisation, cost analysis and value engineering to ensure we deliver the best value-adding solution available. We are well versed to operating in onerous, safety critical environments, alongside other contractors within confined areas and busy operational work sites.

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Lighting Control Kiosk

SECTOR PRESENCE

RAIL | INDUSTRIAL & COMMERCIAL | PORTS & MARINE | PETROCHEMICAL, OIL & GAS | ENERGY & POWER | NUCLEAR | WAREHOUSING

SERVICES

SUPPLY AND DISTRIBUTION (LV & HV) | SMALL POWER & LIGHTING | RAIL SERVICES (OHLE, SIGNALLING, POWER, TELECOMS) | VENTILATION | DATA CABLING | CCTV & SECURITY SYSTEMS | FIRE ALARM SYSTEMS | ROTATING PLANT | PIPEWORK AND PIPE-RACKING | HEATING AND WATER SYSTEM INSTALLATIONS | BUILDING MANAGEMENT SYSTEMS | GAS SERVICES | DEPOT SERVICES (CET, AD-BLUE, OIL & LUBRICANTS, SANDING) | MAINTENANCE

EARLY CONTRACTOR INVOLVEMENT

Andy Freer
Project Director
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My passion is for the safe, efficient and effective on-site delivery of our Mechanical and Electrical (M&E) Services. The majority of our works are based on bespoke Spencer in-house designs which yields significant cost and time benefits for our clients, while maintaining the utmost levels of quality and efficiency.

The way we do this is by carefully managing and delivering the whole project life-cycle from a single source by closely coordinating our large team of in-house design professionals with our UK-wide site installation teams. Our design team has a long history of the successful delivery of Early Contractor Involvement (ECI) projects ensuring that we maintain the highest levels of cost-efficiency and operational excellence.

For clients who are seeking best value, we can develop a number of 'early concept design options' together with a selection of cost scenarios and buildability analyses. This provides our clients with the unique opportunity to explore and seek out the most fitting and best-value 'final design'. Once the optimum design solution is finalised, we too can undertake the planning; installation; commissioning and handover from a single source. This reduces the number of interfaces for the client's team to manage which results in a much more efficient and reactive procurement process.

This ECI approach can yield much greater construction cost certainty and a significantly reduced risk/cost profile compared to a traditional procurement route. This means that construction and mobilisation can commence far sooner through efficient transfer of knowledge and the significant reduction of the procurement period.

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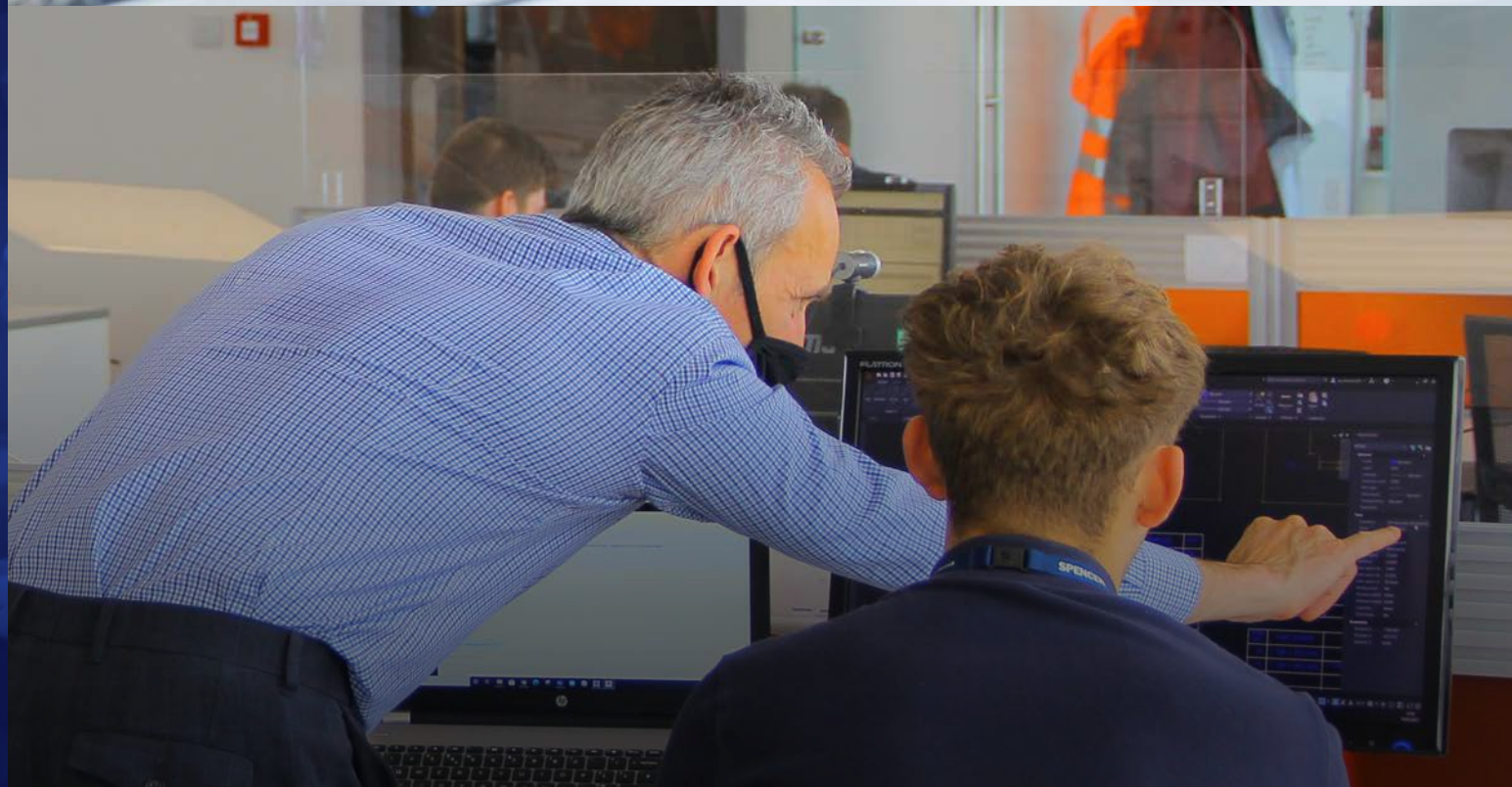

IN-HOUSE DESIGN TEAM

DManifold

David Manifold
Principal Design Engineer
dave.manifold@thespencergroup.co.uk

Our collaborative management processes fully integrate with our client's teams, any critical stakeholders involved in a project and across the whole supply chain so that the most all critical third parties can have ownership of and input into the design development process.

Our dedicated in-house design team allows for huge benefits to be borne through the efficiencies of internal collaboration between our construction engineers and civil, structural, mechanical and electrical control system specialist design engineers. Our collaboration extends to our client teams, critical stakeholders and supply chain so that the most sensitive third parties can have ownership of the design development process.

The importance of access (and temporary works) design is often overlooked at concept stage. We develop the most efficient, buildable and appropriate access designs at pre-construction stage to ensure they are compatible with the permanent works design.

Permanent works design is implemented in a BIM compliant common data environment, making the sharing of information and hand back as smooth as possible.

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Humber Quays Design Team

MAINS DISTRIBUTION & SMALL POWER

Our M&E Services team have over 30 years of experience in the safe and reliable design, installation and commissioning of an extensive range of commercial and industrial mains distribution and small power system installations including: offices, factories, depots, industrial assets and warehouses.

Creating a safe and efficient environment for your team is of paramount importance to any business. Whether operating in the industrial or commercial realm, our mains distribution and small power services are safe, reliable and built to last. We are ATEX compliant.

Our work starts with anything from smaller commercial new build projects to complex infrastructure designs and complete power services in large premises and extensions.

- Mains Distribution Networks, instrumentation and control (Originating from existing Distribution Network Operators (DNO) switchgear or metering systems)
- Outdoor Transformer Installation (eg 1.5MVA 11kV/400V)
- Mains Earthing Terminals and Earth Bonding
- Lightning Protection Systems
- MCCB Panel Boards and Switchboards – Installations, Commissions and Upgrades
- Generator and Auto-Failure Systems
- Metering and Service Monitoring Units Installation
- Transient Surge Suppression Systems Installation
- Submain and Final Circuit Cabling
- Electrical Isolators
- Cabling Containment Systems
- Generator / Backup Supplies (including Diesel Rotary UPS contingency power units)

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Mains LV Distribution Switch Room


HV Distribution


LV Panel Board


Lighting Control Kiosk

HV Distribution

HEATING, VENTILATION & AIR CONDITIONING

We specialise in the design, supply, installation and commissioning of Industrial and commercial heating systems. Our industrial grade heating solutions provide an efficient, flexible and cost-effective solution for the heating of a wide variety of business premises, commercial buildings; industrial facilities, factories, warehouses and workshops/depots.

The energy efficient 'warm air and radiant' heating equipment installed by Spencer M&E Services complies fully with building regulations; health & safety regulations and industrial specifications. We supply and install commercial heating equipment from a wide range of leading warm air and radiant heating manufacturers.

Our teams of expert installers have over 30 years of experience in the industry and are fully qualified to Gas Safe and OFTEC standards. This ensures safety and high quality throughout the installation and operation of your heating system. As each customer heating requirement is different, we have a fully qualified team in place to assist in the design and specification of a heating system to match your specific requirements

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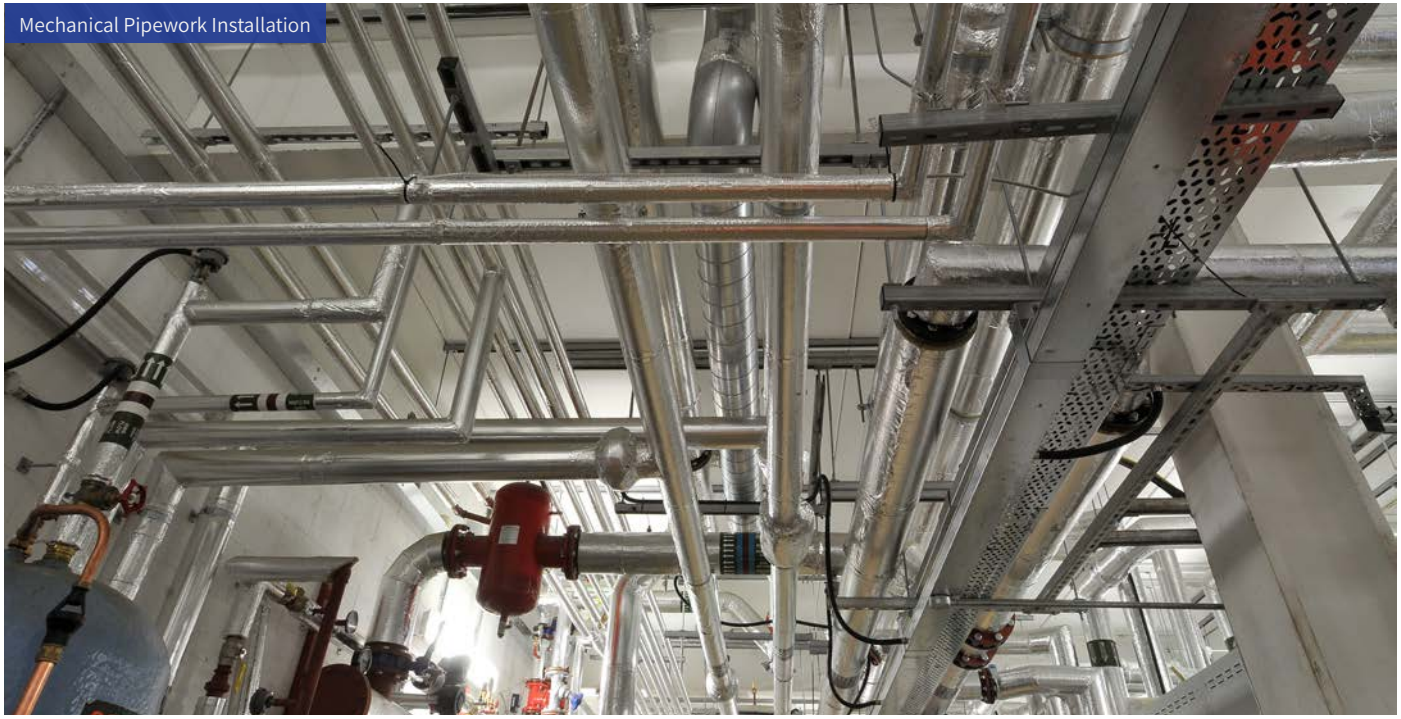
Mechanical Plant Room


Mechanical Pipework Installation

SECURITY & INFORMATION SYSTEMS

From minor works to large fit-out and refurbishment projects, Spencer M&E Services has the capability to fulfil a wide spectrum of electrical project and maintenance requirements, across various sectors. Our dedicated professional teams carry out their work with pride, passion and quality, incorporating the very latest in technology and innovation.

With a highly-skilled team of engineers and technicians, we specialise in the design, installation and commissioning of a wide range of security and information services:

- Security systems (including CCTV, intruder alarms and access controls)
- Audio and visual equipment
- CCTV equipment for public spaces and for surveillance
- Complex customer interface screens
- Passenger information systems
- Public address systems

We can offer traditionally procured projects and services or increasingly we are being engaged in Early Contractor Involvement (ECI) arrangements so that clients can significantly benefit from up-front design, optioneering and cost/benefit scenario exercises.

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Integrated Security Systems

Passenger Information Systems

CCTV Systems

FIRE ALARM SYSTEMS

Gas & Fire Alarm Systems form the core of your asset's fire strategy – whether it is a depot, industrial facility, office block or public space, reliability and fire safety are paramount. It is therefore crucial that the system is designed, installed and maintained correctly.

Spencer M&E Services provide a comprehensive range of Fire Alarm Systems offering open protocol solutions which enable conventional, addressable, and wireless fire alarms. We provide all-round advice, design options, specification standards, installation services and commissioning.

We offer you the latest technology from industry leading suppliers, ensuring that the system we install is tailored to fit your specific requirements. This means we provide you with all the required functionality, flexibility to expand and upgrade, and the ability to connect with existing systems.

We work to the strictest standards to support your commercial, industrial fire alarm needs. Our expert engineers will guide you from the initial plans and architectural drawings, through to the installation and setup of your system. This can be as part of large new-build project to installation within an existing asset or for the extension of your premises.

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Fire Alarm Control Panel

Nitrogen Oxide Combustion Sytem

LIGHTING & EMERGENCY LIGHTING

Spencer M&E Services are skilled and experienced in the design; installation and commissioning of an extensive range of commercial and industrial lighting installations including: offices, factories, depots, industrial assets and warehouses.

Our teams of highly skilled designers and technician's design, specify, supply and install complete bespoke lighting systems tailored for your specific needs including:

- General lighting
- High Bay and Low Bay lighting
- Exterior lighting
- Display lighting
- Track lighting
- Down lighting and wall lighting
- Energy efficient lighting

In the UK, Fire Safety Legislation requires emergency lighting to be provided in all non-domestic premises. It is especially important in warehouses; industrial premises; old buildings and premises with a large gathering of people.

An emergency lighting system is essential in the event of a primary lighting failure: to show clearly the escape routes from the building, to allow safe movement to exits at walking pace without stumbling, to help prevent panic in an emergency and during evacuation and to show the location of and identity fire equipment and first aid locations:

- Emergency bulkhead and exit lights and spotlights
- Recessed Emergency Lighting and Legends
- LED and 2D Emergency Lighting
- Emergency Lighting Conversion
- Emergency Lighting Central Battery or Static Inverter Systems

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Walkway Lighting

High Mast Lighting

Pit Lighting

Exterior Lighting

Display Lighting

MECHANICAL SERVICES

Spencer M&E Services deploy highly experienced ‘Gas Safe’ Mechanical Engineers who provide a wide range of plumbing services, including the design, installation and commissioning of systems as well as ongoing repairs and testing. Our experienced engineers are all directly employed and UK qualified. They are highly skilled and will solve the most challenging problems.

Our dedicated team of skilled mechanical engineers, gas engineers and fully coded welders, provide commercial and industrial pipework solutions for asset owners and Tier one contractors alike. We specialise in welding, pipe fabrication and pre-packaged plant services, providing the following services:

- Gas Pipework
- Water Pipework
- Steam & Condense Pipework
- Pneumatic Airlines
- Hydraulic Lines
- Utilities Pipework
- Process Plant Pipework
- District Heating

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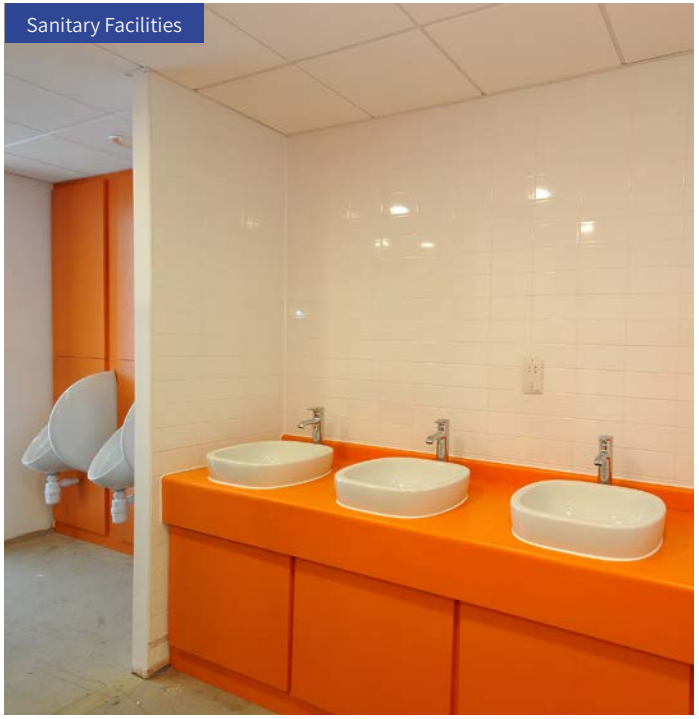
Tank Storage and Distribution

Sanitary Facilities



Welfare Facilities

Commercial Appliances

RAIL DEPOT SYSTEMS

Rail depots can be some of the most challenging areas of the infrastructure to operate in. With many depots working around the clock, there is rarely ever a convenient time to disrupt their working environment or customer experience. Over the years, the Spencer M&E Services team has worked closely with Train and Freight Operating Companies and fellow Principal Contractors to ensure that the works we undertake cause minimal interference disruption and downtime/delays.

Spencer M&E Services have a broad range of experience of providing Rail Depot Systems using a 'ONE STOP SHOP' philosophy, from feasibility studies and optioneering/ buildability, through design, installation and on to preventive and reactive maintenance. We are always looking to place our clients at the very forefront of our professional focus to ensure they gain greatest potential benefit from our comprehensive design and build capabilities time and time again.

Our Rail Depot Systems M&E services include the following:

- Electrical Enhancement and Rewiring Projects
- Switch Panel Replacements
- Low Energy LED Lighting Replacements
- Planned and Reactive Maintenance
- Train Wash Plants
- Underframe Cleaning Systems
- Controlled Emission Toilets
- Fuelling Systems
- Shore Supplies
- Depot Protection
- Lubrication Systems
- Waste Oil Systems
- Water Filling Systems
- Sanding Systems
- Compressed Air Systems
- Heating Systems
- Fire & Security Alarm Systems
- Compressed Air
- AdBlue Systems

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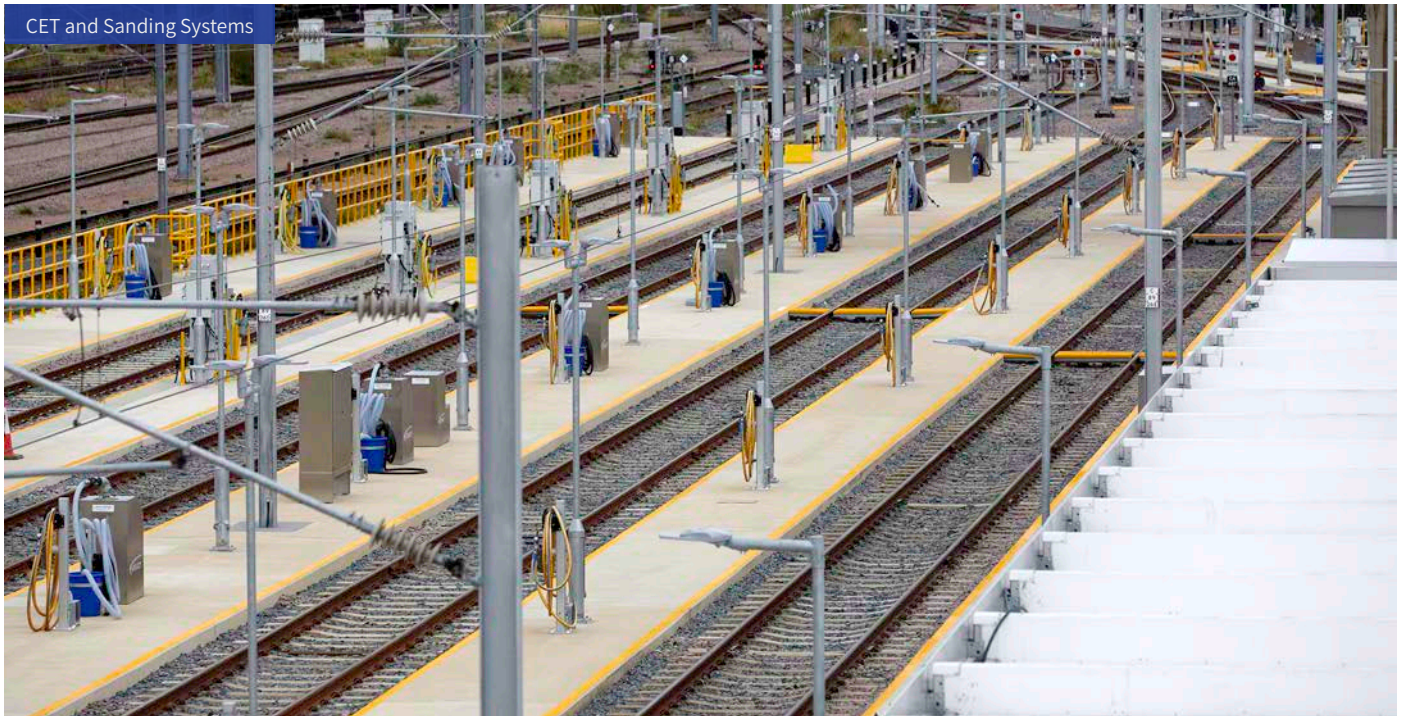
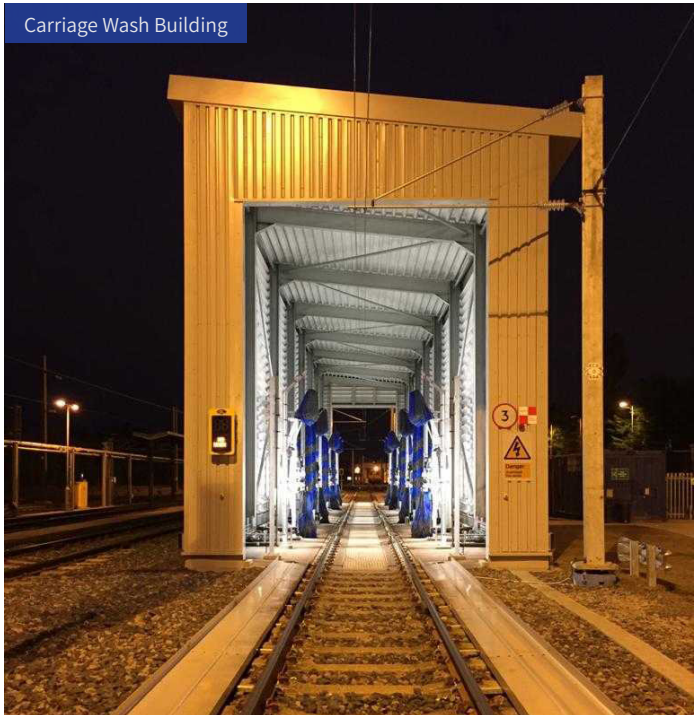
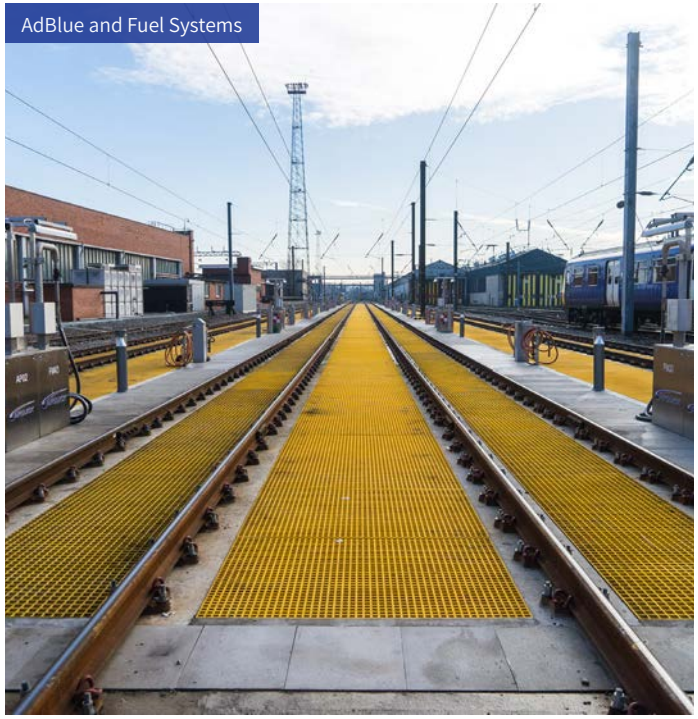
CET and Sanding Systems



Carriage Wash Building



AdBlue and Fuel Systems



RAIL INFRASTRUCTURE

Our large team of professional engineers and technicians have widespread experience in delivering complex M&E building services within offices, stations and trackside buildings. We also specialise in new and refurbished stations, train servicing and maintenance depots and rail control centres. We undertake designs in HV, LV distribution and signalling supplies - both general and rail specific. Our experience in developing the best value mechanical and electrical designs and installed solutions, ranges from air conditioning, ventilation, heating and piped services through to powered turn-table structures and structural steelwork.

Innovation and sustainability are essential to any project – the Spencer M&E Services team work towards integrated design & build solutions that meet the needs of end-users and ensure practical maintenance for the life of the installation. We have in-house expertise in the various designs of 400V and 650V trackside power installations and for electric point heating installations, including all types of rail, points and crossing layouts, including 3rd rail locations. Our in-house design capabilities ensure that we can operate in parallel with the installation phase, this maximising value and optimising cost.

We also have experience in providing many bespoke design solutions for PSP's, FSP's and equipment buildings. Spencer M&E Services provides wide-ranging expertise to meet client requirements, undertaking site surveys and all design stages from feasibility and approvals through to construction. Design deliverables include detailed specifications, site layout drawings, circuit distribution schematics, control wiring diagrams, testing and commissioning plans, EMC studies and installation and staging methodologies, Followed by comprehensive and robust installation and commissioning services.

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Signalling Power FSP's and LOC's

Signalling

DC Feeder REB

VEHICLE CHARGING UNITS

With an increasing number of electric cars on the roads, there's a growing demand for vehicle charging points to be available. At Spencer M&E Services, we have a considerable amount of experience in installing EV charging points in industrial, commercial, retail, and workplace car parks. An EV charging point is no longer just a nice-to-have - it's actually becoming an essential part of business.

Convenience is still a big factor in EV adoption, as they can be time-consuming to charge. Therefore, businesses that take a forward-thinking attitude towards EV infrastructure will not only make life easier for their employees and customers, but they will convey a strong external message that they are an ethical, contemporary brand.

Our highly experienced engineers will ensure that clients receive the best quality installation and service, and the most reliable equipment all at a competitive cost. By virtue of our multi-discipline design department, we are able to offer flexible solutions for every application and environment, couple with a rapid installation phase to ensure clients receive the best possible value solution.

The Spencer Group operate on a national basis with local delivery models which do not incur significant overhead costs. In this way we can deploy the designers; managers and multi-skilled trades persons, all from a single source to keep the cost base to a minimum, while offering the most technical and sustainable final outcome. We guide clients through the entire development process, from initial concept through to the completed project.

Our EV charge point installers have specialist experience when it comes to this type of project. For added value, and to take the sting out of the complexity of the EV charging landscape, we guide clients through the entire process, from initial concept through to completed project.

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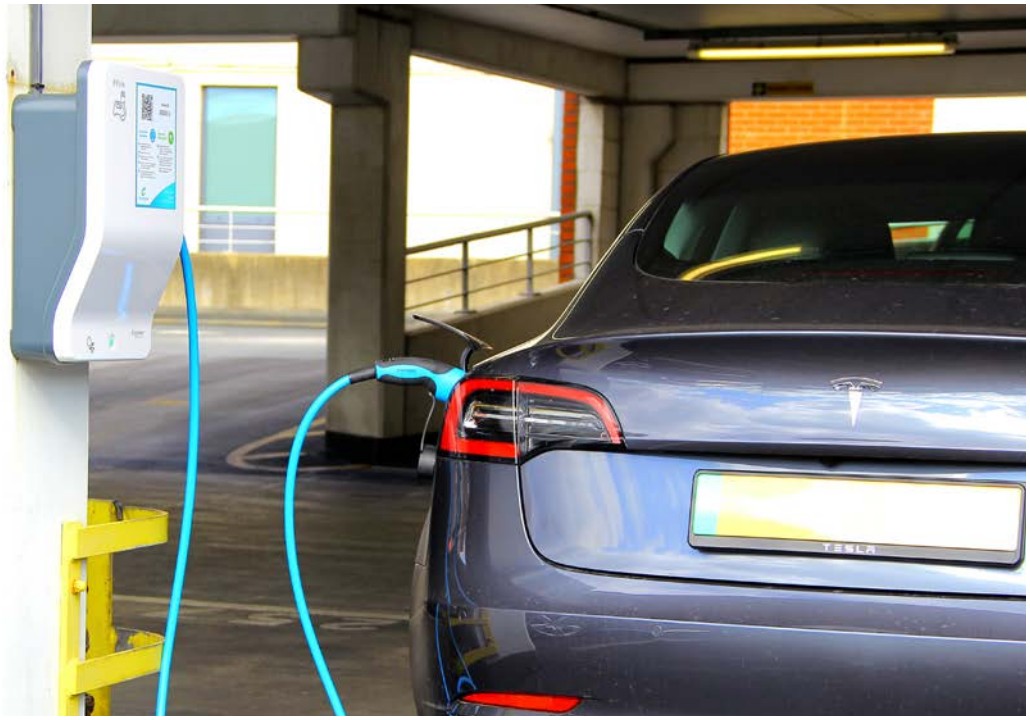
Electric Vehicle Charging Points



PROJECT DETAILS

Client	Lynemouth Power Ltd
Start Date	February 2016
End Date	February 2017
Duration	52 weeks
Location	Port of Tyne, Newcastle

KEY STATS

1.8T MILLION TONNES OF BIOMASS HANDLED ANNUALLY

365 DAYS-A-YEAR OPERATION

3 SILOS 40 METRES HIGH WITH A 45 METRE DIAMETER

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LYNEMOUTH POWER STATION BIOMASS CONVERSION PROJECT

The Lynemouth Power Station Biomass Conversion Project consisted of the design and construction of a facility for the handling, storage and rail-loading of wood pellets at the Port of Tyne, Newcastle. The new facility will hold 1.8million tonnes of wood pellets per year.

PROJECT SCOPE

The facility designed and constructed by Spencer Group will see 58,000 tonnes of bulk cargo imported to the port in vessels at any one time.

Spencer Group's automated system is capable of unloading the biomass at a rate of up to 850 tonnes per hour, to then be conveyed mechanically to one of three huge, newly-built concrete slip-formed silos. Each of the silos measure 45m in diameter and can store 25,000 tonnes of material.

The pellets can be discharged from the silos at a rate of up to 1,700 tonnes per hour, via two conveying streams to a rail-loading facility also built by Spencer Group. Six trains hauling up to 25 wagons each will be loaded daily, in a 365 days-per-year operation, to distribute the biomass to Lynemouth Power Station.

PROJECT OUTCOME

The requirement of this biomass handling facility for Lynemouth Power was greatened following the termination of coal-fired operations at the power station in December 2015. This new plant will greatly reduce the NOx, SO2 and CO2 emissions produced compared to the original coal fired operations, thus remaining in line with the UK Government's climate change targets.

Once fully operational, the biomass conversion project will produce 2.3TWh of low carbon electricity to power 700,000 homes, using 1.4million tonnes of wood pellets per year.

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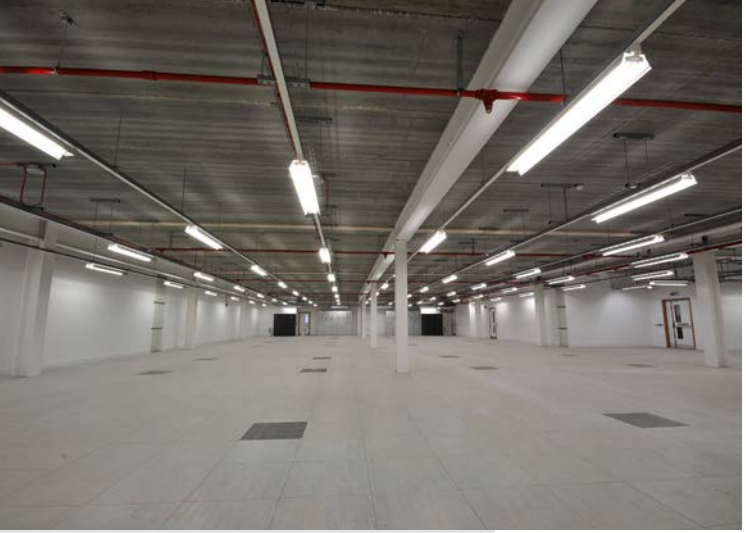

PROJECT DETAILS

Client	Network Rail
Start Date	October 2011
End Date	October 2013
Duration	104 weeks
Location	West Sussex

KEY STATS

72M X 53M — THREE STORY BUILDING

2 — 11KV/ 33KV POWER SUPPLIES, GENERATOR BACKED VIA UPS

110 — ROUTE CONTROL AND TOC'S CAR PARKING FACILITY FOR 110 VEHICLES

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THREE BRIDGES CONTROL CENTRE

A new rail operating centre was required at Three Bridges in Crawley, as part of Network Rail's commitment to replace over 800 signalling boxes and represent the first 'second generation' control centre to be built in the UK. Spencer Group were commissioned to deliver the high specification project from GRIP stages 5 to 8.

PROJECT SCOPE

The project involved the clearance of the original Tilgate railway sidings followed by the design & construction of a new three story building which comprised of pile and ground beam substructure, steel superstructure, precast concrete floors and blast enhanced curtain walling with GRC cladding forming the external envelope.

Spencer Group were responsible for the detailed design, fit-out and testing of the signalling control centre, in addition to the supply of materials, temporary works, general civil works, installation of an access road and associated services. The building design incorporated a glazed entrance atrium, with a corridor light well running the full length of the building. The team installed a multiple-level electrical distribution system with UPS back-up, providing power redundancy to maximise system resilience for signalling, ECO and route control systems.

State of the art security systems were incorporated to manage and maximise the safety of personnel in and around the building. Innovation and value creation were at the heart of Spencer Group's approach, overcoming a number of challenges, including a single point of access to the landlocked site.

The building achieved BREEAM 'Good' rating, demonstrating our commitment to the sustainability of the project.

PROJECT OUTCOME

Spencer Group site teams overcame significant project constraints through delivering the project within a tight and land locked site, with only one access point under the Horsham line, as well as working within close proximity to the local community school and playground. Through close collaboration with key stakeholders including Balfour Beatty, the adjacent Thameslink Depot and the local public, we successfully completed the project without any unplanned disruption.

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PROJECT DETAILS

Client	Northern Powergrid
Start Date	2006
End Date	2018
Duration	11 years
Location	Nationwide

KEY STATS

54,000 KG OF ASBESTOS REMOVED

3,800 WORKS UNDERTAKEN AT 3800 PROPERTIES

18,200 LETTERS ISSUED TO STAKEHOLDERS

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NORTHERN POWERGRID FRAMEWORK

Spencer Group were selected for the supply of electrical services to Northern PowerGrid, replacing meter boards and removing contaminated materials. The framework began in 2006, and was initially drawn up for a 2-year contract, however this has been extended on a rolling basis, based on the previous success of works and efficient working relationship between Northern PowerGrid and Spencer Group.

PROJECT SCOPE

Works typically involve the disconnections of electrical suppliers, either by live disconnections or by switching at substations, and the disconnection of existing cabling to industrial service units (ISU). Following this, new ISUs and meters are installed, and cabling and supply reconnected, either by live reconnection or by switching.

As well as upgrading the electrical infrastructure, much of the work involves the removal of asbestos from the equipment and/or the meter board, with 54,000kg of asbestos removed in total. These works are important for the rollout of smart meters, because if asbestos is present in either the existing equipment or on the existing meter boards, new ones cannot be installed.

PROJECT OUTCOME

Each of these replacements is time-sensitive, as reliance on power for homes and businesses means that work must be completed in just one day to minimise disruption to the customer.

Over the past 12 years, works have been undertaken at 3,800 properties, 2,300 of which were industrial or commercial sites.

Due to the nature of this work, efficient and effective stakeholder engagement is paramount to the success of the projects. As part of this, Spencer Group have issued over 18,200 letters and forms to ensure good communication and cooperation with affected parties. This demonstrates Spencer Group's commitment to building good relations with stakeholders and ensuring high level customer satisfaction.

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PROJECT DETAILS

Client	Associated British Ports
Start Date	April 2015
End Date	August 2015
Duration	16 weeks
Location	King George Dock, Hull

KEY STATS

1X 11KV SWITCHBOARD

1X 6.6KV SWITCHBOARD

6.6KV TRANSFORMERS

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KINGEO RELOCATION

Spencer Group were awarded the project alongside three further works packages for ABP as part of a £15m upgrade to the Hull Container Terminal. This was the first of three contracts conducted by Spencer Group at the port, and ran alongside a 12,000m2 paving project on the dock.

PROJECT SCOPE

The project involved the design and construction of a new primary substation building, in addition to the transformer compounds suitable to house the selected electrical equipment. This included the installation of all foundations, floor, cable and access pits, masonry, roof (including drainage), access steps and platforms, fire compartmentation, electrics and external lighting.

The substation required both high voltage switchboards, including an 11KV and 6.6KV switchboard, 11/6.6KV transformers including ancillaries, in addition to low voltage switchboards, cabling and commissioning.

PROJECT OUTCOME

Through careful planning and close coordination with the client, Spencer Group were successfully able to conduct these works alongside the additional paving contract, without any disruption to normal port operations.

Following our successes on this project, Associated British Ports awarded Spencer Group with a further works package to upgrade the existing crane rails at Hull Container Terminal.

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PROJECT DETAILS

Client	GWR
Start Date	July 2016
End Date	December 2017
Duration	80 weeks
Location	Penzance

KEY STATS

132M X 15M — MAINTENANCE SHED

£80M — PART OF THE £80M COMMITMENT OF THE SOUTH WEST SCHEME

17 — 17 WEEK ACCELERATED PROGRAMME

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PENZANCE DEPOT

Great Western Railway is looking to improve its service with a new £20million depot at Long Rock in Penzance. Through a strong collaborative working relationship between Spencer Group, GWR and the Depot team, the project was completed to the accelerated programme with zero impact to depot operations.

PROJECT SCOPE

Spencer Group took two projects – the construction of a new Train Care Depot and the refurbishment of an existing High-Speed Train shed – and designed a solution to construct one facility, incorporating the old shed within the new building using an innovative envelope and cantilever steelwork design.

We constructed a slightly taller portal frame shed, designed to enable installation of the new building's roof sheeting with the original shed untouched below. We used a moveable encapsulation shield to remove the old High-Speed Train shed asbestos roof/wall sheeting, maintaining the 24hour operational requirements of the depot while ensuring the asbestos was contained. We then removed the structural steel rafters from the old shed, painted old steel to remain, and connected the old shed columns to the new shed cantilevered portal rafters.

PROJECT OUTCOME

The works at Penzance were part of a wider commitment to the South West as part of the £80m 'National Strategic Investment Strategy' for 2017 and beyond.

The original contract completion date was April 2018, but due to transition of rolling stock from Old Oak Common, the contract was instructed to accelerate by 17 weeks, completing by 5/12/17. We hit every major project milestone through detailed planning, hard work and dedication by the Project team. Our collaborative partnership with GWR was key, and the relationship with the depot manager was excellent throughout, allowing Spencer Group to run the project efficiently, to a robust access strategy, with no unplanned disruption to the depot - we kept the High-Speed Train shed operational and its services live throughout, in accordance with our integrated services strategy.

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PROJECT DETAILS

Client	East Midlands Trains
Start Date	January 2018
End Date	February 2019
Duration	56 weeks
Location	Derby

KEY STATS

100% DEPOT WAS 100% OPERATIONAL THROUGHOUT THE PROJECT

4 NEW ROADS

98.55% DIVERSION RATE OF ALL WASTE

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ETCHES PARK DEPOT

Spencer Group were appointed by East Midlands Trains to deliver the design and construction of a new carriage wash facility as an extension to the existing maintenance facility. The works included all associated surveys required for full design, clearance on existing P-Way, lighting gantries, and 2 offices, followed by the installation of the new shed, carriage wash and associated p-way.

PROJECT SCOPE

As part of the design development Spencer Group undertook visual, intrusive and ground surveys, all coordinated with Virgin Trains East Coast to ensure that depot activities were not disrupted.

Site set-up and site clearance included the removal of p-way in 3 locations, and the modifications of an existing lighting gantry which spans roads 1,2 and 3 and required with a temporary works design to enable the support column to be removed while remaining supported.

Alongside the installation of the new carriage wash facility Spencer Group also removed 2 existing roads and installed 6 new ones, alongside new drivers' walkways, drainage, lighting columns and all associated M&E.

PROJECT OUTCOME

Spencer Group successfully installed an underframe wash slab and steel portal frame with cladded envelope and roller shutter doors adjacent to the maintenance building, alongside all associated p-way. A thrust boring technique was used to drive drainage under the existing tracks, while temporary barriers were used to prevent dust and debris spreading into the existing shed.

All the works were coordinated around the operational depot, with no unplanned disruptions to depot works or employees.

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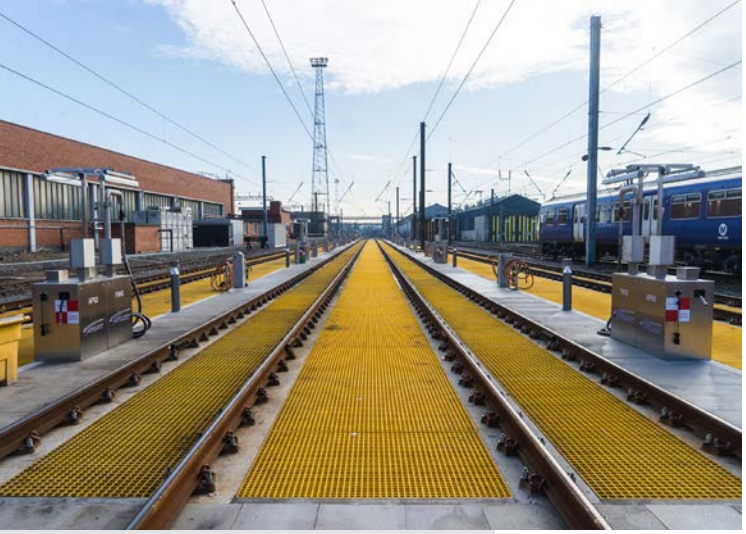

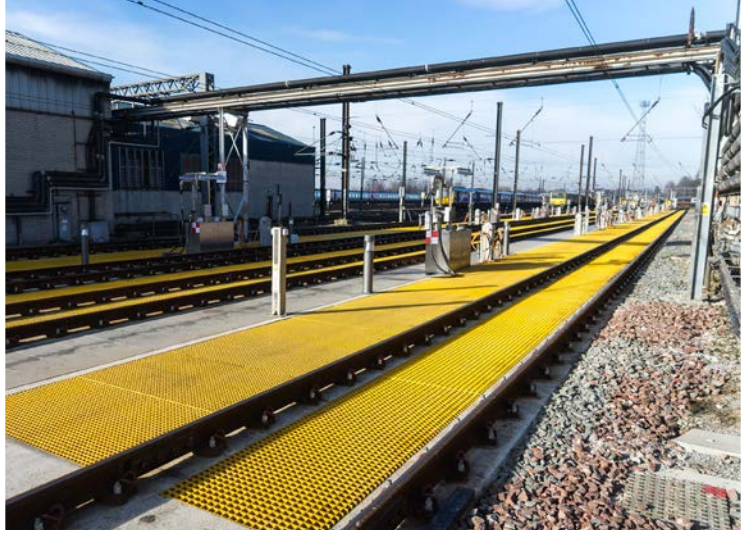

PROJECT DETAILS

Client	Hitachi Europe
Start Date	November 2016
End Date	January 2018
Duration	60 weeks
Location	Leeds

KEY STATS

720M SHEET PILING INSTALLED

1 SEDIMENT TANK RELOCATED

4 NEW ROADS

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NEVILLE HILL IEP DEPOT

Spencer Group worked in collaboration with Network Rail and Hitachi on the upgrade of eight Light Maintenance Depots (LMDs) to design and build improved maintenance and servicing facilities at existing East Coast Depots for Hitachi Europe. Neville Hill in Leeds required a full refurbishment of the depot ready for the arrival of the new fleet of Super Express Trains.

PROJECT SCOPE

As part of the IEP Depot framework, Neville Hill involved the design and build of four new rail roads to accommodate the new Hitachi 800 biofuel trains. The works included constructing incorporated trenches and troughs, installing new AdBlue and Fuel Dispensers with the associated pipework, connecting new and amended drainage (including a new vacuum pumping main chamber), building a new AdBlue pump house and fitting additional lighting.

The works had to be carried out sequentially with the other 6 depots on the framework as only one depot on the East Coast Main Line can be closed at any one time. Spencer's have created a detailed programme of the entire framework to ensure works do not overrun and affect other sites.

PROJECT OUTCOME

Hitachi, Network Rail and Spencer Group formed a close relationship throughout the works, resulting in a smooth and successful delivery. We minimised our impact on the local area throughout, with zero noise complaints during the works despite the residential area surrounding the depot. Spencer Group provided a shuttle bus to the site due to limited local parking, to ensure that disruption from additional depot traffic was minimal.

Steffan Thrower, Hitachi, stated: "The quality and safety of the work Spencer Group carry out has been excellent throughout, and I'd like to pass on my personal thanks to the hard efforts of your project team". Spencer Group successfully interfaced with depot staff and stakeholders for the duration of the works to deliver the upgraded depot for the arrival of the new trains.

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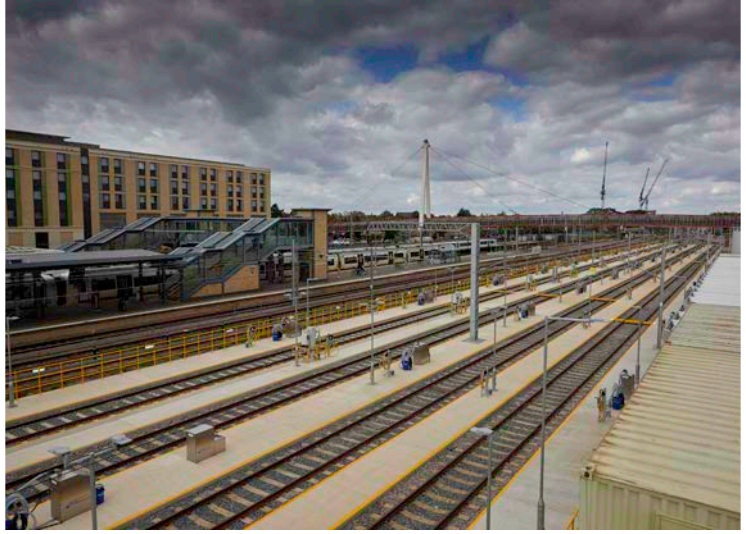

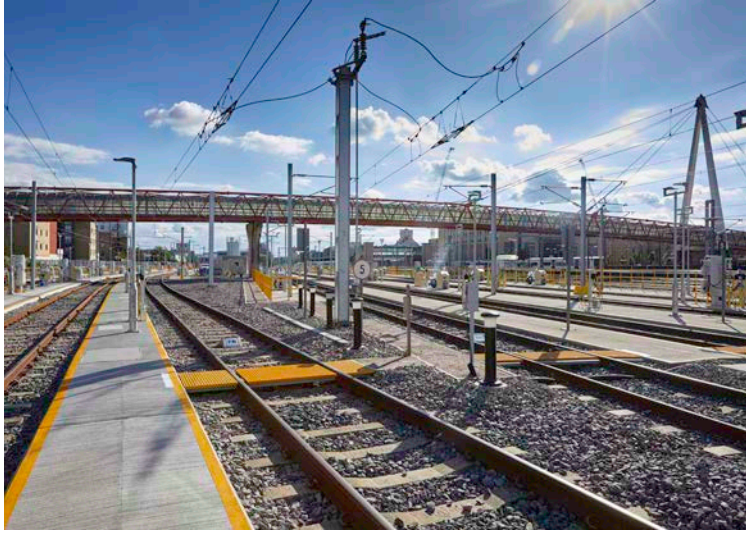

PROJECT DETAILS

Client	Govia Thameslink Railway
Start Date	July 2018
End Date	February 2021
Duration	124 weeks
Location	Cambridge

KEY STATS

8 NEW SIGNALS

12 MODIFIED SIGNALS

6 NEW P-WAY SIDING ROADS

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CAMBRIDGE SIDINGS

Spencer Group are working with GTR to transform services for passengers on one of the busiest stations on the rail network. The works will facilitate faster and more frequent trains from the town through London and onto the south coast. They form part of the £7bn Thameslink Programme which is delivering substantial benefits for hundreds of thousands of commuters and other travellers on the Thameslink network.

PROJECT SCOPE

As Principal Contractor, Spencer Group are upgrading the Cambridge Station Sidings, to significantly increase stabling for GTR, from 64 to 96 coaches as part of the Cambridge Railway Sidings Capacity Upgrade Project.

The scope of work includes the removal and remodelling of existing and new P-Way sidings to Roads 4, 5, 6, 7, 7A & 7B, complete with OHLE diversions and installations to support faster Class 700 rolling stock.

The scope includes, but is not limited to:

- Provision of a new DNO supply with multiple feeds for 8 new signals and 12 modified signals
- Construction of new concrete apron and associated CET
- Construction of CET Pump house and welfare facilities
- Installation of new sanding facilities, sand vessels and pipework
- Installation of CET System, drainage and connections
- Construction of new track drainage, site drainage and final connections

PROJECT OUTCOME

- Troughing routes, cabling and LOC/ Signal connections
- Removal of existing train wash plant and installation of new wash facility
- Mill Road Bridge strengthening works
- Site wide service diversions including utilities
- Removal of existing facilities, offices/ buildings

Spencer Group delivery teams have worked closely with GTR and station operatives to reduce disruption to the station throughout the works. This has included maintaining pedestrian access over the station bridge and coordinating works around TOC timetables.

The programme of works was successfully completed on time to allow the servicing and cleaning of trains to meet the new timetable change and increased stabling capacity.

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PROJECT DETAILS

Client	Network Rail
Start Date	April 2018
End Date	May 2020
Duration	100 weeks
Location	Stevenage

KEY STATS

127M NEW PLATFORM

2KM OF NEW PLAIN LINE P-WAY

2 NEW PORTAL STRUCTURES

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STEVENAGE TURNBACK FACILITY

Stevenage Station sought the need for additional infrastructure which would accommodate new 6-car trains to facilitate the local commuter services from Hertford, without impacting on the East Coast Main Line.

PROJECT SCOPE

Spencer Group were appointed by Network Rail as the Principal Contractor and designer to extend the existing Down Hertford Loop into Stevenage Station and provide a turnback facility serviced by a new single platform sufficient for a 6-car train based on Class 717 coach lengths.

The scope of works includes over a mile of new plain line P-Way complete with S&C unit connection into the ECML, along with associated new OLE structures and equipment, signalling, lineside cable troughing, bonding, E&P, M&E, Retail Telecoms services and associated civil and structural engineering activities, such as earthworks to embankments, piling, drainage, RC works and structures.
The scheme also includes the design and construction of a new station entrance, stairs and lift.

Within the Station and passenger areas, we have designed and are constructing a new turnback Platform which will have 127m operational length to accommodate a 6no. car Class 717 vehicles, including 5 meters safe distance between the train and the buffer stop. There is also 41m of passive provision for the future extension of the platform to accommodate an 8no. car sets.

PROJECT OUTCOME

As part of our 'Safe by Design process, we removed risks, by early investigations from the combined design and construction CREs and experienced constructors.

For example, to prevent slippage of the programme, we erected 2 new portal structures for OLE at the South end of the site. This work had to be completed in week 22 within a 72-hour blockade. To de-risk the task Spencer Group brought in a large mobile road crane and built large supporting bases to ensure the available window of 24 hours could be achieved.

The work at Stevenage showcases our industry-leading capability in delivering complex rail infrastructure schemes in order to facilitate faster and more frequent commuting services between Hertford and Stevenage.

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PROJECT DETAILS

Client	Network Rail
Start Date	August 2012
End Date	March 2014
Duration	80 weeks
Location	Ipswich

KEY STATS

4 NEW BRIDGES

2 NEW EMBANKMENTS

2.4KM OF NEW TRACK

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IPSWICH CHORD

The Ipswich Chord is a new 1.2km double track railway providing essential connection between the East Suffolk Line and the Great Eastern Line. The Chord forms part of the strategic freight network between Ipswich and Peterborough. Spencer Group was commissioned by Network Rail for the design and construction phase of the project.

PROJECT SCOPE

The team was faced with access difficulties to a site hemmed in by rail , river and urban development; and in successfully gaining the support of local landowners and users for the permanent and temporary work.

Working alongside a live railway required a significant disruptive possession regime including a 5-day blockade over Christmas 2013. This required an intricate plan of staged construction and testing to maintain operational performance without comprising site safety.

Spencer Group enjoyed a full collaborative relationship with Network Rail and also formed an effective alliance with lead designer, Arup. This created an ideal platform for finding joint solutions to problems on-site, resolving commercial issues and managing risk.

PROJECT OUTCOME

Despite the extreme complexities of the project and some of the worst winter storms on record, the work was completed on time and to budget with no complaints.

The Ipswich Chord will cut journey times by at least 30 minutes and the increased capacity on the railway will mean 750,00 fewer lorries on the road. This will be huge relief for commuters on the congested A14 and will make a significant contribution to meeting carbon reduction targets.

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