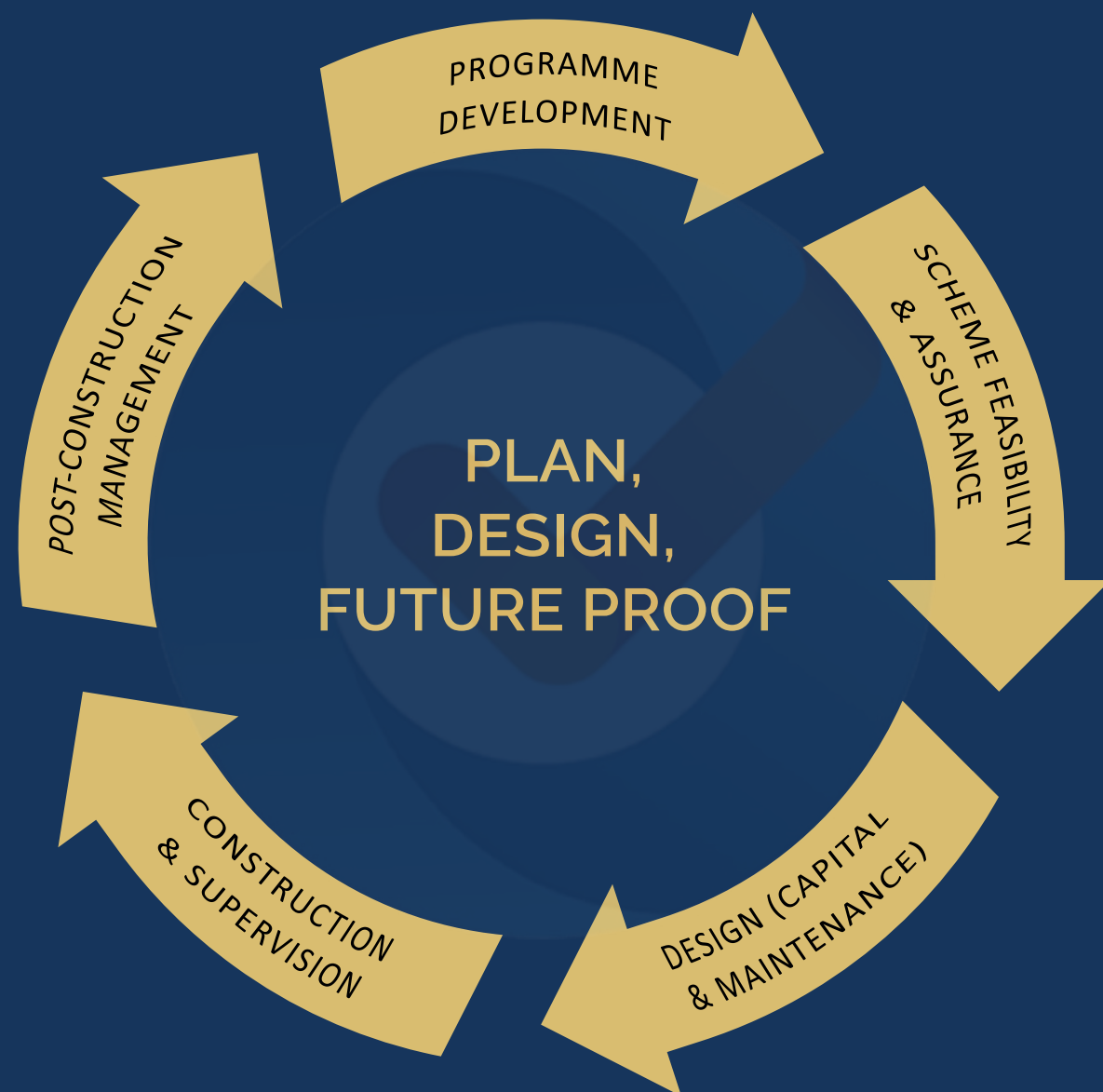


PROGRAMME DEVELOPMENT, FEASIBILITY & ASSURANCE, DESIGN & DELIVERY

Supporting local authorities and asset managers with end-to-end delivery of maintenance, capital and scheme design





Contents:

Pg. 3 - Programme Development
Pg. 5 - Scheme Feasibility & Assurance
Pg. 9 - Design (Capital & Maintenance)

Pg. 11 - Construction & Supervision
Pg. 12 - Post-Construction Management

XAIS-PTS deliver Pavement Development, Feasibility & Assurance, Design, and Delivery services, tailored to meet the diverse needs of clients across the UK. We combine industry-leading expertise with innovative solutions to ensure the successful identification, planning, and delivery of road and pavement projects.

Our team provide comprehensive, end-to-end delivery of maintenance, capital, and S278 / S38 scheme designs, seamlessly managing every stage from initial site investigations to post-construction reviews.

Leveraging a full suite of UKPMS inspections, video and AI solutions, and advanced pavement assessment techniques, we deliver a detailed understanding of pavement conditions and future maintenance requirements. This enables us to prioritize schemes effectively, and develop life cycle plans that ensure the long-term sustainability of your pavements.



Our team proactively manages risks, and identifies opportunities for cost and carbon savings throughout the project life cycle. We deliver bespoke design packages to regional and national standards, backed by meticulous technical documentation to ensure precision and clarity.

During construction, we manage quality control, ensure regulatory compliance, coordinate with stakeholders, and oversee budgets, guaranteeing seamless and efficient delivery. Post-completion, we provide As-Built documentation, project life cycle monitoring data, and insights from lessons-learned reviews, driving continuous improvement and ensuring the long-term success of your pavements for years to come.

PROGRAMME DEVELOPMENT

Understanding and Acting Upon Your Asset Data Needs

Critical to developing an initial programme of schemes is up-to-date, accurate, and sufficiently detailed asset and condition data, and XAIS-PTS are the UKs leading provider of infrastructure surveys and pavement engineering services. Technology is at the heart of our business and by applying innovative, fully compliant, and highly accurate survey methods and equipment, we can deliver the right data to support your needs.

To help you fully understand the current condition of your paved infrastructure and critical assets, our survey services include:



Assessing Priorities and Delivering on Long-term Needs

Having the most effective systems, strategy and data means that putting prioritised programmes of work together becomes much simpler and accurate against budget forecasting. Our experienced Asset Management Consultants will work with you to understand your asset management priorities.

Our approach incorporates life cycle planning and deterioration modeling to provide actionable insights into asset performance over time.

By conducting value management reviews, network hierarchy analysis, and investigatory level assessments, we ensure that every project aligns with broader strategic goals in relation to health and safety, carbon reduction and cost efficiencies.

Scheme prioritisation and validation are meticulously carried out, ensuring resources are allocated where they will deliver the most significant impact for network sustainability.

Delivering Bespoke Solutions

We tailor our programme identification services to client needs and we can deliver part of the process or deliver an end-to-end solution inclusive of:

- Short term planning in the form of prioritised, inspection led works programmes
- Programme and scheme development, overseen by a qualified Chartered Engineer
- Multi-year programming capabilities through our XA[®] Scheme Assembler software module
- Asset Management Strategy Workshops
- Performance Management Workshops
- Lessons learned project reviews.

SCHEME FEASIBILITY & ASSURANCE

Understanding the Project

Our site feasibility and assurance process provides a detailed understanding of project parameters and challenges before the design phase begins.

This includes conducting a desktop study of existing data to assess extents, risks, costs, and land designations. Project-level investigations are identified, managed, and reviewed as part of the process.

Getting to Where You Want to Be

Our programme delivery team holds more than 100 years experience working within local authorities and we will provide guidance and support in the following:

- Exploring innovative and sustainable treatment solutions for long-term benefits
- Maximizing efficiency through whole-life cost analysis and a strategic works package approach
- Implementing the right interventions at the optimal stage of your asset's lifecycle
- Evaluating material advantages and limitations to ensure the most effective treatment is applied in the right location.

Taking a Hands-on Approach

We are engineer's at heart, and we perform detailed visual condition surveys, inspecting pavement and drainage defects, ironwork, lining, signing, and street lighting.

Our experienced team can deliver a wide variety of support services through the assurance phase including:

- Core sampling
- Dynamic Cone Penetrometer (DCP) testing
- Polycyclic Aromatic Hydrocarbon (PAH) testing
- Falling Weight Deflectometer (FWD)
- 2D & 3D Ground Penetrating Radar (GPR)
- Trial holes
- Visual Condition Surveys (VCS) & Automated CHART Surveys

Core Sampling & Testing

Effective highway maintenance requires an understanding of how paved assets have been constructed and maintained, and clients often need to investigate pavement construction to help determine strength of underlying base layers, level of unbound material, and drainage characteristics.

We drill, reinstate, log, and analyse over 10,000 samples annually and we are capable of drilling to 1m in depth through bituminous and cementitious layers with core barrel diameters of 100mm, 150mm, 200mm and 300mm.

Ground bearing capacity and CBR can be determined by DCP testing and we offer PAK-Marker and PAH testing to ensure a comprehensive pavement evaluation is undertaken in accordance with national standards.



Falling Weight Deflectometer (FWD)

Falling Weight Deflectometer is a non-destructive technique used to assess the structural capacity and performance of pavements by measuring their deflection under a load. FWD data is also critical to determining if the structural capacity of a pavement is fit for purpose during the design phase.

FWD benefits and applications include:

- Assess the remaining life of the pavement and identify pavement rehabilitation and overlay requirements
- Conduct 'whole of life' costs and economic cost benefit analysis of alternate pavement designs
- Report layer moduli (stiffness), deflection, curvature, and sub-grade CBR
- Quality assure recent works to ensure they meet design life criteria.



Ground Penetrating Radar (GPR)

GPR is a non-destructive pavement survey technique for identifying the thickness of the different paving layers, voids, or areas of damage. This method of subsurface profiling uses electromagnetic pulses transmitted into the pavement, and when the pulse encounters a change in material properties (e.g. pavement layer, pipe, reinforcement bar, etc.) the energy bounces off the target and returns to a receiving antenna. This returning signal is recorded as single line scans, colour coded, and stacked to create a detailed subsurface profile.

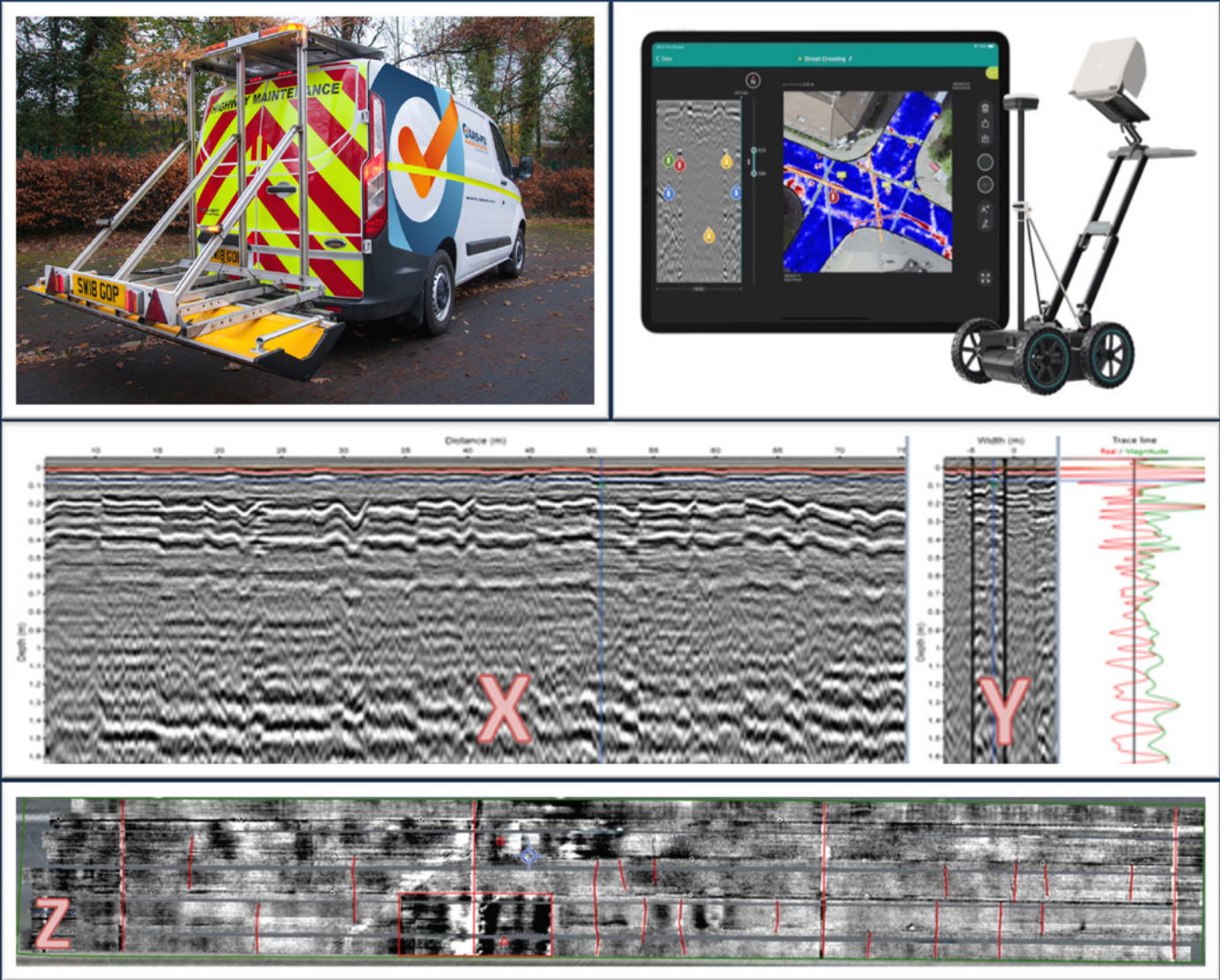
Our 3D GPR multi-channel array, which operates at traffic-speed, overcoming the limitations and expense of more traditional methods, can determine pavement make up, thickness of individual layers, construction changes, services, voids, and high moisture locations.

This survey technique delivers numerous and significant benefits for our clients by providing a greater understanding of the sub-surface make-up and condition of paved network assets, as well as providing a safer and more cost-effective survey methodology. We can support you with your projects from small schemes to full network coverage.

We also utilise the latest Proceq GPR Subsurface GS8000, which provides intuitive real-time visualization in 2D and 3D alongside superior data clarity. The GS8000 is a light weight and easy to use GPR device perfect for providing single line scans in remote locations where traffic-speed surveys are not possible.

GPR applications include:

- Pavement thickness measurement
- Subsurface void detection
- Evaluating pavement integrity
- Detection of reinforcement steel (rebar)
- Assessing subgrade conditions
- Locating underground utilities
- Foundation layer evaluation
- Monitoring pavement deterioration over time
- Filter drain assessments
- Bridge deck inspections
- Layer interface mapping
- Detecting water infiltration.



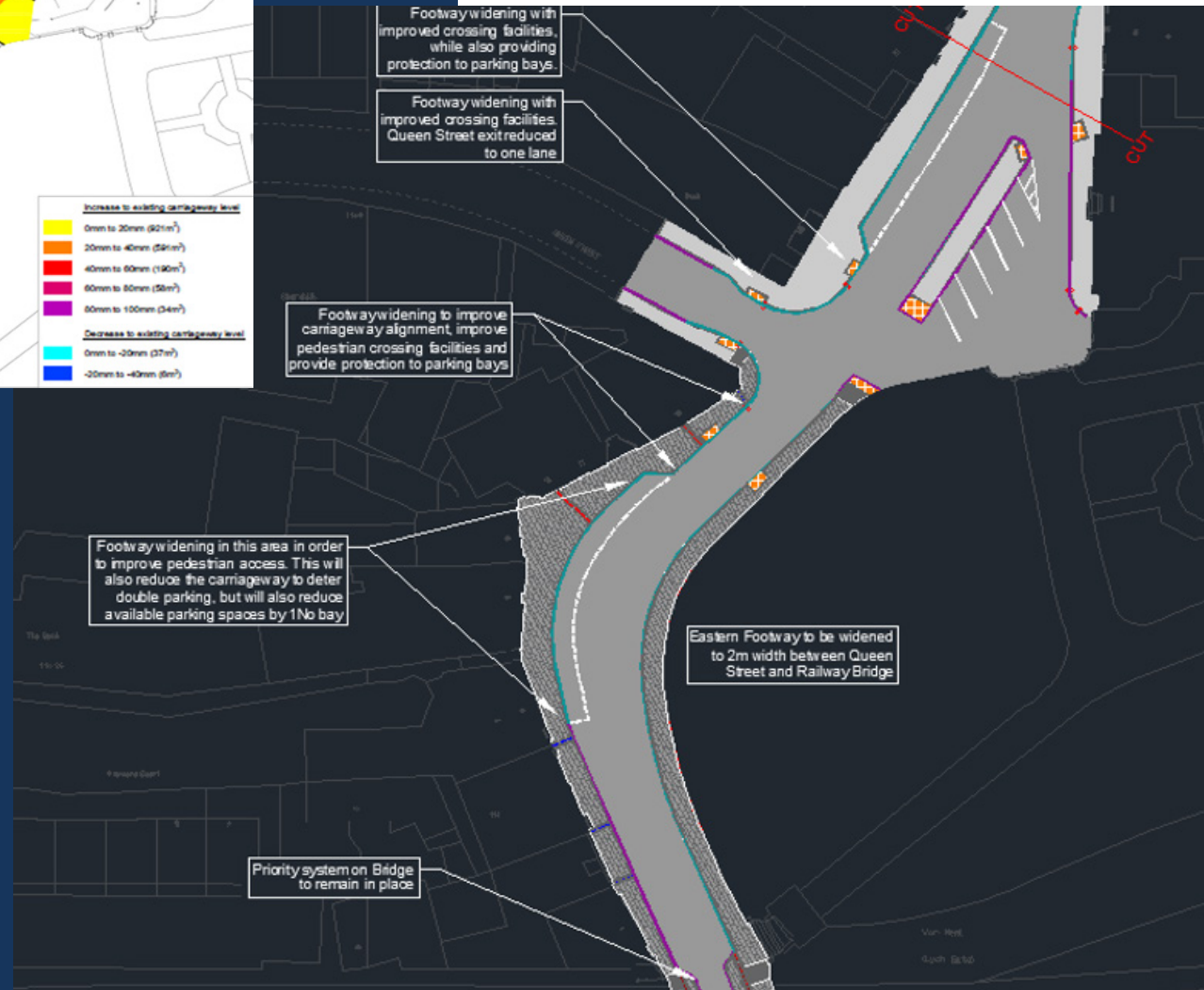
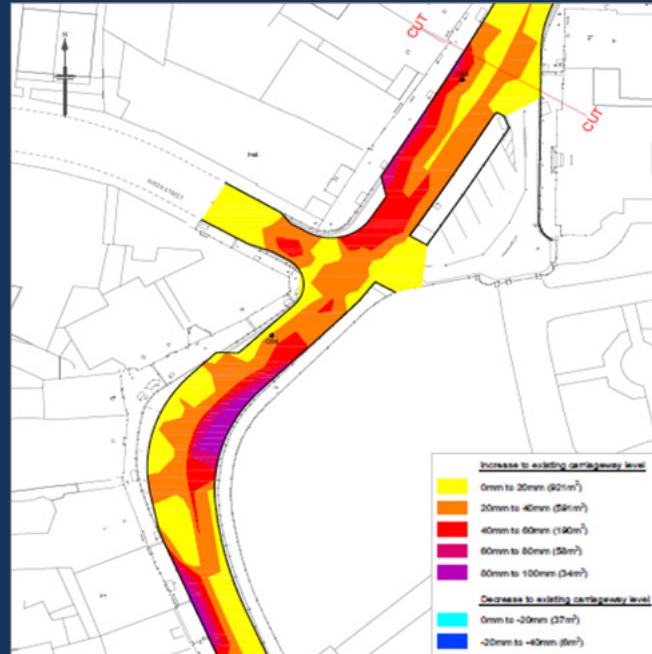
DESIGN (CAPITAL & MAINTENANCE)

Our design services cater to a range of project types, including maintenance, capital, active travel, and schemes developed under Section 38 (S38) or Section 278 (S278) agreements.

Using appropriate Local / National standards including DMRB, MCHW, Manual for Streets, TSRGD, NRSWA and Local Design Guides, our design practitioners provide a comprehensive service.

For each design we will produce a MCHW compliant Bill of Materials and Specification, along with fully detailed CAD plans including:

- Plans for each specific MCHW item series (site clearance, drainage pavement, footways, etc)
- Cross sections, long sections and construction details
- Contour and isopachyte plans
- Setting out plans and data.



Flexible and Innovative Design Services

Our designers will consider environmental factors and sustainability alongside asset performance, implementing low carbon treatment options where suitable including in-situ and ex-situ recycling, grouted macadams, polymer-modified binders, and warm mix asphalts.

Preservation treatments including over seal sprays and penetrative spray applications also form a key part of design considerations and we will deliver a comprehensive programme optioneering report as part of the service.

At XAIS-PTS we can also produce tender and task order documentation, including specifications, bills of materials, design packs, Risk Assessments and Method Statements (RAMS), Pre-Construction Information Packs (PCIP), Design Risk Assessments (DRA), quality questionnaires, and contract documentation.

This ensures that contractors have clear, detailed guidance to deliver projects according to the highest standards.

Moreover, through our transparent and comprehensive approach to site coordination, we ensure our clients can be confident projects will be managed effectively and in line with industry standards.

CONSTRUCTION & SUPERVISION

Supporting Boots on the Ground

We support clients and principal contractors throughout the construction phase, adhering to CDM 2015 regulations in our role as Designer / Principal Designer, collaborating through pre-start meetings with contractors, clients, and stakeholders, and organising engagement sessions with residents and businesses.

We oversee construction programmes, ensuring all necessary permits, applications, and documentation - such as Section 58 notices, F10 notifications, RAMS, and work package plans - are in place.

Throughout delivery, we coordinate works to ensure compliance with traffic management plans, manage testing requirements, and maintain rigorous quality control through comprehensive site diaries. Our team addresses emerging issues, complaints, and queries promptly, ensuring smooth delivery.



POST-CONSTRUCTION MANAGEMENT

End-to-End Delivery

Our services extend beyond project delivery. We produce accurate "As Built" drawings, review contractor submissions, and finalize the health and safety file. Through robust fiscal management we ensure all change control is mapped, reviewed, and agreed so no surprises are encountered at the end of any project.

XAIS-PTS ensure all scheme data is submitted into life cycle monitoring systems, providing valuable insights for future monitoring and planning. Finally, we conduct lessons-learned reviews with contractors and clients, ensuring continuous improvement. Schemes are only signed off after a comprehensive final review with the client, to ensure all stakeholders are happy with the final outcome.

With a proven track record in pavement investigation, design and delivery, our team delivers innovative, cost-effective, and sustainable solutions through every stage of your project life cycle.

Development Control Design Support

Complementary support services we can deliver also include:

- Technical approvals: reviews and approvals for S278 and S38 designs, including the management of the S184 process for vehicle access crossing applications
- Standard details and design guides: creation or updates to standard details or design guides for the Local Authority, in line with current national and local standards
- Construction inspections: pre- and post-construction inspections, covering substantial completion, maintenance periods, and final sign-off
- Developer testing requirements: management and supervision of all Appendix 1/5 developer testing requirements.

"Our goal is to push the boundaries of innovation in highway design and asset management. By integrating cutting-edge technology with sustainable practices, we ensure that every project delivers maximum value whilst reducing carbon impact, optimizing resources, and future-proofing infrastructure for the next generation."

NATHAN LYTTLE MSC FIHE
XAIS-PTS PROGRAMME DELIVERY MANAGER

GET HELP FROM THE EXPERTS

Our Programme Delivery and Design package is built on more than 100 years of senior asset management experience underpinned by local authority practitioners in programme delivery, maintenance and capital design.

We can offer the package as a fully managed service or tailor a bespoke solution to help you plug any gaps in your team or capabilities.

So, if you need help with programme development, feasibility and assurance, and design services, then contact our team today on **01772 792899** or send an email to: **nathan.lyttle@xais-pts.co.uk**



To learn more about our wider services, scan the QR codes below to see the following brochures:



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