The Coal Authority

CA18/5151 Framework Contract for the Provision of Engineering Services

Scope of Services

January 2022

Contents

Introduction

The Coal Authority (referred to in the contract as *"the Client"*) was established by Parliament in 1994 to undertake specific statutory responsibilities associated with:

- licensing coal mining operations in Britain,
- handling subsidence damage claims which are not the responsibility of licensed coalmine operators,
- dealing with property and historic liability issues, such as treatment of mine water discharges and the remediation of surface hazards associated with former coal mines and
- providing public access to information on past and present coal mining operations.

Please refer to the *Client's* web site for further detailed information regarding the full range of activities undertaken by the organisation at: www2.groundstability.com *and* www.coal.gov.uk

References to the *Consultant* in this Scope are to the *Supplier* (under the Framework Contract) who becomes the *Consultant* under the PSC or PSSC.

The Services required under this Scope may relate to all or any of the *Client's* activities. For further information on the full range of activities undertaken, please refer to the *Client's* annual report, which is available at: The Coal Authority annual report and accounts 2020-2021 - GOV.UK (www.gov.uk)

Public Safety and Subsidence

During the year 2020/2021, the *Client* responded to 589 reported surface hazards and 212 subsidence damage claims. It is for these hazards and claims which the *Client* requires input from specialist *Consultants* that have an in depth understanding of dealing with all issues relating to these claims.

Environment – Development, Property, Build and Operations

The *Client* currently operates 76 mine water treatment schemes, treating over 122 billion litres of water per year, in order to remediate existing discharges and prevent new discharges primarily from coal mine workings. This programme prevents ~4,540 tonnes of iron discharging into the nation's water courses every year, and has helped to protect and improve over 350km of rivers and several important regional aquifers.

The *Client* also works with DEFRA and the EA on the Water and Abandoned Metal Mines Programme and with Natural Resources Wales on their Metal Mine Mitigation Programme, investigating and remediating water discharges and diffuse pollution from non-coal mine workings. Currently the Client operates and manages 3 non-coal mine water treatment schemes, remediating mine water from abandoned tin, lead-zinc and ironstone mines.

The programme often requires the acquisition of land to enable schemes to be constructed.

General Specification

The Scope of the *services* under this Framework predominantly relate to:

- Professional services, predominantly in relation to addressing the impacts of past mining activities and other areas of responsibility of the *Client.*
- Secondment; individual or team of individuals working in the main on the *Client's* premises on a time charge basis.
- Public safety & subsidence work which may include; investigation into the causes of failure, condition assessment, damage quantification and solution design for damage to roads, bridges, buildings, drainage & land.
- Environmental remediation work which may include investigating minewater discharges, developing remediation options, designs and specifications, investigating and advising on managing site constraints such as ecological & archaeological designations, specifying & developing minewater treatment technologies, advising on operational issues such as waste management, undertaking hydrogeological studies and carrying out cost benefit analysis for proposed & existing schemes.

The areas of expertise may include; civil, structural, and geotechnical engineering, all aspects of mining, environmental monitoring, assessment and management, health and safety management, contract procurement, and drainage and other specialist service areas subjects such as hydrology, hydrogeology, geochemistry & economic assessment.

The *services* may require the following services/deliverables:

- soundly based technical reports,
- support at litigation/arbitration procedures as an expert witness,
- contract procurement and production of contract and tender documentation,
- contract management and administration,
- management and supervision of *Consultants*,

- attendance at meetings,
- working knowledge of relevant legislation and best practice and liaison with relevant statutory authorities and/or
- reporting/data to meet our sustainability targets and aspirations
- General advice.

Sustainability & Innovation

The *Client* expects its *Consultants* to work collaboratively, transparently and supportively of its approach to actively reducing negative environmental, social or economic impacts that result from our activities/work together - both locally through direct impacts, and globally through indirect impacts; whilst at the same time actively seeking to work regeneratively across all spheres.

The *Client* recognises that we have a significant role to play in tackling our climate and biodiversity crisis that requires us to think and work in new ways, including in greater collaboration and partnership with our consultants, so that together we can become part of new circular economies, achieve net zero GHGs whilst having a net positive impact on biodiversity and increasingly use nature based solutions.

Details of our current approach to sustainability can be found at: Sustainability plan - GOV.UK (www.gov.uk)

Information regarding our performance can be found within the Coal Authority Annual Report.

Framework Coverage

The geographical scope of these *services* is focused on the former mining areas of England, Scotland and Wales, but includes the rest of Great Britain.

The Framework may be used to support projects related to all types of mining and some of these projects will fall outside of the coalfield regions.

The *services* may also be required to support delivery of the *Client*'s commercially focused work that could be undertaken on behalf of other public and privately owned clients.

Framework manager

The *Consultant* provides a Framework Contract Manager who is a strategic thinker with a 'can do' attitude who will actively contribute to the development of the Framework. The Framework

Contract Manager is appropriately experienced in managing programmes of a similar size and nature to the *services*, including managing projects and programmes utilising the NEC4 suite of contracts.

The Framework Manager is proactive in promoting cross partner communication, information and knowledge sharing. The Framework Manager manages the Framework nationally, including programme review, development of management processes, performance review and dispute resolution.

Resourcing Work Packages and progress

The *Consultant* provides a detailed costs breakdown of the *staff* resource (hours and grade) and any expenses required to complete each stage of the *services*.

This cost breakdown is the financial provision against which the *Consultant* monitors and submits costs on a monthly basis.

The *Consultant* submits progress reports on a monthly basis throughout each stage of a project. The *Consultant* provides "Project Risk Registers" and "Lessons Learnt" logs such that best practice can be highlighted and incorporated into future projects and programmes.

At any stage of a project, the *Client* may require the *Consultant* to specify works or services by other consultants to progress the project (e.g. survey works, site investigations, tree clearances).

The *Consultant* provides a project team for the *services* that is suitably qualified and has demonstrable experience of similar projects.

The *Consultant* provides reports as required. Unless the Package Order specifies otherwise the *Consultant* provides:

- Draft report – 3 weeks before the project end date to allow for review and comments and
- Final report – 1 week after the Client has issued comments to the Consultant.

The *Consultant* holds a start-up meeting (telephone/web meeting is preferred) to clarify and confirm the deliverables and identify further information needed for the *services* or which can be shared.

The *Consultant* provides health, safety and environment management including compliance with the *Client's* Safety, Health and Environment Guidelines for Contractors ("SHE booklet"), and ongoing sustainability data as applicable to the *services*. This includes preparation of risk assessments and a health and safety plan. The *Consultant* obtains the approval of the *Client* to these prior to undertaking any fieldwork.

The *Consultant* provides a project plan as part of each submission under the *quotation procedure* or, to supplement the Supplier's tender where the *selection procedure* is used. The project plan includes the timings of when *services* are to be undertaken. The *Consultant* agrees these with the *Client* at the start up meeting for the delivery of the *services* for each Work Package.

Liaison with Others

The *Consultant* obtains the approval of the *Client* before contacting any proposed Subconsultant about a Subconsultant appointment.

The *Consultant* may be asked to prepare and evaluate tender documentation.

The *Consultant* collaborates and cooperates with Others as required by the needs of the project and programme. These Others include consultants on other frameworks the *Client* has in place.

Materials

At the completion of a Work Package, the *Consultant* returns all correspondence, information and documentation to the *Client*.

If the Scope specifically provides for this, the *Consultant* transfers the copyright and ownership of any such documentation and drawings produced specifically for the *Client* in the course of providing the *services* to the *Client*.

Dispute escalation procedure

The periods for resolving disputes at the various levels are as set out below. Failure to make a decision within the stated period results in the matter being referred up to the higher level.

Under clause W2.1(3) the Parties retain the right to refer a dispute to the *Adjudicator* at any time, but agree that they will adopt this procedure before doing so.

LEVEL 1 – *Client* contract manager and *Consultant* contract manager

In a dispute between the *Client* and *Consultant*, arising from:

- an action of the Client's contract manager, or authorised representative,
- an inaction by the Client's contract manager or
- any other reason

The period for resolving the dispute is within one week from the date of notification of the dispute.

LEVEL 2 – The Senior Management - Director/Senior Executive Team

The relevant members at this level are:

Client	.....
Consultant	.....

The period for resolving the dispute at this level is within one week from the date it is agreed that the dispute cannot be resolved at level 1 or the end of the one week period provided to resolve the dispute at level 1 whichever is the shorter.

If no resolution is possible, this situation is made clear to the Parties. The aggrieved Party should then give notice of adjudication to the other Party within a week if they still wish to pursue the issue.

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The *Client* is required to ascertain the employment status of all Consultants as to whether an engagement is deemed to be that of employment or self-employment, as determined by the HMRC employment Status Check. This will be undertaken as part of any direct award or mini-competition under the Contract resulting from this procurement procedure.

Lot Scopes & Specifications

[Lot 1 – Mine Water Treatment Schemes and Mine Related Interventions: Scoping, Feasibility and Design.

Leading contributor and project management partner for projects during the scoping, feasibility and design stages. Provision of indicative and target costs for construction, whole life cost assessments, whole life carbon assessments, specification and delivery of pre-construction enabling and investigation works and the project management of the construction and commissioning of mine water treatment schemes (passive or active), including post project review.

The Scope includes practical and technical support to the development and implementation of:

- New preventative (mine water level control and treatment) and remedial (mine water discharge treatment) schemes
- Delivery of smaller works projects such as refurbishment of elements of existing schemes, addressing diffuse contamination sources (spoil heap stabilisation and erosion control), and Subsidence Pumping Station (SPS) schemes.
- Delivery of complete refurbishment of existing mine water schemes or addition of new treatment element or decommissioning of existing treatment scheme and /or section of treatment scheme or subsidence pumping station. Improvement and optimisation of the existing mine water treatment schemes and mine related interventions.
- Reed bed management, support on the enhancement of biodiversity and Landscaping activities

Provision of experience and resource for:

- strategic partnering arrangements for the mine water treatment programmes,
- a collaborative approach to delivery of projects and programmes, including working alongside others on activities such as Early Contractor Involvement (ECI), focussing on value, and continuous improvement,
- incorporation of high standards of health, safety and environmental performance and
- delivery of a programme of schemes using the NEC4 suite of contracts.

Facilitation of the successful implementation of sustainable mine water treatment schemes, utilising industry best practice and delivering best value for the public purse, nature and local communities, capitalising on innovation, and opportunities to achieve energy efficiency, waste

minimisation, reductions in embodied carbon and enhancement of biodiversity to meet *Client's* aspirations on net zero carbon operations by 2030. Incorporation of measures to improve resilience to climate change, response to the extreme weather events.

The *Consultant* may be appointed as principal designer under the Construction (Design and Management) Regulations 2015.

The *Consultant* also complies with legislative requirements such as The Mines Regulations 2014, and the *Client*'s Safety Health, Environment and Sustainability Guidelines.

The programme for each Work Package will be used to compile the Master Programme covering all *Client* mine water projects and interventions related to mining pollution control projects. This is an essential aspect of facilitating programme-wide collaborative working.

The mine water programme requires studies and reports to identify and implement sustainable, technically robust, operator friendly, and cost effective solutions and designs to remediate or prevent pollution from abandoned mines, within an exemplary health, safety and welfare framework.

Such studies and reports generally could consist of:

Scoping

The undertaking of desk based assessments, surveys and investigations sufficient to develop a comprehensive understanding and development of the Conceptual site Model (CSM) with which to identify the different site components that are interacting to produce the significant impacts that require to be addressed by any scheme or solution.

Determine and confirm if mine water discharges or other sources of pollution are considered to be within the remit of the Client's statutory or programme obligations, where applicable. Furthermore, should mine water discharges or other pollution sources be shown to be within such remit, the scoping studies examine and develop potential options for either mine water treatment(s) or other engineering based interventions to prevent or reduce identified environmental impacts.

Studies should typically include technical assessment / review of relevant information (present and historic), plans or drawings referred to and used to formulate the determination. This will include reviewing and reporting upon available data including chemical analyses, flow monitoring information and the identification of any data gaps.

For MWTS, development of options will consider both innovative and tried and tested treatment methods of 'passively' and 'actively' treating discharges, while taking into account the move to more

sustainable operations and an enhanced Health, Safety and Welfare environment. Different options to be weighed in terms of embodied carbon and whole life costs.
Studies include assessment of project issues including viability of options, constraints (including land issues), stakeholder issues, sustainability issues, whole life carbon emissions/embodied carbon, and cost estimations. The studies should provide technically and operationally robust recommendations for the *Client's* consideration.

Feasibility

Examine and determine the most appropriate solution to the problem caused by a particular mine water discharge(s) or diffuse pollution source(s) or item(s) within the existing operation schemes that causes a problem. Considerations shall include effluent quality requirements, environmental and ecology issues, land availability, treatability, cost, operation & maintenance (including sludge disposal), sustainability of operations, scheme specific whole life carbon cost, potential biodiversity gain, circularity, societal issues & mitigation heriarchy. Feasibility needs to include decommissioning requirements and where appropriate, temporary solutions to facilitate the upgrade of existing treatment facilities whilst maintaining the established operations.

Undertake a series of exercises including; the collection and review of baseline information, including water quality and flow; investigations of mine workings, geology, hydrogeology, ground conditions, and historical records; treatability and pilot scale studies; and any other data as appropriate. Development of such studies will provide information for consultation (*Client*, statutory and non-statutory stakeholders, including the potential requirement to attend community-based project events), site selection, review of treatment processes, development of a series of options, appraisal of these options and identification of the most appropriate option.

Provide a report incorporating the findings of the study and provide recommendations for; further investigative works; design development for appropriate solutions; refined estimates of the costs, including whole life costs and 'end of life' considerations; The report to should also cover potential risks to the project and opportunities for biodiversity gain and other benefits to accrue.

Post Feasibility / Concept / Outline Design

Investigate and, where possible, resolve issues identified at feasibility stage and develop the design for the preferred treatment scheme/treatment methodology or other engineered solutions.

Consider the methods identified for treatment/solution for the problem during feasibility and provide support on the development of more effective solutions and measures to manage associated risks. Further development of opportunities for biodiversity gain, process optimisation, whole life carbon reductions and meeting the *Client's* aspirations for net zero carbon.

Identify further options that may be worthy of further examination.

Undertake a further review of site constraints and identify where additional investigation may be required to inform the development of a concept design. This could include delivery of any further investigatory Works or Services identified as being required to achieve this.

The outline design should be developed such that it provides for:

- Influent pipeline routing, treatment system design and effluent pipeline routing,
- Consideration of utility requirements (power, water etc.), either to obtain new supply or to upgrade the existing availability. Incorporation of renewable energy sources where possible
- Treatment of an agreed volume of water (l/s) and how excess/reduced water will be managed, the impact on the process during extreme weather events
- Construction , operation and of ongoing maintenance requirements, including rectification, refurbishment, upgrade and decommissioning,
- Facilities to enable monitoring, sampling, and testing procedures that would be required to assess and report upon performance of the system(s),
- Measures to mitigate potential treatment nuisances, including odour control, restricting the development of cyanobacteria, effects of operations (i.e. design to require minimal intervention) etc,
- Welfare facilities and Health and Safety considerations, including design risk assessments.
- HAZID/HAZOP – Typically done for active MWTS at outline design
- Provides sufficient detail to enable a planning application if required
- Solutions that could provide reduced embodied carbon, improved biodiversity
- Extreme weather events,
- Lifetime ecological footprint

Work may be required relating to undertaking end of life assessments for mine water treatment systems or other engineered interventions; consideration of the management of exhausted treatment media (to include actual options and indicative costs). It is intended that this aspect will allow the *Client* to understand the potential longevity and whole life costs of the concept design to allow the project to go forward to detailed design / design and construct stage.

Detailed Design

The detailed design will further develop the concept / outline design and technical specifications to include sufficient detail in order to enable the scheme to be safely and efficiently constructed. This will include the development of the design in consultation with the Principal Designer.

Other Activities

In providing the *Services,* the *Consultant* may also be required to undertake some or all of the following, subject to the needs of individual projects:

- Sample (including field sampling) water discharges and interpretation of the results,
- Arrange for borehole or shaft geophysical surveys and or investigations and provide interpretative reports on the results,
- Hydrogeological services which will normally involve partnership working with the *Client's* in-house hydrogeologists.
- Specify and / or manage ground investigation works and provide interpretative reports on the results.
- Provide engineering investigative advice and design solutions to support projects in the mine water treatment programmes
- Provide environmental and ecological survey *services* and assessments required to baseline, monitor and evidence the effectiveness of treatment systems,
- Liaise with the EA / SEPA / NRW as appropriate and apply for and secure consents for the project,
- Produce a 3D terrain model, fly-over or other models to detail of the scheme and surrounding area for use during the planning process and for public consultations,
- Provide landscaping assessments, drawings and advice, including designs and biodiversity enhancement plans
- Secure any necessary permissions and agreements for provision of *services* to the project e.g. electricity, telephone, water etc. Obtain budget estimates of cost from the statutory undertakers,
- Provide tender documents and works specifications and support through the tender process
- Assessment and support through evaluation and moderation of tender submissions
- Administer and control construction activities by undertaking the roles of project Manager and Site Supervisor roles under the NEC Contract, and / or specialist construction supervisory roles such as Environmental Clerk of Works (ECoW) or Landscape Clerk of Works (LCoW)
- Planning Services which may include:
- Liaise with the appropriate Planning Authority and prepare all information necessary to secure planning permission or General Permitted Development Order (GPDO) approval. This may require preparation and presentation of displays at public exhibitions etc.,
- Planning assessments for sites,

- Production and submission of planning applications for outline and full consent – general permitted development or full planning submission and
- Attendance at planning inquiries when required.
- Co-ordination and / or full Production of Environmental Impact Assessments (EIA), Habitat Risk Assessments (HRA), Strategic Environmental Assessments (SEA).
- Undertake asset condition surveys of existing schemes/plants, including the provision of laser scans and 3D models
- Undertake Failure Mode Effective Analysis (FMEA)
- Surveying / drone / CCTV – discharge, pipeline routing
- Prepare costing appraisals, Whole Life Cost assessments to support understanding of overall project, construction and operational costs
- Preparation of Whole life carbon models

Common Services

Unless requested otherwise, the *Consultant* observes the *Client*'s governance process and procedures known as 'Streamline' which are applied as key milestones/checkpoints at Scoping, Feasibility, Outline and Detailed Design through to Construction and Completion to ensure best practice and value for money in delivering its mine water treatment projects.

The *Consultant* applies value-engineering, innovation and considers sustainability at all project stages. The *Consultant* considers functionality, whole life costs, environmental impact and perceived nuisance. The *Consultant* uses an ECI *Contractor* at an early stage to ensure buildability and robust cost estimates.

At any stage of a project, the *Client* may require the *Consultant* to specify Works or Services by other *Consultants* to progress the project (e.g., survey works, site investigations, tree clearances).

Approval of the *Client* is required before contacting non-term *Consultants* prior to any discussion with them regarding their interest in the project.

The *Consultant* may be asked to prepare and evaluate tender documentation.

The *Client* has a number of term consultants. Some of the activities covered by the term consultants are likely to require an interface with the *Consultants* during each Work Package. The *Consultant* collaborates and cooperates with Others as required by the needs of the projects and programme.

At the completion of a Work Package, the *Consultant* returns all correspondence, information and documentation to the *Client*.

The *Consultant* transfers the copyright and ownership of any documentation and drawings produced for the *Client* in the course of a mine water project to the *Client*.

[Lot 2 – Civil and Structural Engineering

Investigation of causes of failure, assessment of condition, quantification of damage, provision of cost effective design solutions and the supervision of construction or remedial works relating to, public and private infrastructure, commercial, industrial and residential properties and structures, and tips and spoil heaps. This is to also include buildings that are classified as Historic, older buildings and listed buildings.

Investigation of shallow mine workings, collapses and damage associated with mine workings and entries, including abandoned mine shafts & adits and design of remedial works.
Assessment of ground stability, with particular reference to the effects of mining, ground water and surface water.

Scoping, specifying, supervision and interpretation of ground investigations.
Concept design, detailed design and supervision of the construction of industrial & commercial structures, & domestic houses.

Inspection, investigation and reporting of bridge structures, and design and supervision of bridge maintenance works.

Inspections of mining spoil waste tips, including assessment of stability, condition and suitability for future usage, including design and specification of remediation, maintenance, monitoring works and full or part time supervision of any site works.

Other services that may also be required are:

- Design, specification and supervision of foundation works, including piling and underpinning.
- Design, specification and supervision of ground stabilisation works such as drilling and grouting or slope stabilisation.
- Design, specification and supervision of drainage and rivers works associated with metal mine sites in remote locations.
- ad-hoc inputs for the inspection, design, specification and supervision of discrete civil and structural works relating to *Client* or third party assets.
- Provision of Secondees to work within the *Client's* organisation for short or medium term appointments.
- Ad-hoc independent body / expert witness representation during legal proceedings

[Lot 3 – Archaeological Services

Provision of advice in relation to the likely archaeological and cultural heritage related implications of proposed development schemes/works and the development of mitigation strategies and specifications to enable and facilitate those schemes of work required.

As a minimum, applying practices must have personnel at a senior level within the organisation who are a fully qualified Archaeologist / Cultural Heritage specialist chartered by an appropriate and relevant institution licensed by the Royal Archaeological Institute (RAI) in addition to any technical or supporting staff.

Where required, the Contractor will liaise with stakeholders including County Archaeology Officers, Historic England, CADW the planning authorities and other relevant bodies.

Completion and/or input of relevant information into Environmental Statements, Heritage Management Plans, Heritage Statements, Archaeological Assessments, Conservation Plans, Heritage Impact Assessments and Scoping Studies.

Production of Archaeological and Cultural Heritage Assessments both desk top and intrusive, including:

- assessments of previous land use compiled from an analysis of historical maps, aerial photographs and other archive materials,
- a review of the likelihood / potential for items of archaeological / heritage interest to be found within site from review of historical records and
- appraisal / identification of known archaeology in the vicinity of a site,
- identification of heritage-related constraints (constraints mapping) that may affect the site and schemes / works being proposed, particularly relating to the planning process,
- identification of potential avoidance / mitigation / management actions, to enable / facilitate the planning process and subsequent construction works, including input into options appraisals, planning documentation, construction phase Environmental Action / Management Plans.
- an analysis of previous ground disturbance at site.
- provision of required archaeology/heritage input for Environmental Impact Assessments.

Provision and facilitation of Archaeological and Cultural Heritage Surveys and Investigations to include:

- Provide recommendations to target the location of intrusive investigations and advise through the considered use of non-intrusive methods how to minimise archaeological disruption and deliver requirements.
- Provide archaeological watching brief services, including preparation and provision of associated reporting and archiving requirements, in accordance with Chartered Institute for Archaeologists (CIfA) Standards and Guidance for archaeological watching brief.
- Preparation of work packages suitable for the tendering, procurement, management, monitoring of survey / investigation works.
- Be able to advise on and manage (including procurement if required) a range of non-intrusive field survey methods and advising on the recommended methods applicable to specific environments, including topographic surveys, earthwork surveys, monument surveys, aerial archaeological assessments, field walking, metal-detector survey and geophysical surveys.

[Lot 4 - Ecology & Environmental

Ecology

Provide advice on ecological and environmental matters in relation to existing operational sites and facilities and proposed development, investigations and works.

Produce ecology reporting inputs to support production of Environmental Statements, non-statutory environmental impact assessments and sustainability reporting.

Provide standard ecological reports, following the best practise methodologies, including the following:

- Preliminary Ecological Appraisal
- Ecological Impact Assessment
- Habitat Regulations Assessment
- Natural Capital accounting, including biodiversity metric outputs

Undertake ecological surveys following current best practise and provide appropriate reporting and interpretation of results, including:

- Phase 1 Habitat Surveys, Extended Phase 1 Surveys, and Phase 2 Surveys
- UkHab
- National Vegetation Classification
- Habitat condition survey
- Marine benthic survey
- Freshwater aquatic survey
- River corridor survey
- Lower plants survey (Lichenology, Bryology)
- Protected and notable flora and fauna
- Invasive Non-Native Species
- Biotic Indices and pollution monitoring (e.g. BMWP, Rivpacs)

Develop avoidance, reduction, mitigation and offsetting strategies for plans and projects and specifications for their delivery including biodiversity net gain.

Develop non-native species management plans including requirements for treatment and disposal as required.
Prepare and apply for licences and/or permits to allow works where protected species may be present.

Supply specialist ecological expertise for supervision of construction activities including watching brief and Ecological Clerk of Works and reporting of compliance during construction.

Environmental Appraisal, Assessment, Monitoring and Management

Provide assessments relating to the environmental impact of existing operational sites and facilities and proposed developments/works.

Co-ordinate and undertake environmental impact assessment of programmes and projects, including;

- Strategic Environmental Assessment (SEA)
- Statutory Environmental Impact Assessment and Environmental Statement
- Non-statutory environmental impact assessment and reporting

Produce reports to support environmental screening and scoping of environmental assessment, including identification of the relevant regulatory framework.

These *services* include the following disciplines:

- population and human health;
- biodiversity and ecosystems
- land, soil, water, air and climate;
- material assets, cultural heritage and the landscape;
- the interaction between the factors and cumulative effects
- other specialist input as required.

Undertake environmental audits on a variety of sites (including mine-related) and delivery of associated environmental reporting, to include the environmental auditing of operational activities and other Consultants.

Prepare management programmes for proposed/existing facilities, aimed at mitigating the environmental impact caused. To include the preparation of estimated residual costs of the proposed mitigation.

Provide impact assessment of the likely environmental effects of closure on mining facilities and preparation of estimated costs of residual liabilities.

Provide the expertise to assess the likely source of gas or water, based on scientific analysis. Undertake assessments of the impact of mine and other gas emissions, with particular regard to public safety and environmental problems.

Design, instigate and monitor appropriate remedial schemes to alleviate the problems of mine gasses. This includes investigating issues relating to odours caused by scheme/treatment processes, such as receptor analysis and dispersion modelling.

Undertake mine gas monitoring to include but not limited to gas concentrations, atmospheric pressure, differential pressure flow rates at monitoring points, mine gas vents, mine water treatment schemes and internally and externally of property. Provide detailed interpretive and recommendation reports based on mine gas monitoring data collected.

Undertake ATEX/DSEAR assessments at sites with potentially explosive atmospheres, produce appropriate risk assessments, and recommend necessary safety equipment.

Provide expert advice in respect of all ground gases in addition to specialist mine gas support.

Prepare schemes for the restoration of sites including former mining sites, and design / construction of public open spaces and leisure activities, to include landscaping design and landscape impact assessments where required.

Produce soundly based technical reports to support public inquiry/litigation/arbitration procedures and where appropriate, act as an expert witness representing the *Client*.

Provide advice in respect of Environmental Permitting requirements.

Provide advice on organisational environmental systems and implementation, environmental legislation and best practice.

Provide Environmental Clerk of Works for construction sites including preparation of required reporting.

[Lot 5 - Planning Services

General planning advice in relation to mining legacy and *Client* landholdings, as well as to other land and buildings.

Provision of advice in relation to the most appropriate planning strategy to meet required project outcomes in consideration of risks, efficiency and effectiveness.

Produce planning scoping/feasibility studies for potential future development schemes by the *Client,* such as coal and non-coal mine water treatment schemes.

Negotiation with local planning authorities regarding planning requirements for *Client* development schemes, including Permitted Development Rights.

Design and conduct community consultation events on development schemes.

Prepare and submit planning applications and EIA Screening Requests, as required, on behalf of the *Client*, including the submission of Environmental Statements and other supporting documentation as necessary.

Coordinate the production of Environmental Statements and other evidence-based documents to support planning submissions where required, including the procurement of specialist inputs as necessary to meet EIA and other requirements.

Prepare written evidence and statements, together with attendance at Planning Appeals and Inquiries.

Prepare and submit Development Plan representations on behalf of the *Client* as a consultee.

Prepare and issue consultation responses on planning applications in Development High Risk areas on behalf of the *Client* as a statutory consultee.

Preparation of statement of significance and heritage impact assessment in support of the application proposals for Historic Buildings and Structures.

Produce dismantling/rebuild strategy that may be required as a condition to Listed Building Consent in respect to the temporary removal and replacement of the structure/fixtures to the Listed Building.

Liaise with Local Authority, Historic England and Historic Scotland and other such agencies in regards to any pre-application for Listed Building Consent

Negotiations with local authorities in regards to dealing with listed building planning conditions and building warrants throughout the planning process.

[Lot 6 – Land Drainage: Agricultural and Specialist

Investigation (including topological surveys), assessment of condition and preparation of remedial land drainage schemes for agricultural land that will facilitate regenerative agricultural practices, and a catchment management approach that prioritises nature based solutions/environmental engineering.

Inspection, assessment of condition, design / supervision of remedial works to pumping stations, including calculation of commuted sums where applicable.

Assessment, design and implementation of construction works for rivers and canals, irrigation and sewage schemes including storm water attenuation.

Inspection, assessment of condition, and maintenance of sedimentation ponds, flow balancing ponds and wetland schemes, and design / supervision of new facilities, where applicable.

Design and supervision of arterial drainage schemes including hydrological and hydraulic studies. Take into account knowledge of the organisation of DEFRA, Internal Drainage Boards Lead local Flood Authorities.

Carry out impact assessment on water regimes following mine closure.

Assessment of the effects of mining subsidence on surface water courses, lakes, dams and weirs.

Preparation of reports, recommendations and budget cost estimates for remedial works.

Provide on-site supervisory expertise and management of remedial works.

Ensure/incorporating into all activity (design, construction, maintenance and remediation) sustainability, specifically mitigation hierarchy, circularity and reduction of GHG emissions and a catchment-based approach to design.

[Lot 7 - Health, Safety and Wellbeing (HSW)

The *Client* has an in-house HSW team who undertake the following functions:-

- Development of HSW policy and management arrangements for the effective planning, organisation, control, monitoring and review of preventive and protective measures in relation to HSW,
- Provision of HSW advice and support to business teams and, where required, advice to Consultants and the wider supply chain
- Promoting positive staff wellbeing and supporting staff to achieve a healthy work/life balance

A large proportion of our activities relate to construction work and in accordance with the CDM Regulations 2015 we routinely undertake the statutory role(s) e.g. client, designer, principal designer etc. The team provides specialist internal HSW & Environment construction advice and assistance to support the organisation in complying with its duties.

The purpose of this Lot is to support the *Client's* HSW team as necessary in fulfilling specific duties and providing assistance and advice. This will involve such work as:

- Preparing pre-construction information, undertaking design reviews, reviewing construction phase plans and collating health and safety files in relation to construction works,
- Undertaking HSW & Environment audits of construction activities to monitor compliance with legal duties and support the development of best practice,
- Providing ad hoc HSW advice and assistance in relation to existing and new activities that the organisation may undertake.

[Lot 8 – Sustainability Economics and reporting benefits/improvement

The *Client* has a requirement for:

1. **Cost: Benefit Assessments (4-5 per year) based on their cost benefit methodology:**

The main aim of these Cost: Benefit assessments are to provide comprehensive analysis across, social, environmental and economic parameters that will enable effective and robust decision making on the construction or refurbishment of a mine water treatment scheme
The assessments will be undertaken, in the short term, using the *Client's* methodology for benefits assessments. This methodology is due to change/ be updated (see point 3).

Full details of the current methodologies are contained within the following documents:

- • Assessing the benefits of mine water treatment: Methodology document for coal sites (31 March 2015)
- • Assessing the benefits of mine water treatment: Methodology document for non-coal sites (31 March 2015)

There may be other localised benefit categories applicable in addition to those mentioned in the *Client's* methodologies. Therefore, to ensure all benefits are captured, a site visit may be required as part of the assessments. This must take into account health, safety and environment management, including compliance with the *Client's* guidance for consultancy and will include preparation of risk assessments and health and safety plans. The Consultant must obtain the Client's approval to this health and safety plan before undertaking any fieldwork.

An economist who has undertaken environmental Cost:Benefit analyses before, and who has a strong technical understanding of sustainability and social value, is required for this Lot.

Each cost benefit assessment will need to be presented in a report, each report will require:

- A start-up meeting (virtual is preferred) to clarify and confirm the deliverable and identify further information which can be shared.
- A Draft report and associated meeting to discuss content and agree any additional information/ changes required.
- A Final report and any accompanying spreadsheets for calculations etc.

2. Economic advice particularly regarding the environmental/ social benefits of projects

The *Client* is extending sustainability as a core factor into all areas of their work. There will be a requirement for additional advice and input, beyond the Cost: Benefit Assessment methodology, on sustainable economics, both environmental and social, (with micro and macro considerations), and systematic practice to enable continuous improvement to our systems and processes and empower sustainable decision-making.

3. Developing a toolkit for cost benefit analyses that can be used for all projects at the Coal Authority

The current *Client* methodology is for valuing benefits from mine water pollution only. It is therefore not fit for purpose to assess all *Client* projects or support us to work systemically and sustainably.

As a result, there is a requirement for a new methodology (here referred to as a 'toolkit') and associated tools, based on an extensive, robust and critical review of current best practice, research, innovation and economics for a sustainable and equitable future. Alongside taking into account the legislative frameworks and policies that the *Client* is subject to.

This could potentially be a large piece of work the required outcomes of which would be:

- A user-friendly Cost: Benefit toolkit which is simple and concise in its use, yet comprehensive in its assessment, metrics, values and information output.. The toolkit should produce values and outcomes that can be easily compared, across projects and time, and directly used in the Client's reports and business cases.
- A handbook and associated training that will enable the Client's staff or external contractors to use the toolkit to produce values and associated insights, for reports and business cases.
- Continued support and updates to ensure the toolkit remains up-to-date and in line with best practice, current guidelines and policy changes.

The provision of this tool kit may be included as part of the works under this lot.

[Lot 9 - Treatability

Peer review of suggested mine water treatment options previously issued to the *Client*.

Advise on appropriate mine water treatment options known to the *Consultant*, which may include some, or all of, the following:

- Summary of proposed treatment methodology(s),
- Metal removal rates in terms of percentages,
- Suggested effluent concentrations achievable,
- Estimated land area required for treatment,
- Overview of any chemical reagent, water flow (including driving head etc.) and power requirements,
- Treatment options for saline and brackish waters, both coastal and inland,
- Waste characterisation (are any wastes generated hazardous, non-hazardous etc. as classified under current UK waste legislation),
- Waste management and disposal – considering disposal routes and costs, and whether metals can be removed from any waste materials to limit volumes requiring hazardous waste disposal if applicable etc. (circular design principles embedded within the scheme, from design, materials re-use, repair and decommissioning)
- Potential impacts of the scheme on the locality, particularly if it could have planning implications (e.g. biodiversity loss, visual impact of treatment system, noise, odours, whether the system operates inside a building, in tanks, earthworks etc.)
- Impacts and opportunities for the treatment systems on sustainability, including consideration of wider social and ecological footprint of materials/chemicals/system used e.g. supply chain risk, economic benefits of novel solutions, climate resilience.
- Estimated whole life costing of treatment systems – analysis (stating assumptions) of
    - Estimated capital construction costs,
    - Annual operating costs including staff, chemicals, power etc. if applicable,
    - Operating life, including refurbishment frequency where applicable
    - Potential for resource recovery
    - Decommissioning/refurbishment costs.

Design and provide details for appropriate **laboratory trial** methodology.

Undertake and manage appropriate **laboratory trials** (UK based) combined with data interpretation and associated reporting (including appropriate sample collection and storage, sample preparation, sample analysis, interpretation, geochemical modelling etc.)

Design and provide details for appropriate **field trial** methodology.

Deploy, operate, manage and de-commission (including waste management) appropriate **field trials** (UK based) combined with data interpretation and associated reporting (including appropriate sample collection and storage, sample preparation, sample analysis etc.). As part of any field trial, there may be a requirement for the *Consultant* to obtain/own the appropriate permits (i.e. environmental, SAC, SSSI, SAM etc.) from the relevant UK Regulatory body; this would not automatically be the responsibility of the *Client*.

Provide outline design and methodology details for appropriate full-scale **pilot plant** trials.

Undertake and manage appropriate **pilot plant testing**, deployed in the UK at a designated site, combined with data interpretation and reporting (to include system optimisation). The construction of any full-scale pilot system will not form part of this lot, but advice may be required to ensure any specifications are correctly followed or for any construction queries that may arise are answered appropriately. It is currently envisaged that the routine operation and permitting of any full-scale pilot system would sit with the *Client*.

Provide expert individuals for secondment to the *Client* to provide additional resource for mine water treatment advice/ work as required by the *Client.*

Provide specialist advice on odour monitoring and management as required by the *Client.*

Provide specialist advice on cyanobacteria speciation and management as required by the *Client.*

Provide specialist advice/services on bespoke sampling/monitoring regimes at a catchment scale

Provide specialist advice/services on impacts and risks of treatment efficacy in light of climate change/extreme weather and biodiversity decline impacts (actual and projected).

These services will be required on both the *Client's* non-coal programme, coal programme and commercial work streams.

Note: Laboratory, field and pilot trials should ideally be UK based to limit the time water samples spend in storage, which could cause deterioration in sample quality and adversely impact sample representation. If UK-based work is not possible, the *Consultant* must detail how these issues will be overcome to satisfy the *Client* that any trials and results are not compromised.

It is recognised that some mine waters may be treated most cost-effectively using a series of individual technologies (i.e. "treatment trains").

Although the *Client* has a preference for passive treatment technology, active treatment will also be considered where it can be demonstrated that this is the most cost effective option in terms of whole life costs.

Include sustainable procurement methods where possible. Whilst it is appreciated that laboratory and field-scale trials are often small-scale operations, sustainability should still be considered wherever possible. Considerations such as the use of sustainable sources for treatment media or renewable energy would qualify in this area.

Innovation is also a core area of focus for the Client. It is recognised that some mine water treatments are in their infancy and therefore are innovative in nature. Consider innovation wherever possible.

[Lot 10 – Waste Characterisation and Management Services

The *Consultant* is required to provide professional services in the area of waste management, characterisation classification, minimisation and disposal - including the potential for material re-use and re-cycling and the development of sustainable waste management strategies for the various organisational activities. In depth knowledge of sustainable waste management practices, the current and evolving waste hierarchy, the definition and classification of wastes and legislative controls including Duty of Care, disposal licensing exemptions and End of Waste is essential.

The *Client* generates various wastes streams as part of its statutory duties and other activities. The *Consultant* will demonstrate an understanding of the waste we produce to identify the controls that apply to its collection, movement and re-use or disposal. In addition, due to the *Client*'s ever-expanding remit, there is also the potential for the *Client* to generate additional, currently unknown, waste streams in the future.

In support of an in house team of specialist project managers who currently ensure legislative compliance for our project based activities, the *Consultant* will provide waste classification and management specialists working with our project managers to fulfil statutory obligations and identify more cost effective or sustainable waste management procedure and practice. The *Consultant* will provide advice under all relevant legislation and regulations, including new or changed regulation following translation of EU legislation into UK law following EU Exit.

The objectives of this Lot will be to provide the *Client* with robust technical advice and support in the area of waste management (covering existing operations and the planning of future activities).

To achieve the above-mentioned objectives, the following areas of experience and expertise will be required:

- Identification of all waste streams for each activity and the *Client* as a whole,
- Characterising the chemical and physical properties of specified waste streams,
- Classifying waste before it is collected, disposed of or recovered,
- Identifying the controls that apply to the storage and movement of waste,

- Identification of suitable waste management options including re-use, recycling and recovery for specified waste streams,
- Knowledge of end-of waste? requirements and the potential for alternative options to disposal,
- Identification of potential hazards and mitigation measures to prevent harm to people and the environment,
- Waste management systems for recording and reporting the generation, re-use and disposal of waste,
- Preparation of information files to support end of waste status declaration and implementation of new processes introduced by EA as replacement for the end of waste panel,
- Preparation of cost analysis for the various waste management options for the development of a business case.
- Material Management Plans (MMP), Site Waste Management Plans (SWMP) and any other Quality Management documentation required for accreditation or certification under recognised protocols,
- Provision of a Competent / Qualified Person for any quality management documentation or permits.
- Preparation, application and management of Environmental Permits,
- Waste Management Audits for all stages of the waste life cycle, including final disposal point,
- Extensive knowledge of disposal routes, costs and alternative options for all potential waste classifications,
- Liaison with regulatory authorities to obtain agreement for any modifications to methodology or conventional disposal routes,
- Liaison with haulage companies and waste management companies on the *Client*'s behalf and
- Secure any necessary permission required by the *Client* to manage its waste under the relevant regulations.

Delivery of the above objectives will require both:

1. a long term, high level collaborative approach to the development of cost effective strategic management of the various key waste streams to achieve the *Client*'s corporate sustainable business targets and

2. a rapid, focused and specialised investigative approach to short-term project specific issues as they arise.

The *Consultant* provides general waste management advice on any related issues that may arise in relation to both existing and future safety, health and environmental law.

[Lot 11 – Project Management, Supervisory Services and Cost Consultancy

The scope of this framework includes Project Manager and / or Supervisor duties under New Engineering Contract (NEC) contracts and / or cost consultancy, e.g. preparation and refinement of budget cost estimates plus third party reviews of cost assessment and buildability.

The services could be used across the *Client*'s entire portfolio of projects, on both new build and refurbishment schemes, both coal and non-coal projects.

The works the *Client* undertakes can include civil and structural and/or mechanical and electrical work. Examples of the projects that could be undertaken are:

- Construction and refurbishment of new and existing minewater treatment schemes,
- Construction or refurbishment of new and existing subsidence pumping stations,
- Public safety works e.g. shaft capping/repair of collapses, water drainage works
- Works on the portfolio of tips.
- Other legacy mining remedial and mitigation / intervention works which may include surface water diversions, minewater blow-out mitigation works, spoil heap and tip stability works including surface water drainage and capping

The *Client* also undertakes work on behalf of other governmental bodies and commercial partners. The value of the construction works could range from tens of thousands to multi-million pound projects.

The *Client* may use any of the contracts available through the NEC. Primarily works are let using the Engineering and Construction Contract (ECC), Engineering and Construction Short (ECSC) Contract or Term Services Contract (TSC).

Requirements for each project will vary. On some schemes both the NEC PM and Supervisor may be required, alternatively either the NEC Project Manager or Supervisor may be required.

Visits to sites are a requirement for both roles. The sites are located throughout England, Scotland and Wales.
Both Project Manager and Supervisor roles require working closely with the *Client'* staff and Framework *Consultants*.

Project Manager

The Project Manager requires a strong understanding of the NEC contract clauses and processes and their duties under them.

The Project Manager shall be professionally qualified with at least five years relevant experience and a proven record in acting in a similar role. NEC Project Manager Accreditation is preferred, though not essential provided suitable experience and understanding can be demonstrated.

Supervisor

The Supervisor requires a general understanding of the NEC contract clauses and processes and more detail knowledge or the specific duties of the role.

The Supervisor shall have at least five years demonstrable experience in similar site supervisory roles.

Both Project Manager and Supervisor roles require working closely with *Client* staff and Framework *Consultants*.

Cost Consultancy

The Consultant may be required to support the *Client* in identifying and refining budget estimates by providing an independent assessment of cost estimates, tendered prices and buildability.

Further details on the services requested are detailed below; please note the services detailed are not an exhaustive list. The *Client* will detail their exact requirements during the direct award engagement or mini competition stages.

Duties may include:-

- The review or preparation of contract documentation in advance of contract being issued for tender
- Leading or supporting on the tender process (noting that the *Client* will undertake all communications to tenderers).
- Inclusion in the tender review and evaluation / assessment process
- Manage and supervise construction projects, including as a minimum PM site supervision:
    - Undertake role of (generally NEC ECC) Project Manager
    - Manage and control the contract and project costs
    - Undertake role of (generally NEC ECC) Site Supervision
    - Monitoring and reporting on construction works
    - Maintain a daily project diary record (when attending site)

- Certify/ensure works are completed as per specification/drawings
- Audit, and advice

- Project Management of projects prior to the construction phase
- Additional specialist supervisory roles may be requested, but are not a core requirement:

- Undertake role of Environmental Clerk of Works (ECoW)
- Undertake role of Landscape Clerk of Works (LCoW)

- Development of scheme cost estimates at any stage of the project from scoping to outline design, including revising the estimate as the project develops
- Third party assessment of cost estimate and buildability reviews, including advice on rates used
- Provide advice on the merits of alternative solutions considered appropriate for
- projects to demonstrate the achievement of Best Value
- Advise Client on CDM Matters