



1EWo2 Enabling Works – Area South

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1 Introduction

1.1 Purpose of Document

- 1.1.1 This document should be completed by the relevant member of the work package.
- 1.1.2 Part One is an overview of the credits applicable to this specific work package. These credits were determined based on the scope of works at the time this document was produced.
- 1.1.3 Part Two must be completed prior any works starting on site; this should be reviewed and discussed with the EWC assessor to ensure it is compliant with all BREEAM requirements.
- 1.1.4 Part Three should be completed during construction and through the handover process. All deliverables must be reviewed and signed off by the EWC assessor before the end of the contract of works.

1.2 BREEAM

- 1.2.1 To monitor the commitments made within the Sustainability Policy the design and construction of HS2 Stations, Depots and other railway buildings will be assessed using BREEAM New Construction Non Domestic 2014 criteria. All Stations, Depots and other railway buildings will achieve a minimum of an Excellent rating in this standard.
- 1.2.2 To ensure that the infrastructure is designed and constructed to a similar high standard the infrastructure will be assessed using BREEAM Infrastructure (Pilot) scheme. This will be designed and constructed to meet an aspirational 'Excellent' rating under BREEAM Infrastructure (Pilot) scheme.

1.3 BREEAM Documents

- 1.3.1 The following documents should be referred to when necessary:
- BREEAM Infrastructure Scheme's technical criteria (HS2-BRE-SU-GDE-000-000004);
 - Bespoke Infrastructure assessment criteria (HS2-BRE-SU-GDE-000-000005);
 - HS2 Bespoke Infrastructure assessment criteria (HS2-BRE-SU-GDE-000-000005);
 - BREEAM UK New Construction (2014) Scheme Technical Manual (HS2-BRE-SU-GDE-000-000004);

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- W12300 Environment and Sustainability - IE001-HS2-PR-ITT-000-000051.

Table 1: List of abbreviations

Abbreviation	Definition
PRP	Project Resilience Plan
EWC	Early works contract
MWCC	Main works civil contract
LCA	Life cycle assessment
BRE	Building research establishment
BREEAM	Building Research Establishment Environmental Assessment Method
MMP	Materials Management Plan
RMP	Resource Management Plan
SOE	Suitably Qualified Ecologist

2 Part One - Applicable BREEAM Credits

2.1.1 The following credits are applicable to this specific work package:

2.2 Integrated Design – ID02 Project Team Collaboration

- Subcontractors to use the Integrated Data Management System (once agreed).

2.3 Materials – Mat 02 Responsible Sourcing

- All materials procured should be procured in accordance with a documented procurement plan. All materials used on the project (permanent and temporary) are to be legally sourced.
- For each temporary material type identified it needs to be determined whether or not the material is covered by a BREEAM recognised Responsible Sourcing Certification Scheme certificate (e.g. FSC, BES6001, ISO14001). Relevant components need to be identified from the list below.
- Note that materials can be excluded from assessment where they meet any of the following three rules:
 - Any material type within a component category which is approximately estimated to account for less than 5% of the volume or mass of the whole component;
 - Any material type within a component category which is approximately estimated to account for less than 1 m³ per 1,000 m² of gross internal floor area for point projects;

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- Any material type within a component category which is approximately estimated to account for less than 1 m³ per 1000 m of linear length for linear projects.

Component categories for permanent materials

1. Earthworks, including landscaping
2. Subbase and ballast
3. Pavements and footways
4. Piling
5. Retaining walls
6. Tunnels
7. Primary structures
8. Ancillary structures
9. Drainage
10. Other.

Component categories for temporary materials

1. Formwork and falsework
2. Shoring and temporary bracing
3. Temporary fill and structures (crane foundations, temporary access roads, etc.)
4. Fencing and safety barriers
5. Temporary piping, electrical, mechanical and heating services
6. Other.

Material categories

1. Timber or timber-based
2. Concrete or cementitious
3. Metal
4. Stone or aggregate
5. Clay based
6. Gypsum
7. Glass
8. Plastic, polymer, resin, paint, chemicals and bituminous
9. Animal fibre or skin or cellulose fibre
10. Other.

2.4 Materials – Mat 04 Reuse and Recycle

- A pre-demolition audit is completed by an independent and competent third party for any existing buildings, structures or hard surfaces that require demolition on site. Any key findings are then reported in the SWMP.
- Opportunities recommended within the strategic stage assessment are re-evaluated with key representatives of the project team through an iterative process and further opportunities for permanent and temporary materials and elements are explored. This includes:
 - Information identified at the strategic stage;
 - Confirmation of suitable depots (e.g. for railway track and ballast), dealers (e.g. for wind turbines) and other construction sites to establish if existing infrastructure elements are available for reuse or recycling;
 - Confirmation of materials and elements suitable for reuse and recycling with justification for their inclusion or exclusion;

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- Programme for updating design plans to incorporate suitable existing infrastructure elements.
- Component specifications and method statement documents and procurement plans are updated to include reused and recycled materials for temporary construction works and permanent elements within the final asset.

2.5 Stakeholders – ST 03 Responsible Construction Packages

- Subcontractors to be aware of the EWC Principal Contractors environmental management system and how it applies to their works. One credit where the contractor achieves compliance with the criteria of a compliant scheme (e.g. CCS) OR Two credits where the contractor significantly exceeds compliance with the criteria of the scheme (*to be done a site wide basis*).
- The EWC Principal Contractor is required to report against all fleet required for the enabling works and ensuring all fleet on site are compliant with an appropriate scheme. Where all operators travelling to or from the construction site have used a compliant organisational, local or national considerate fleet operations scheme and their performance against the scheme has been confirmed by independent assessment and verification. The operators have achieved the relevant level of certification under the compliant scheme.

2.6 Pollution – Pol 01 Air Quality

- The developer and contractor follow the air quality requirements outlined within the CoCP, or equivalent. An individual is appointed to carry out monitoring of air quality on and around the site and undertakes their role throughout construction of the asset. The monitoring results are verified against validated monitored air quality data.
- Site induction and specific training is provided for all site staff identifying how their activities may affect air quality. This should include training on the procedures included within the CoCP, or equivalent, and how to eliminate or reduce the potential for an air quality incident.
- Engines for all non-road mobile machinery used during the construction stage either:
 - Use type approved engines which comply with either the current or immediately previous EU Directive Staged Emission Standards (97/68/EC) OR
 - Are fitted with suitable after-treatment devices compliant with an NRMM scheme that is independently assessed and verified.

2.7 Pollution – Pol 03 Noise and Vibration

- An individual is appointed to carry out on-site monitoring of noise and vibration and undertakes their role throughout construction. Site induction and specific training is provided for all site staff, identifying how noise and vibration from their activities may affect sensitive receptors. This should include training on the procedures included within the noise and vibration plan and how to reduce the potential impact on sensitive receptors.

2.8 Land Use and Ecology – LUE 02 Soil and Vegetation Management

- A soil resource survey is to be carried out on site by a suitably qualified soil scientist or practitioner and the results of the survey are incorporated into the Resource Management Plan (RMP) or Material Management Plan. A Soil Resource Plan will need to be developed, taking into account the results of the soil resource survey, and implemented at the construction stage. The plan includes the following as a minimum:
 - The areas and type of topsoil and subsoil to be stripped;
 - Haul routes;
 - The methods to be used for soil handling;
 - The location, types and management of each soil stockpile;
 - Soil placement and reinstatement.
- Recommendations for maintaining healthy top soil and peat on the site are included in a land management plan for both long and short term stages. These recommendations are discussed and agreed with any ecologists responsible for protecting and enhancing biodiversity on site.
- A suitably qualified soil scientist or practitioner verifies that the work has been carried out in compliance with the Defra Code of Construction Practice for the Sustainable Use of Soils on Construction Sites.

2.9 Land Use and Ecology – LUE 05 Compensating Impact on Biodiversity and Existing Ecological Features

- Where recommended by the Suitably Qualified Ecologist (SQE) measures are implemented during the design and construction stages to compensate for any impact on existing ecological features on or near to the site. The SQE confirms that because of these measures there is no net loss in biodiversity when considering the area losing biodiversity and the area gaining biodiversity.

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2.10 Water – WAT o1 Water Efficiency Planning and Implementation

- Site welfare facilities to meet the following:
 - WCs have an effective flush volume of 4.5 litres or less;
 - Wash-hand basin taps have a flow rate of 5L/minute or less and have a self-closing mechanism;
 - Either urinals have a flow rate of 3 litres/bowl/hour or less, hydraulic valves are fitted to each urinal or both, to manage water consumption based on occupancy;
 - Showers have a flow rate of 8L/minute or less;
 - Kitchen taps have a flow rate of 5L/minute or less and trigger control is fitted to any pre-rinsing facilities;
 - All fittings are listed on the EU Water Label Website.
- Construction stage project managers are required to complete training which demonstrates that they understand the need for water efficiency on construction sites. Training must be provided to construction site staff to undertake their role in a water efficient manner.

2.11 Water – WAT o2 Water Monitoring

- The main water meter supplying the site is accessible for reading the meter. Sub-meters are to be installed on:
 - Each water zone;
 - Water discharge points which have the potential for uncontrolled flow because of human behavior, e.g. leaving a tap running;
 - Water discharge points considered to have the highest estimated daily volumetric use within each zone;
 - Rainwater recycling technologies;
 - Grey water recycling technologies.
- All of the above (where present) should be metered on a weekly basis and a monthly site inspection is to be carried out to identify:

- Inefficiencies in water devices and water discharge points including leaks and overflows
- Actions needed because of the inspection including relevant operation, maintenance or replacement information
- Out-of-hours assessment of base load water consumption.

2.12 Waste – WST 01 Construction Waste Management

- Subcontractors to be aware of their impact on waste management and follow appropriate procedures/ mitigation measures (as detailed in the CoCP). All waste data is to be recorded. The following waste targets have been set:
 - 92% of construction waste (volume) to be diverted from landfill.
 - 80% of demolition waste (volume) to be diverted from landfill.

3 Part Two – Demonstrating Compliance

3.1.1 The following table should be completed prior to start and returned to the EWC BREEAM assessor for approval.

3.1.2 Any non-compliance found within Part Two will result in the document being returned for amendment.

Table 2: Demonstrating Compliance with BREEAM

BREEAM Credit	BREEAM Requirement	Approach to Achieve Compliance	Likely Evidence to be Provided	Date of Submission of Evidence
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IDo2	Subcontractors to use the Integrated Data Management System	Use of Aconex or similar for the integrated recording and exchange of information across the design, construction and operational stages in order to efficiently manage data and support operational asset management.	Technical standard to be provided by CSJV.	May2020
Mat 02	All materials to be procured in accordance with procurement plan. All materials to be covered by a BREEAM recognised Responsible Sourcing Certification Scheme certificate where possible.	CSJV sustainable procurement plan in place.	Sustainable procurement plan.	May 2020
Jun	Pre demolition audit to be undertaken.	Designing out waste workshop to be carried out prior to works commencing.	DOWW minutes	May 2020
St 03	Be aware of the EMS and how it applies to your works. Report against all fleet required for the enabling works and ensuring all fleet on site are compliant with an appropriate scheme.	Euro 6 compliant. CLOCS compliant. NRMM stage IIIB compliant.	PMU information	Submitted monthly via Project Controls team
Pol 01	An individual is appointed to carry out monitoring of air quality on and around the site. Site induction and specific training is provided for all site staff identifying. Engines for all non-road mobile machinery must comply with the requirements.	Air Quality Champion appointed. EMP briefing before works start. All relevant plant NRMM compliant. Dust and Noise monitors located at receptors with alerts sent for exceedances	PMU information plus details of the individual assigned to monitoring. Monthly Camden AQ report	Submitted monthly via Project Controls team Submitted monthly on Commonplace
Pol 03	On-site monitoring of noise and vibration and undertakes their role throughout construction. Site induction and specific training is provided.	Noise monitors located at receptors with alerts sent for exceedances. ██████████ is the CSJV parcel Noise Champion.	PMU information plus details of the individual assigned to monitoring. Monthly Camden N&V report	Submitted monthly via Project Controls team Submitted monthly on Commonplace
Lue 02	A soil resource survey to be carried out and a soil resource plan to be undertaken.	No Soil removal	N/A	N/A

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Lue 05	Measures are implemented to compensate for any impact on existing ecological features on or near to the site.	Bat TBT undertaken prior to works starting. Tree removal undertaken after Tree Panel Approval, clearance permit approval and under ecological watching brief. Invasive Species Management Plan in place for management of Japanese Knotweed.	Tree Panel Action tracker held by HS2. Biosecurity management plan appended to the WPEMP.	Held by HS2 May 2020
Wat 01	Site welfare facilities to meet the BREEAM requirements.	CSJV supplied complaint welfare	Welfare facilities specification	Aug 2020
Wat 02	Water meter to be installed and monthly meter readings to be taken.	CSJV supply monthly meter readings	PMU information	Submitted Monthly
Wst 01	SWMP to be used to monitor waste on site.	Smartwaste updated monthly.	SWMP	Aug 2020

4 Part Three – Confirming Compliance

4.1.1 The following table should be completed during construction and prior to handover of the asset to confirm how compliance with the BREEAM criteria (noted in Part One) has been achieved.

Table 3: How Compliance has been achieved

BREEAM Credit	File Name, Type and File Path	Reference to Compliance (e.g. page number)	How Compliance has been Achieved?	Evidence Uploaded to eB? Y/N
ID02	Work Package Technical Assurance plan - 1EW02-CSJ-AU-PLN-S001-000006	Whole document	Aconex implemented fully.	Y
Mat 02	CSJV Sustainable Procurement Plan - 1EW02-CSJ-EV-PLN-S000-000037	Whole document	Sustainable procurement plan has been implemented throughout the work package.	Y
Mat 04	WP038 Designing Out Waste Workshop Minutes -1EW02-CSJ-EV-MRC-SS01_SL03-000001	Whole document	Designing out waste workshop minutes produced prior to works commencing.	Y
St 03	CSJV Air Quality management plan - 1EW02-CSJ-EV-PLN-S000-000005	Section 3	Air Quality management plan is implemented fully during the work package.	

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Pol 01	Air Quality and Dust Monitoring Monthly Report – London Borough of Camden - 1EW02-CSJ-EV-REP-S000-000013	Whole document	Monthly document is written summarising AQ monitoring and management	Y
Pol 03	Construction noise and vibration report – London Borough of Camden - 1EW02-CSJ-EV-DAT-S000-000029	Whole document	Monthly document is written summarising N&V monitoring and management	Y
Lue 02	N/A	N/A	N/A	N/A
Lue 05	Euston Approaches Environmental Management Plan - 1EW02-CSJ-EV-PLN-SS01-000004	Appendix 4	Biosecurity Management Plan implemented	Y
Wat 01	Welfare facilities specification	Whole document	Addison Lee Welfare used throughout this package of works.	
Wat 02	PMU information – 1EW02-CSJ-PC-XJ1-S000-000174-1	Whole document	PMU 5 data reported monthly to HS2.	Y
Wst 01	Area South Site Waste Management Plan - 1EW02-CSJ-EV-PLN-S000-000014	Whole document	Waste monitored and reported monthly to HS2 via PMU 5.	Y

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