



1EWo2 Enabling Works - Area South

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1 Introduction

- In accordance with the Management of CDM Risks procedure (1EWo2-CSJ-RK-PRO-Sooooooooo), the CSjv Lead Design Team (LDT) have compiled a master register of health and safety risk assessments. This has been undertaken by copying existing risk assessments available on Aconex into a single register to enable CSjv to identify top CDM risks across the portfolio of Work Packages (WPs). The fourth revision of the register contains most risk assessments that were available on Aconex up to and including September 2020. Amendments (between January 2020 and September 2020) captured in work packages revising their risk assessments are currently being transferred to the master risk register. These risk assessments include Designers Risk Assessments (DRAs), Risk Assessment Method Statements (RAMS), Health Hazard Evaluation Mitigation Process (HHEMP) risk assessments and residual hazards identified in health and safety files. Assessing risk is a legal requirement as defined in the Management of Health and Safety at Work Regulations (1999). The master register will be updated bi-monthly with new risk assessments available on Aconex.
- In undertaking this exercise, common issues relating to the risk assessments were identified. The purpose of this document is to provide feedback to CSjv on our health and safety risk assessments. This is to ensure risks assessments are consistent and that all relevant fields in the CSjv risk register template are completed. We also share read-access to the master CDM risk register with our designers and HS2 so they can view hazards and mitigations across the project to ensure consistency and to see how the principles of prevention are being applied. This is also consistent with CDM in promoting sharing and cooperation across the contract.

Table 1: List of abbreviations

Abbreviation	Definition
CDM	Construction Design and Management Regulations, 2015
CSjv	Costain Skanska Joint Venture
DRA	Designers Risk Assessment
EWS	Enabling Works South contract
GMA	Ground Movement Assessment
ННЕМР	Health Hazard Evaluation Mitigation Process
HS ₂	High Speed 2 Ltd
LDT	Lead Design Team
ОН	Occupational Health
PC	Principal Contractor (CSjv)
PD	Principal Designer (HS2)
PM	The Employer's Project Manager
RAMS	Risk Assessment Method Statement
RR	Residual Risk
WI	Works Information
WP	Work Package

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WPM	Work Package Manager
WPP	Work Package Plan

1.1.3 The master register contains risk assessments prepared by CSjv's designers, by HS2's designers that pre-date the Enabling Works South Contract, those prepared as part of RAMS documents and residual risks identified during the construction phase of work packages and recorded in the health and safety file (Table 2).

Table 2: Risk Assessment sources

Risk Assessment	Comment
Designers Risk Assessment pre-EWS	Risk assessments undertaken prior to appointment of EWS contract.
CSjv Designers Risk Assessment	Risk assessments undertaken by CSjv's designers.
Health Hazard Evaluation Mitigation Process	Risk Registers extracted from CSjv's approach and methodology to manage and monitor health hazards.
RAMS	Risk registers extracted from Risk Assessment Method Statements used to manage site safety.
Temporary Works Risk Assessments	Risk assessments prepared for temporary works.
Residual Risks	Risks identified in work package health and safety files that will be transferred to HS2 or other principal contractors and called up in the BiM model.

- 1.1.4 The register is stored on SharePoint and allows filtering by DRA, RAMS, HHEMP or RR. The SharePoint link is:
- 1.1.5 For access to the register, please email:
- 1.1.6 The register is now held on the SharePoint site in excel format, rather than in SharePoint lists format. It is hoped use of excel will enable greater use and learning.

2 Feedback on Design Risk Assessments October 2020

2.1.1 The number of new design risk assessments being produced has reduced as the contract nears completion. As noted in previous revisions of this report, Table 3 provides some additional



guidance on the fields to be used and populated by Work Packages to categorise and assess their hazards and risks.

2.1.2 Action on CSjv's designers: ensure these comments are addressed in subsequent revisions of their CDM risk registers.

Table 3 Design Risk Assessment comments

Risk Assessment Field	Comment
Ref no. {unique identifier}	This field is sometimes left blank. Each risk should have a unique identifier. The format can be selected by the designer. CSjv will add an additional unique reference number when the register is added to the SharePoint site.
Location {Chainage/ Structure}	This field is often left blank. Each risk should have a reference to its location. Specific asset numbers have not been allocated but some form of reference is helpful to allow identification.
Classification	This field is sometimes left blank. It should contain one or more letters denoting the stage of the project lifecycle the hazard applies to e.g. C construction, O operational, M maintenance, HS2 risk to members of the public or others that HS2 owes a duty of care to.
Current risk impact {risk matrix} and Residual risk {risk matrix}	The CSjv design risk assessment template TMP-ooooog uses a 5x5 risk matrix (refer to Table 4) which follows HS2's 'Procedure for Health and Safety in Design' (HS2-HS2-HS-PRO-ooo-ooooo4). DRAs do not always adopt this risk matrix. A common departure is scoring overall risk ratings as 'low' even when the severity is 'very high', by multiplying by one if the likelihood is 'very low'. This leads to lower residual risk ratings which could cause construction teams to overlook the hazard. The scoring system is not always consistently applied. As an example, one risk assessment classed likelihood and severity as medium but the overall rating as high. Numerical values are not consistently applied, e.g. classifying as a '3' when the scoring system uses even numbers.
	Occasionally only the overall rating is provided, not the likelihood and severity. In one instance, the residual risk was higher after the application of mitigation measures.
Design mitigation action	Truncated text occurs occasionally in this field, where the risk assessment has been uploaded as a pdf but the row height has not been sufficient to allow all text to be displayed. Designers should ensure this column provides design rather than construction mitigation. As an example, for the hazard of dust, design mitigation would be to utilise pre-fabricated units or to specify materials that generate less dust, rather than to rely on use of PPE.
Risk owner	This field is sometimes left blank. Each risk should have a risk owner which will be the designer until it is agreed no further design mitigation is possible then can be transferred to those that will need to construct or manage it e.g. HS2, maintainer or operator.
Interface description (where relevant)	This field is sometimes left blank. Completing this enables us to manage interface risks e.g. with Network Rail, LU or other CSjv works/designers. If not applicable it can be left as 'N/A', but there is often an interfacing party.
Comments / actions	This free field is often left blank. It is useful for including comments on the risk e.g. information useful to the construction team.

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Status	This field is sometimes left blank. It should be 'open' or 'eliminated'. Changes to the status should only be made with the agreement of the CDM Integrator (i.e. the Principal Designer, HS2). When 'eliminated' this enables us to demonstrate we have applied the principles of prevention.
Residual risk owner	This is sometimes left blank. It needs to be completed to identify the residual risk owner or N/A if there is no residual risk. This will be used by CSjv to identify residual risks for the health and safety file.
Health	This field is often left blank, even if there are clear occupational health risks identified in the hazard or risk fields. LDT have added in 'Health' to those without it where it is applicable. For clarity, the most common health risks we expect to be noted as health (rather than safety) risks are: Noise Vibration Musculoskeletal (manual handling Carcinogens Skin disorders Chemical (COSHH) Dust & fumes Biological risks E.g. plants, insects Mental health Human factors This could include wellbeing, welfare, fatigue, emergency
	response. The top 5 are highlighted and there may be others requiring identification. Please ensure either the health risk, or 'Health' is added to the field when applicable. This allows CSjv to ensure consistent health mitigation processes are implemented.
Design document number and revision	This should include the design document the risk is identified on e.g. a report or drawing.

Table 4 CSjv Risk Matrix

Likelihood

Severity

		Very High	High	Medium	Low	Very Low
,	Very High	HIGH	HIGH	HIGH	HIGH	MEDIUM
	High	HIGH	HIGH	HIGH	MEDIUM	MEDIUM
	Medium	HIGH	HIGH	MEDIUM	MEDIUM	LOW
	Low	HIGH	MEDIUM	MEDIUM	LOW	LOW
	Very Low	MEDIUM	MEDIUM	LOW	LOW	LOW

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3 Comments on RAMS risk assessments October 2020

- 3.1.1 Due to DRAs leaving occasional high residual risks for construction teams to mitigate and due to numerous typical construction-related risks that would not necessarily be identified on a DRA, RAMS risk assessments were also added to the master CDM register.
- 3.1.2 RAMS risk assessments are not required in the level of detail required by the DRA template.

 The LDT have 'fitted' RAMS risk assessments within the DRA template.
- 3.1.3 Most RAMS risk assessments adopt a 5×5 risk matrix. Where other risk matrices have been used by CSjv sub-contractors, such as a 3×3 or 8×8 matrix, the LDT have 'fitted' the assessment to the 5×5 matrix to ensure consistency.
- 3.1.4 RAMS risk assessments should only include hazards that that designer has been unable to avoid. Construction teams should ensure that RAMS documents are not used to document design risk assessments. A designer is an organisation or individual whose business involves preparing or modifying designs for construction projects, or arranging for, or instructing, others to do this. Designs include drawings, design details, temporary works, specifications, bills of quantity and design calculations.
- 3.1.5 With the advent of COVID-19, RAMS have been updated to assess this risk. Travel to and from site and the site works themselves have been assessed.
- 3.1.6 Action: CSjv designers to communicate and discuss risks with CSjv construction teams, to ensure residual risks are understood and transferred to the RAMS where appropriate.
- 3.1.7 Action: CSjv LDT to update master register with risk assessments extracted from RAMS.

4 Comments on HHEMP risk assessments October 2020

- In total, forty HHEMP risk assessment have been added to the master risk register. The 'Statutory Medicals and Health Surveillance programmes Training and or Awareness' and the 'Targeted Health Improvement Measures' fields have not been added to the DRA master register. Instead, a note has been added to the Comments field, referring the SharePoint user to these fields in the original HHEMP document.
- 4.1.2 Action: Cooperation of CSjv designers and CSjv construction teams working with CSjv Occupational Health to develop HHEMPs.
- 4.1.3 Action: LDT to continue to add HHEMP risk assessments to master register.



5 Comments on residual risk assessments October 2020

- As work packages complete, residual risk assessments are produced. These have been either stand-alone risk assessments which are referred to in the health and safety file or contained in section 5 of the health and safety file as per the CSjv template (TMP-000015).
- 5.1.2 The following are a list of issues relating to residual hazards generated by work packages:
 - i) Some health and safety files record residual hazards as paragraphs of text rather than in a structured table-type format. In some cases, no clear statement regarding mitigation has been made. Residual hazards will be linked to the BiM model so need to be presented in accordance with the CSjv risk assessment template. The key fields required are as per Table 5. These key fields will be called up by the SHE box in the BiM model.

Table 5 Minimum risk assessment fields required for residual hazards

Field	Description
Reference number	Each hazard needs a reference number allocated by the package. A sequential number is fine. The hazard will be allocated a unique reference code from the master risk register.
Classification	This field should contain one or more letters denoting the stage of the project lifecycle the hazard applies to e.g. C construction, O operational, M maintenance, D demolition, HS2 risk to members of the public or others that HS2 owes a duty of care to.
Hazard description	Description of the hazard.
Risk description	Description of the risk.
Health	Details of any occupational health risks (refer to Table 3).
Current likelihood	Likelihood before mitigation (refer to Table 4).
Current impact	Impact or severity before mitigation (refer to Table 4).
Current priority	Overall risk rating before mitigation (refer to Table 4).

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Residual likelihood	Likelihood after mitigation (refer to Table 4).
Residual impact	Impact or severity after mitigation (refer to Table 4).
Residual priority	Overall risk rating after mitigation (refer to Table 4).
Residual risk owner	Owner of transferred risk (e.g. HS2 or MWCC).

- ii) Numerous residual risks contained in health and safety files have not been assigned an overall risk rating before and after mitigation, or an assessment of the likelihood and severity. A qualitative risk assessment is a requirement of PAS 1192-6 which covers how CSjv will communicate health and safety residual hazards in BiM and needs to be included. Table 4 is the CSjv risk rating system that should be used.
- iii) Residual risks have included items that would be obvious to a competent contractor, such as slips, trips and falls. The regulations require the level of detail to be proportionate to the risks. Only 'significant risks' should be included i.e. those that are not likely to be obvious, are unusual, or likely to be difficult to manage effectively. Items such as slips, trips and falls and dust should be obvious to a competent contractor.
- Environmental risks have been included as residual hazards, such as the presence of protected species and nesting birds. Whilst useful information for those who will take over a site, they are not specific health and safety residual hazards. They do not have the potential to cause harm to the construction workforce; built asset operators and maintainers; users; and/or the general public. These hazards should be included as an appendix in the health and safety file or in the appropriate environmental documentation associated with the work package or associated asset data. Where environmental hazards have been included as residual risks but have no potential to cause harm, these will not be transferred to the as-built model.
- Action: CSjv teams who prepared health and safety file residual risks to ensure the risk assessment format includes risk rating as per Table 4 and contains the minimum fields as per Table 5.
- 5.1.4 Action: Residual risks to include significant risks. Environmental hazards which do not have the potential to cause harm to be recorded elsewhere.
- 5.1.5 Action: LDT to continue adding residual risks to the master risk register.
- 5.1.6 Action: Working with the relevant CSjv WP team, the BiM team shall add residual risks to as-built model and link to master risk register.



6 Master risk register updates

- 6.1.1 It is an HS2 requirement to link residual hazards to the CSjv BiM model. Further details are provided in the Management of Redlines and As-built Procedure (1EWo2-CSJ-QY-PRO-Sooo-oooo13) and CSjv Utilities As-built Procedure (1EWo2-CSJ-UT-PRO-Sooo-oooo02). The master risk register will link to the BiM model and residual hazards stored in the register will be called up by SHE boxes in the BiM model. CSjv have coordinated with SCS and agreed the same fields to be called up when interrogating SHE information in the BiM model.
- The master risk register contains the fields 'Xcoord'; 'Ycoord' and 'Residual3Dmodel'. These fields relate to residual hazards only. The columns 'Xcoord' and 'Ycoord' are the X and Y coordinates of residual hazards that will be communicated to HS2 in CSjv's BiM model. The locations of the residual hazards are identified by the relevant Work Package team when producing their residual risks. The CSjv CAD manager will liaise with the Work Package team and produce coordinates which will be added to the master register.

The field 'Risk Assessment type' allows filtering by RR (residual risks). The field 'Residual3Dmodel' field is a Yes/No field to also allow filtering for residual hazards for use in the BiM model, to enable a check on which packages have had their residual risks added to the BiM model.

- 6.1.3 The new field 'RiskReduction Index' provides a quantitative approach to understanding the reduction in risk before and after mitigation. The following are the risk reduction factors:
 - High to Low risk reduction: a factor of 0.1 is applied i.e. there is a reduction of 90%.
 - High to Medium risk reduction: a factor of 0.4 is applied i.e. there is a reduction of 60%
 - Medium to Low risk reduction: a factor of 0.6 is applied i.e. there is a reduction of 40%.
 - A factor of 1 is applied when there is no risk reduction.

When linked to PowerBI, the risk reduction index enables a rapid review of where the greatest reduction in risk is achieved. In the future this will be developed into an OH process called RAPID (Record; Apply; Pin-point; Inform; Develop).

7 Key CDM risks

7.1.1 The latest published master risk register (version 6.0) has increased the total number of hazards to 9,871. The hazards and risks have been reviewed and the highest CDM risks to EWS have been assessed by the Lead Design Team as recorded on Table 6. Hazards associated with LU vent shaft SCL works, Granby Terrace Bridge and temporary LU bridge at Old Oak Common have been discounted due to scope changes.

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Table 6 Key CDM risks EWS

Master risk register unique reference number	Hazard summary
CSjvooo85; CSjvo2694; CSjvo2872, CSjvo8019	Major utilities connection of the diverted 42 inch TWUL water main at Euston Rd.
CSjv02501; CSjv2511	Protection and diversion of 30 inch water mains on OOC Lane.
CSjvo2589	Works associated with the 36 inch low pressure gas main, Euston.
CSjv02818; CSjv02820	Settlement impact (Euston) on Cadent and UKPN assets that fail Phase II GMAs.

8 Occupational Health Risk Assessment Feedback

8.1 Summary

8.1.1 As a result of the RAMS Deep Dive Audit undertaken in November 2019, more detailed feedback on the risk assessments is contained in the following section. As per the previous issue of this report, detailed feedback on the top five occupational health hazards (dust; noise; COSHH; vibration and manual handling) is provided in the section below to enable greater shared learning across CSjv. The principles of prevention are listed, together with mitigations provided by CSjv's designers, construction teams and occupational health specialists which have been summarised from the master risk register.

8.2 Dust

8.2.1 Risk assessments identified mitigations to dust hazards as detailed in Table 7 Dust mitigation.

Dust is classified in the register under Hazard Class 2 (Environment) and Hazard Category 5 (dust and particulates).



Table 7 Dust mitigation

Principle of Prevention	Mitigation in the DRA, RAMS or HHEMP
Avoid	Design out timber; use of pre-cast
Evaluate	Risk assess; dust monitoring; use of personal monitors
Combat at source	Power tools with dust extraction; dust suppression e.g. use of water
Adapt to individual	Sizing to allow robotic plant; well ventilated / forced ventilation; reduce areas to be broken out; limit during high wind; restrict individuals with existing conditions
Adapt to technical progress	Minimise number of fixings required; use of remote-controlled plant; use of drone surveys
Replace dangerous with less dangerous	Use of soft eyes (rather than conventional concrete); specify less harmful substances
Collective over individual	Use of hoarding; restricted access
Prevention policy	None – refer to section 8.7
Training and instruction	Briefings; use of PPE; training; supervision; use of COSHH data sheets; use of welfare

8.3 Noise

8.3.1 Risk assessments identified mitigations to noise hazards as detailed in Table 8 Noise mitigation. Noise is classified in the register under Hazard Class 2 (Environment) and Hazard Category 4 (nuisance, noise, lighting, vibration). For noise, a percentage split of the 428 mitigations (an increase of 92 since the previous review) recorded in the master risk register is included. Use of collective measures over individual measures (such as limiting hours of noisy activities, restricting access and the use of acoustic barriers) is now the highest-occurring mitigation. Use of PPE is now the second (previously first) highest mitigation. It is encouraging to note reliance on PPE is no longer the most common mitigation and also the increasing use of prevention policies (such as restricting unnecessary plant use).



Table 8 Noise mitigation (previous % in brackets)

Principle of Prevention	Mitigation in the DRA, RAMS or HHEMP
Avoid	Use of low noise tools; Use of remote-controlled equipment; Isolation of noisy equipment during inspections. 16% (13%)
Evaluate	Use of monitoring; Use of noise assessments. 6% (6%)
Combat at source	Use less noisy equipment; Equipment fitted with silencers. 5% (9%)
Adapt to individual	Use of PPE. 20% (23%)
Adapt to technical progress	Use of remote-controlled equipment. 5% (7%)
Replace dangerous with less dangerous	Use of low noise tools. 6% (13%)
Collective over individual	Limit working hours of noisy activities; restrict access; use of acoustic barriers. 29% (10%)
Prevention policy	Restrict unnecessary plant use; Switch policy for plant use. 20% (11%)
Training and instruction	Training in use of hearing protection; regular maintenance of equipment; use of work rotation; provide information on exposure limits. 19% (8%)
Total of 428 noise related hazards of which there are multiple mitigations for some hazards. Previous	

Total of 428 noise related hazards of which there are multiple mitigations for some hazards. Previous % from December 2019.

8.4 COSHH

8.4.1 Risk assessments identified mitigations to noise hazards as detailed in Table 9 COSHH. COSHH is classified in the register under Hazard Class 5 (Materials) and Hazard Category 5 (COSHH).



Table 9 COSHH

Principle of Prevention	Mitigation in the DRA, RAMS or HHEMP
Avoid	Limited use of COSHH materials; use of CFC-free sprays; use of water-based non-toxic products; mechanisation for handling concrete; replaced by stainless steel
Evaluate	Safety data sheets and COSHH assessments
Combat at source	On tool exhaust or local exhaust ventilation
Adapt to individual	Well ventilated areas; welfare facilities; limit pours; rotate operatives
Adapt to technical progress	Use safer products
Replace dangerous with less dangerous	Lowest combustible materials to be used; use safer materials; dilute with water
Collective over individual	Restrict access; secure materials; housekeeping; ventilation
Prevention policy	Use of COSHH assessments and RAMS
Training and instruction	Use of PPE; training; supervision; COSHH assessments; safety data sheets

8.5 Vibration

8.5.1 Risk assessments identified mitigations to vibration hazards as detailed in Table 10 Vibration. Vibration is classified in the register under Hazard Class 7 (Tools) and Hazard Category 7 (Vibration; HAVS).

Table 10 Vibration

Principle of Prevention	Mitigation in the DRA, RAMS or HHEMP
Avoid	Use of remote-controlled equipment; plant-mounted tools; use of drill in a rig
Evaluate	Monitoring in accordance with Costain Way; HAVS assessment and briefing before use; health surveillance; CUROTEC system

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Combat at source	Low vibration chains
Adapt to individual	Heated handles
Adapt to technical progress	Use of remote-controlled equipment; use of battery powered tools
Replace dangerous with less dangerous	Drill and burst rather than hand breaking; select machinery with lowest vibration levels
Collective over individual	Barrier off areas
Prevention policy	Avoidance of post drilled fixings; drill and burst rather than hand breaking
Training and instruction	Alternate staff; maintenance in accordance with manufacturer's instructions; training; regular job rotation; permit to drill

8.6 Manual Handling

8.6.1 Risk assessments identified mitigations to vibration hazards as detailed in Table 11 Manual Handling. Manual handling is classified in the register under Hazard Class 5 (Materials) and Hazard Category 3 (Handling: Loose Materials/ Wind / Manual handling).

Table 11 Manual Handling

Principle of Prevention	Mitigation in the DRA, RAMS or HHEMP
Avoid	Use of forklifts; MEWPs; excavators; trolleys; barrows; mechanical lifting; suction pads
Evaluate	Task-based assessments; worker occupational health check; monthly targeted risk monitoring
Combat at source	Use lifting points

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Adapt to individual	Design space proofing to allow mechanical lifting of loads; door size prevents need to tip panels; close parking to reduce carrying distance.
Adapt to technical progress	Use of suction pads; trolleys; lightweight aluminium
Replace dangerous with less dangerous	Break down the loads into smaller components; use of lignacite blocks which are lighter.
Collective over individual	Use of team lifting under supervision
Prevention policy	Reduce weights and manual handling required
Training and instruction	Supervision for lifting heavier items by team; use of PPE including knee pads; rotation of team for repetitive tasks; manual handling training

8.7 General comments

- 8.7.1 There is scope to more widely apply a coherent prevention policy at design stage. None of the proposed design mitigations relating to dust from the master risk register could be considered to apply this principle. Use of RAG lists would address this, such as including cast-in fixings as a green item and post drilled fixings as a red item.
- 8.7.2 The risk register contains several instances where designers have used the phrase 'design out' but not stated how they will achieve this. As an example, design mitigation has been 'design out need for noisy equipment' or 'design out use of vibration equipment'. Whilst this is applying the principles of prevention, it does not detail how this will be done. A clearer mitigation statement would be 'the design will minimise use of drilled in fixings and utilise self-compacting materials to reduce noise'. Similarly, the statement 'eliminate vibration risk at source' does not demonstrate how this will be achieved by the designer. A clearer statement would be 'the design allows space for robotic plant to eliminate the risk of vibration to operatives. Referencing RAG lists would be a practical way of addressing this.
- 8.7.3 A RAMS evaluation and quality approver checklist is used to check key information in RAMS documents. Section 4 of the checklist covers health arrangements, including the top 5 OH risks discussed in Table 3 Design Risk Assessment comments. Specific questions are used to prompt review such as 'Will the tools/working methods proposed likely to create noise levels >75dB? If so, have the appropriate control measures been specified?'.



8.8 COVID-19

8.8.1 Recent RAMS included since April 2020 have assessed the risk for COVID-19. These have addressed the health category of worker; travel to and from site; site welfare facilities; site activities. Specific detailed COVID-19 risk assessments have not been added to the master risk register, but further advice is available from the CSjv SHE team. Where COVID-19 has been added as an additional hazard, the health column of the master risk register has been updated to allow filtering.

9 Future activities

The following future activities will be undertaken by the LDT relating to the master CDM register:

- New or updated DRA, HHEMP, RAMS (including health arrangements) and residual risk assessments to be added to the master register.
- Continue to add temporary works design risk assessments to the master register.
- Link DRA, HHEMP and RAMS risk registers on the master register.
- Add coordinates of residual risks to the master risk register. These will be linked to the BiM model. Details are provided in CSjv Utilities As-built Procedure to Satisfy HS2 Requirements 1EWo2-CSJ-UT-PRO-Sooo-ooooo2.
- Compile a consolidated RAG list from CSjv's designers.
- Provide bi-monthly feedback to CSjv's designers of any issues. Ensure designers consider prevention policies.

Action: LDT to update the master register with the above.

Action: LDT to update and re-issue this document every two months.

Action: CSjv to follow the requirements of the Construction Phase Plan (1Ewo2-CSJ-HS-PLN-Sooo-00003).