

# HS2

## Phase One Heritage Sub-group

London

17<sup>th</sup> September 2019

# Agenda

1. Welcome and Introductions
2. Landscape design, setting and design integration
3. Contractor reporting to LPAs
4. ADS Scoping Work
5. Investigating archaeological incidents
6. Archive Strategy update
7. Recent discoveries
8. AOB:



# HS2

## Landscape design, setting and design integration

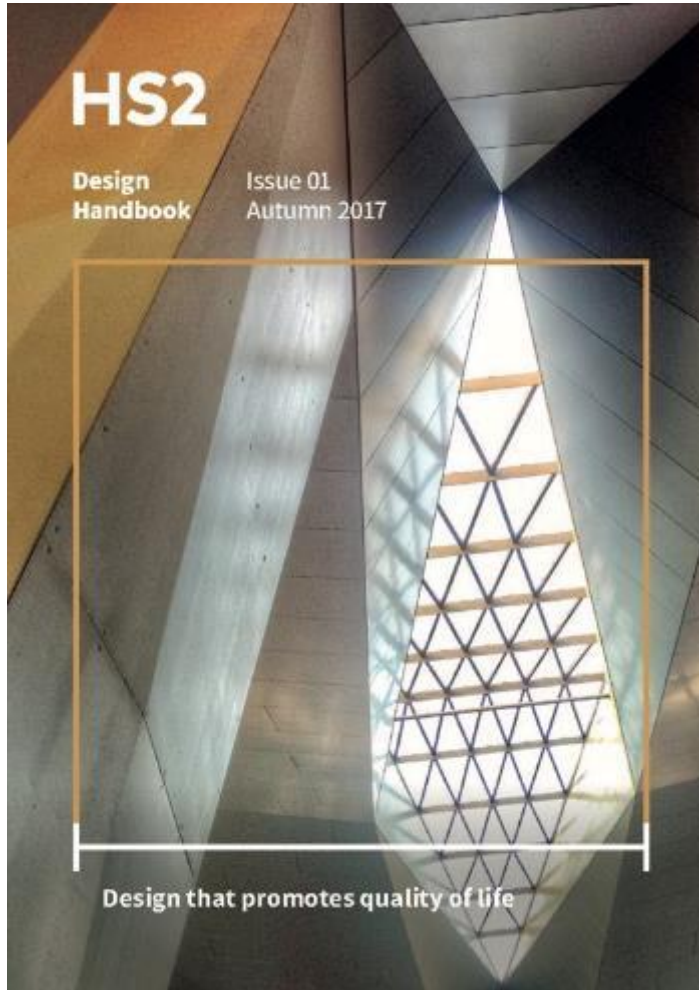
Heritage Sub-group 17.09.2019

# Agenda

- Approach - Landscape led design
- Rural Landscape
- Designed Landscapes
- Urban Landscape
- Green Corridor



# HS2 Design Vision



## People

Design for everyone  
to benefit and enjoy



## Place

Design for a sense  
of place



## Time

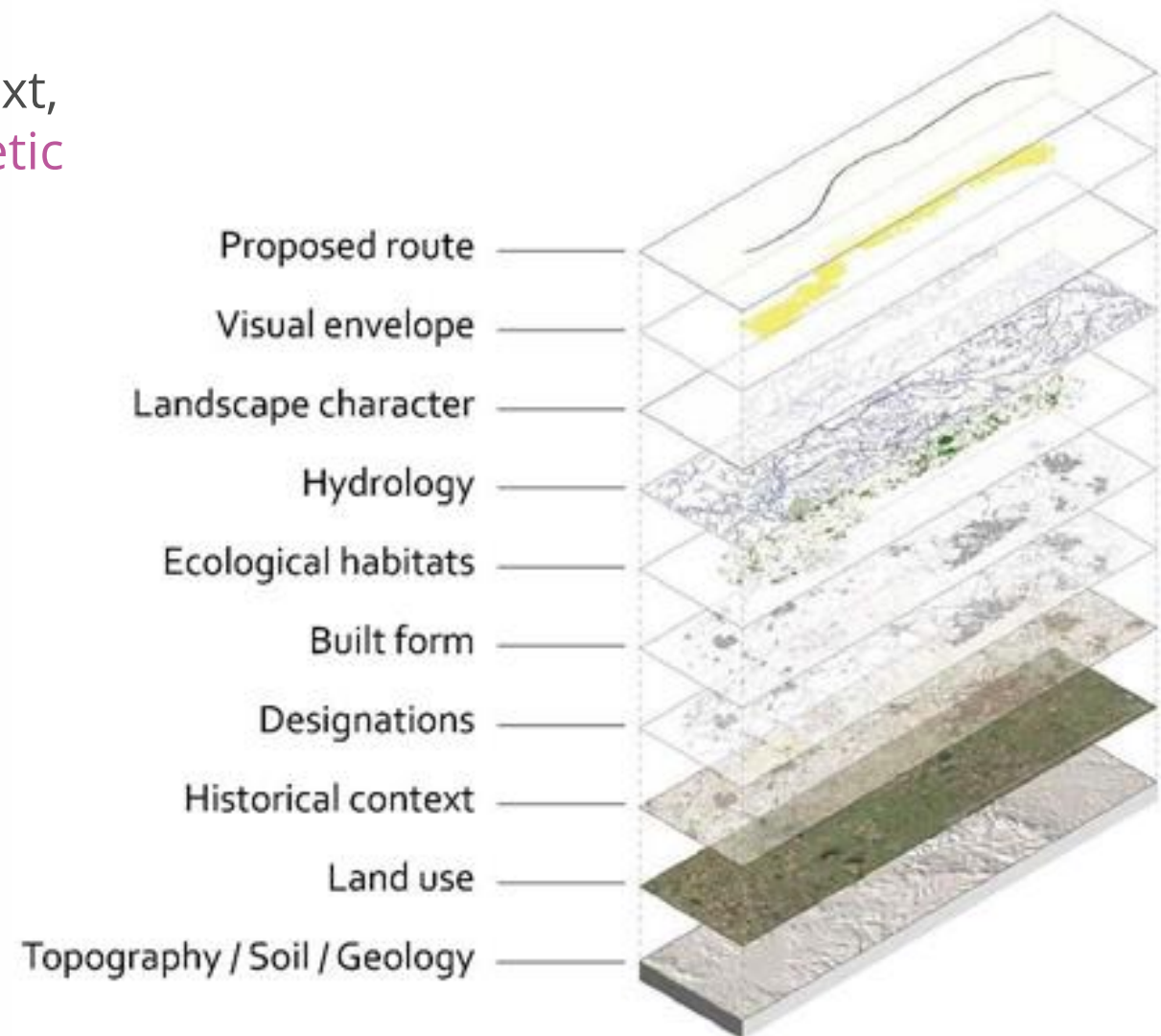
Design to stand  
the test of time

# Understanding Context

Knowledge of the landscape in its widest context, including the **natural, social, historic and aesthetic qualities**, shall guide and inform what is designed and planted where.

HS2's ambition is to create a landscape that is:

- **Supporting quality of life (people)**
- **Driven by local context (place)**
- **Resilient, robust and adaptable to environmental change (time)**



HS2

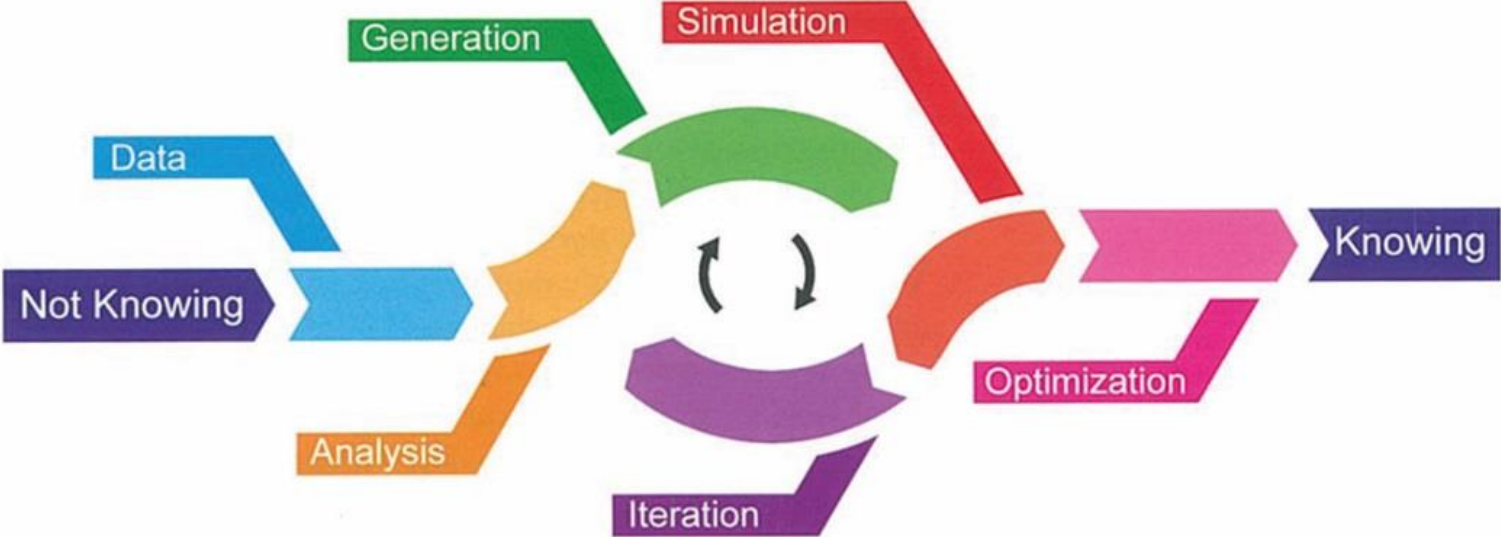
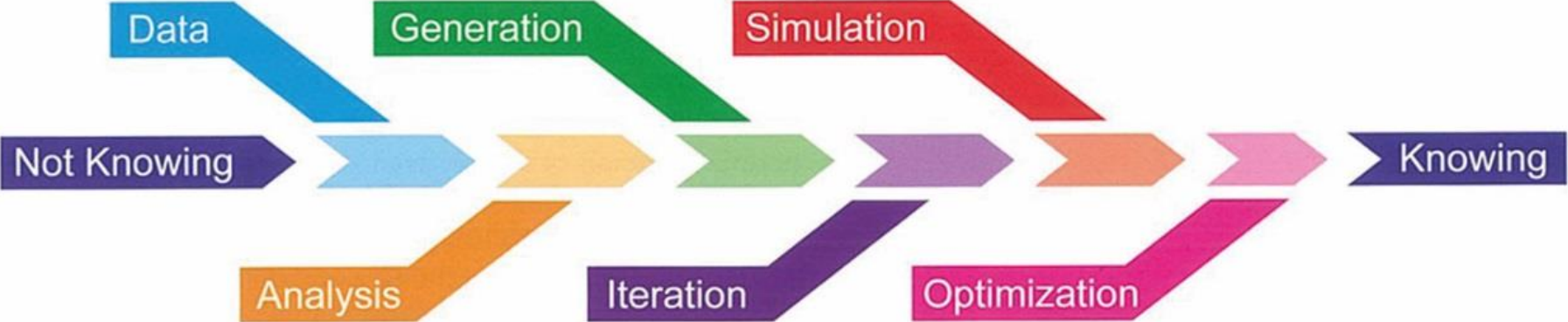
# LANDSCAPE DESIGN APPROACH

July 2016



- **Design approach** documents are a useful tool to set out design principles. Engage with the contractors to ensure they are understood
- At the Hybrid Bill stage, consider the landscape context and design in concept opportunities.
- Encourage a **positive design** approach
- Acknowledge **flexibility** in future design stages.
- Consider mandating use of a landscape designer in the **procurement** documentation

# Design





# Approach - Landscape led design

- **Lack of clarity on data exchange and sharing design ideas between Contracts can** lead to mismatched designs and duplication of effort.

## Consider:

- *Clarifying collaboration processes*
- *A common data environment*
- *Single client-side design lead with overall multi-disciplinary view and a lead contractor designer for coordination.*
- **Baseline environmental surveys completed too late to inform the emerging assessment / design.** Result in missed opportunities to reduce environmental impact.

## Recommend:

- *Surveys undertaken during the Hybrid Bill stage to inform the ES*
- *Early works package instructed to inform EW scope discussions with the EWC*



# Rural landscape - Landscape Design Approach

## Conserve



A sensitive high value landscape is likely to require a landscape design approach that creates significant screening and integration of HS2, but also develops measures that will conserve and enhance the overall landscape character.

## Enhance



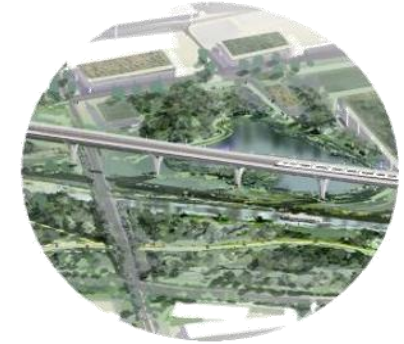
A landscape in which HS2 may be potentially highly visible is likely to require a bold landscape design approach to create effective screening and integration, but also gives the opportunity for enhancement of local landscape character.

## Restore



HS2 may traverse a landscape that has lost or is losing original features and qualities that provided its intrinsic landscape character. The opportunity is to restore and significantly improve existing landscape character.

## Transform



Some areas through which HS2 is planned may be in very poor landscape condition. The opportunity for HS2 bringing transformation and wide reaching positive landscape change may occur both in rural and urban locations.



# Rural landscape - Landscape Design Approach

## Support local economies

Woodland planting to integrate railway could also be locally managed as coppice woodland, which respects historic landscape character and traditional woodland management

## Positive use of excavated materials

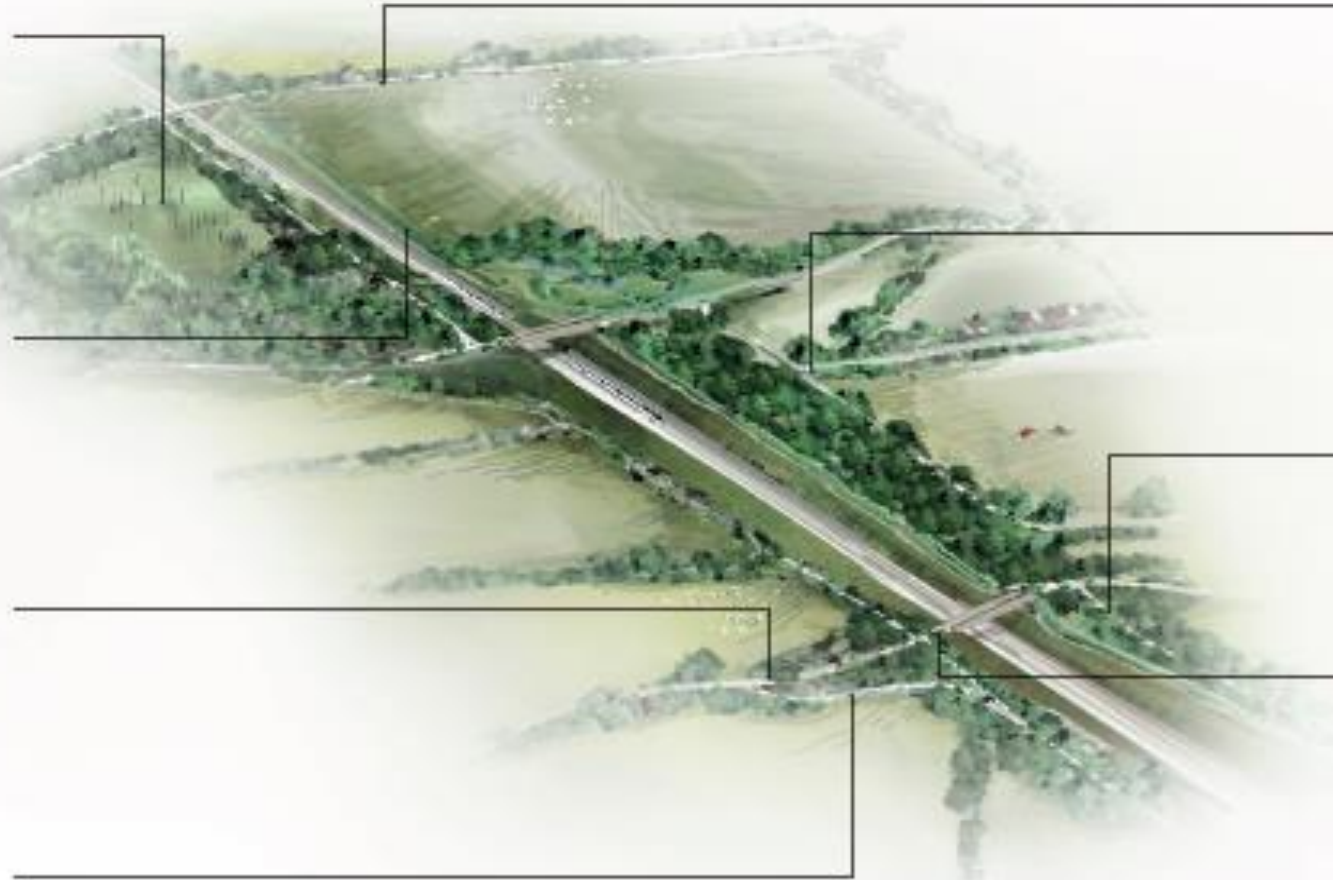
Excavated material carefully designed to screen views of HS2 from local receptors, and returned to agriculture. Contouring to be natural and reflect the character of local topography

## Community and visitor features

Earthwork and planting features that can provide landscape enhancement and HS2 observation areas for the community and visitors.

## Promote local walking & cycling network

Provide opportunities for enhancing health and wellbeing in publicly accessible areas. Look to recreate local landscape features



## Conserve or enhance local landscape character

Hedgerows with tree species reinstated and enhanced to reflect landscape character and reconnect locally fragmented planting areas

## Access

Severed routes will be reconnected and integrated into wider access networks

## Planting character

Planting area to be shaped to respond to the scale and character of local planting and earthwork patterns

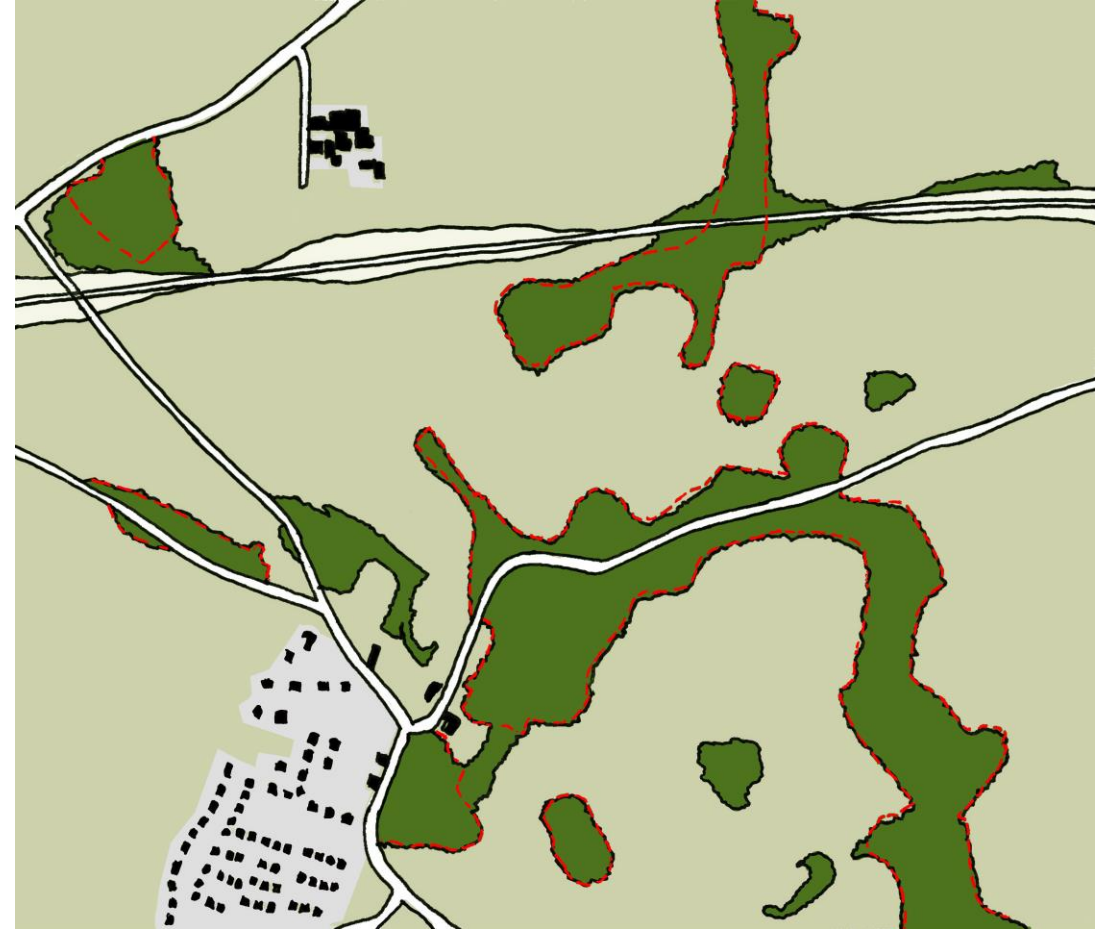
## Positive integration of structures

Earthworks and large scale planting used to integrate realigned bridge structure with the local landscape



# Rural landscape – Follow historical precedent

- Where practicable, the scheme design has looked at historical precedent (OS maps) for accommodating mitigation planting
- Better integration with Landscape character
- Avoid incongruous planting in the landscape
- Ensure that planting design doesn't inhibit the activities of farmers and landowners



# Rural Landscape – Consider character

A wide variety of woodlands, trees and hedgerows are to be surveyed to understand how they are affected by proposed works.

HS2 has designed a bespoke survey standard to efficiently record existing vegetation.

- All trees over 75mm girth including Veteran Trees
- Tree Groups
- Hedgerows
- Woodlands

# Rural Landscape - Planting and Maintenance

- On HS1, sheep have been used for grazing / cutting of grass in some steep areas,
- Part of HS1 management of rabbits has been to use licensed ferreters in maintenance plans
- Trains from France have been spreading schedule 9 weeds on the trace (e.g. Buddleia)
- Weed spraying of track bed walking route (cess) may be required. HS1 used Kawasaki ATVs but issues with line side infrastructure creating obstructions to vehicle movements. Minimise knapsack spraying
- If providing formal hedging, ensure access for side-arm flail or similar
- Tubex guards were not used for aesthetic/visual reasons – instead used thousands of mesh/spiral guards and miles of rabbit mesh. If use Tubex, ensure budget allocation in future years for removal

# Rural Landscape – HS1 Mersham Green Bridge (East of Ashford)



C13<sup>th</sup> Church of John the Baptist – Grade 1

2002 at completion of construction works before establishment of planting - footpath follows tracks

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# N Downs Tunnel : construction + reinstatement



Construction impact to chalk Downs



North Downs context and reinstated site





# N Downs Tunnel : 'Country Portal' Blue Bell Hill



Photo taken Summer 2003



Numerous fencing runs around portal; some requested by Structures Examiners following their annual inspection

# Designed landscapes – Hartwell House RPG

## Historical Landscape Information



DCLA sketch:  
Field boundaries and trees shown  
on first edition O.S. 1877



O.S. 1877  
(supplied by DCLA)



## Hartwell House landscape design

Views from public access points

Landscape marking medieval routes to be retained

Historical landscape boundaries to be restored with additional tree and hedge planting

Existing historical landscape boundary to be strengthened with additional hedge planting

Tree clusters formed around existing mature trees or to be planted in historical cluster locations

Hartwell House

# Designed landscapes – Hartwell House RPG



**Tree Avenue**

**PROW, Rifle Spinney**

**Boundary Wall,  
Tree Belt**



**Tree Avenue**



**View retained to St Mary's Church**



# Urban Landscapes

Curzon Street Station site, Birmingham

# Urban landscape - integration

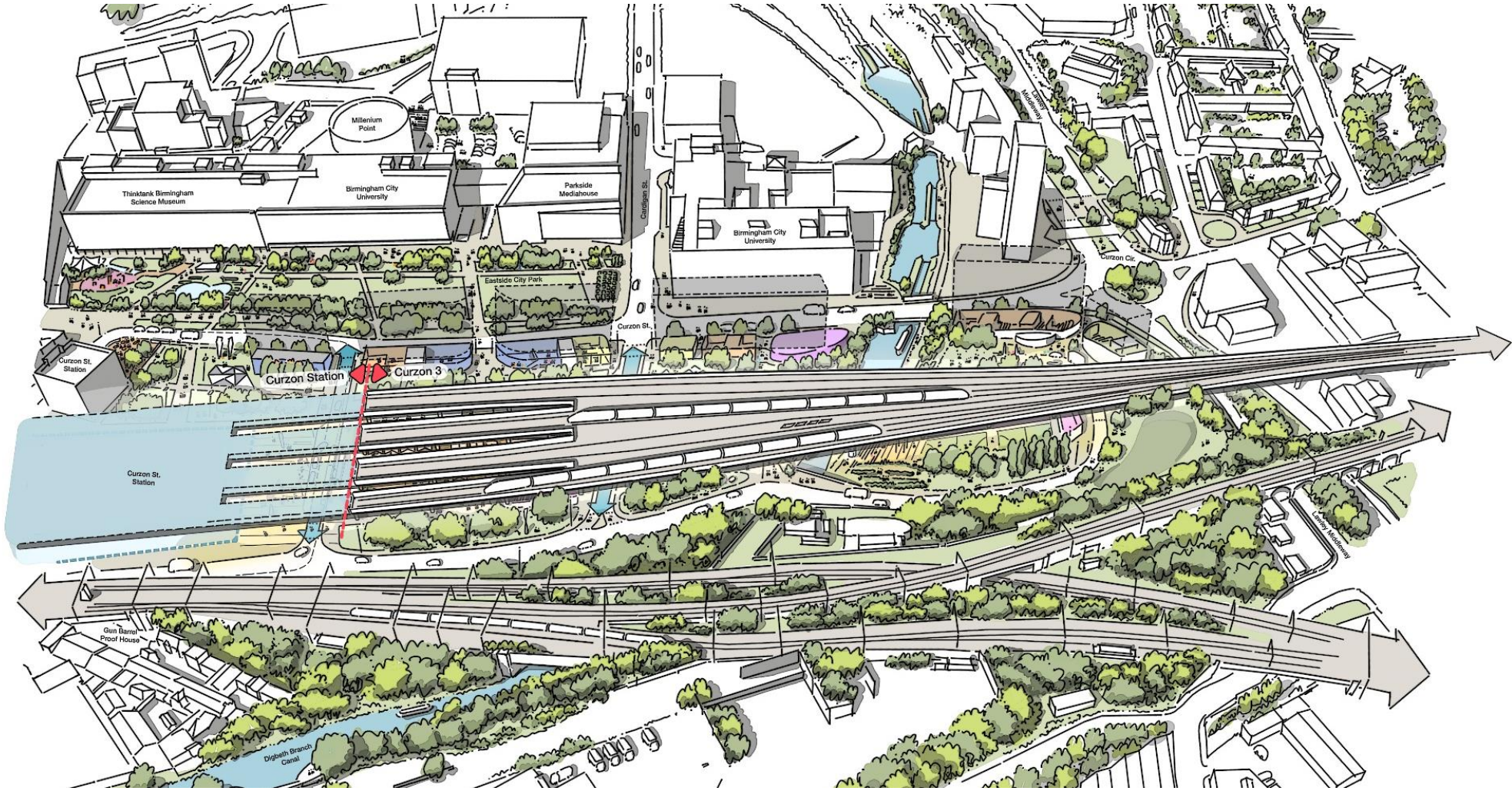
## Birmingham Curzon Street Urban Regeneration



This display shows examples and precedents of opportunities for regeneration around the new Birmingham Curzon Street Station.

These are not all in HS2 scope, but we will be facilitating Birmingham City Council's aspirations.

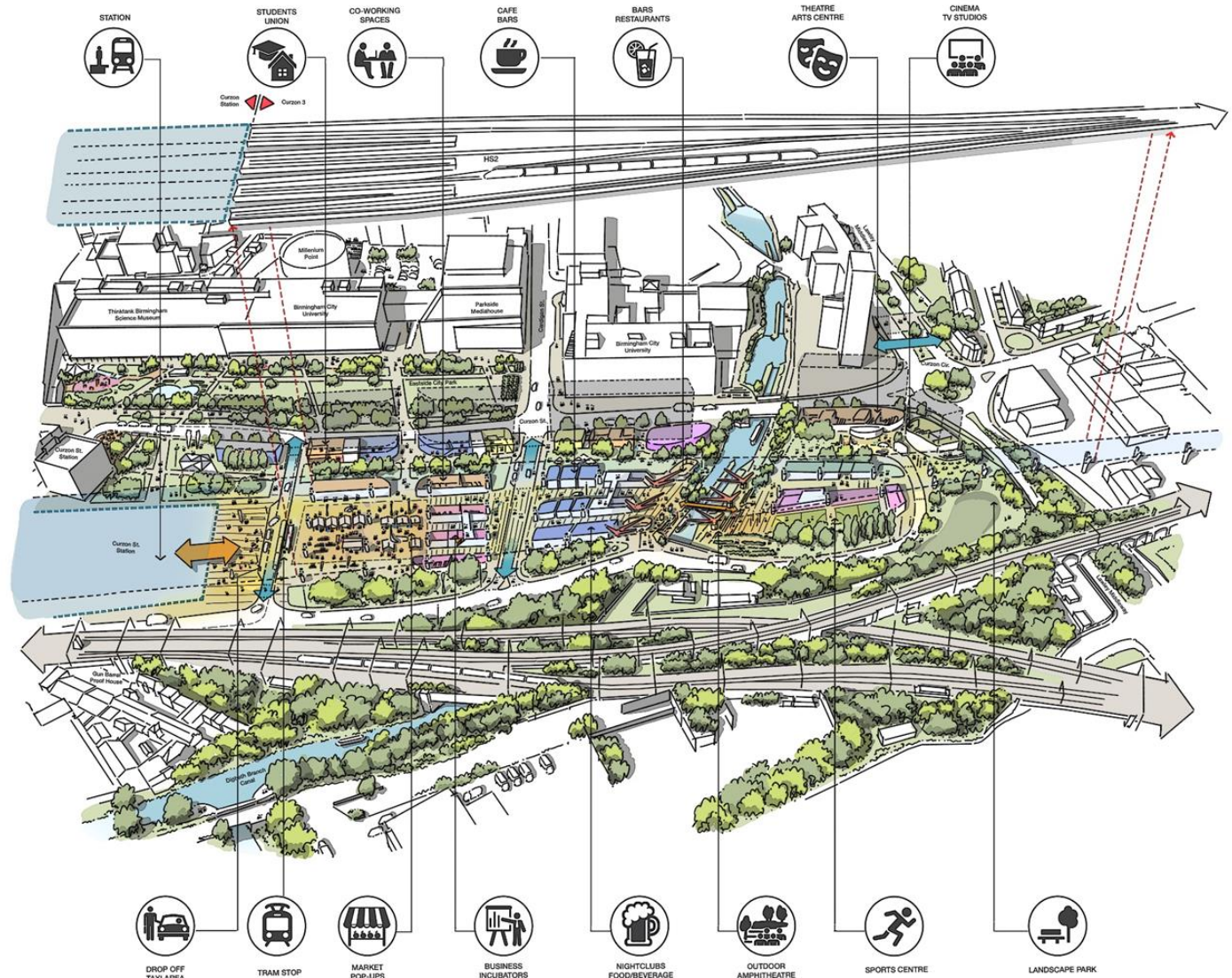
# Urban landscape - Curzon Street viaduct vision



# Viaduct Vision

## Four Potential Threads:

- Creating a **Leisure Destination** serving the local community including students (Cafes, Bars, Restaurants, Clubs, Markets, Pop-ups)
- Establishing a C21st **Maker Community** (Digital Fabrication Laboratories, Business Incubators, Co-working spaces)
- Establishing a new **Music and Arts Hub**
- Providing community **Sports Facilities**



# Lessons identified by the Design Panel

## Project Observations

- **Design ambition / place-based approach**
- **Holistic Landscape approach**
- **Procurement**
- Urban integration / beyond the red line
- Community engagement / education
- Communication / specimen designs
- View from the train
- Design champion

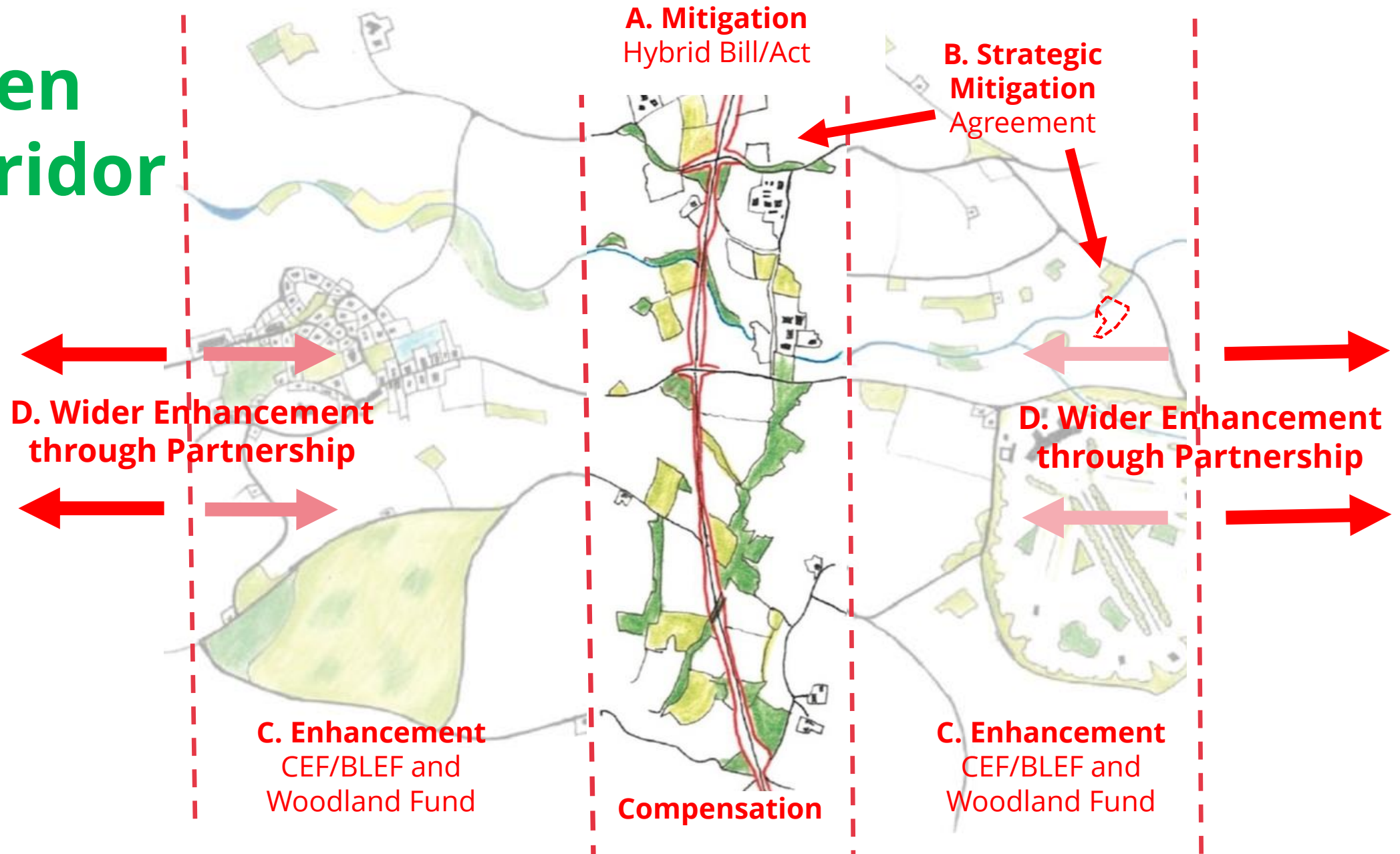
## Using the Design Panel Effectively

- Engage early enough so design can still be influenced
- Formal design reviews supported by informal mentoring sessions
- The red phone











# Green Corridor



# Green Corridor HS2 Phase Opportunities

	Mechanism	Phase 1	Phase 2a	Phase 2b
<p><b>Band A: Mitigation</b> to be delivered through the Hybrid Bill</p>	<p><b>Compulsory Acquisition</b> Land returned with covenant</p>			
<p><b>Band B &amp; C: Strategic mitigation</b> not able to be delivered through the Hybrid Bill</p>	<p><b>By agreement</b> Landowners' Covenants</p>			
<p><b>Band C: Enhancement</b> opportunities within and beyond the red line</p>	<p><b>Funding</b> CEF/BLEF</p>			

# Green Corridor

## 1: Urban green infrastructure:

- Greens, pocket parks
- Urban wildlife sites, spaces for nature

## 2: Heritage enhancement:

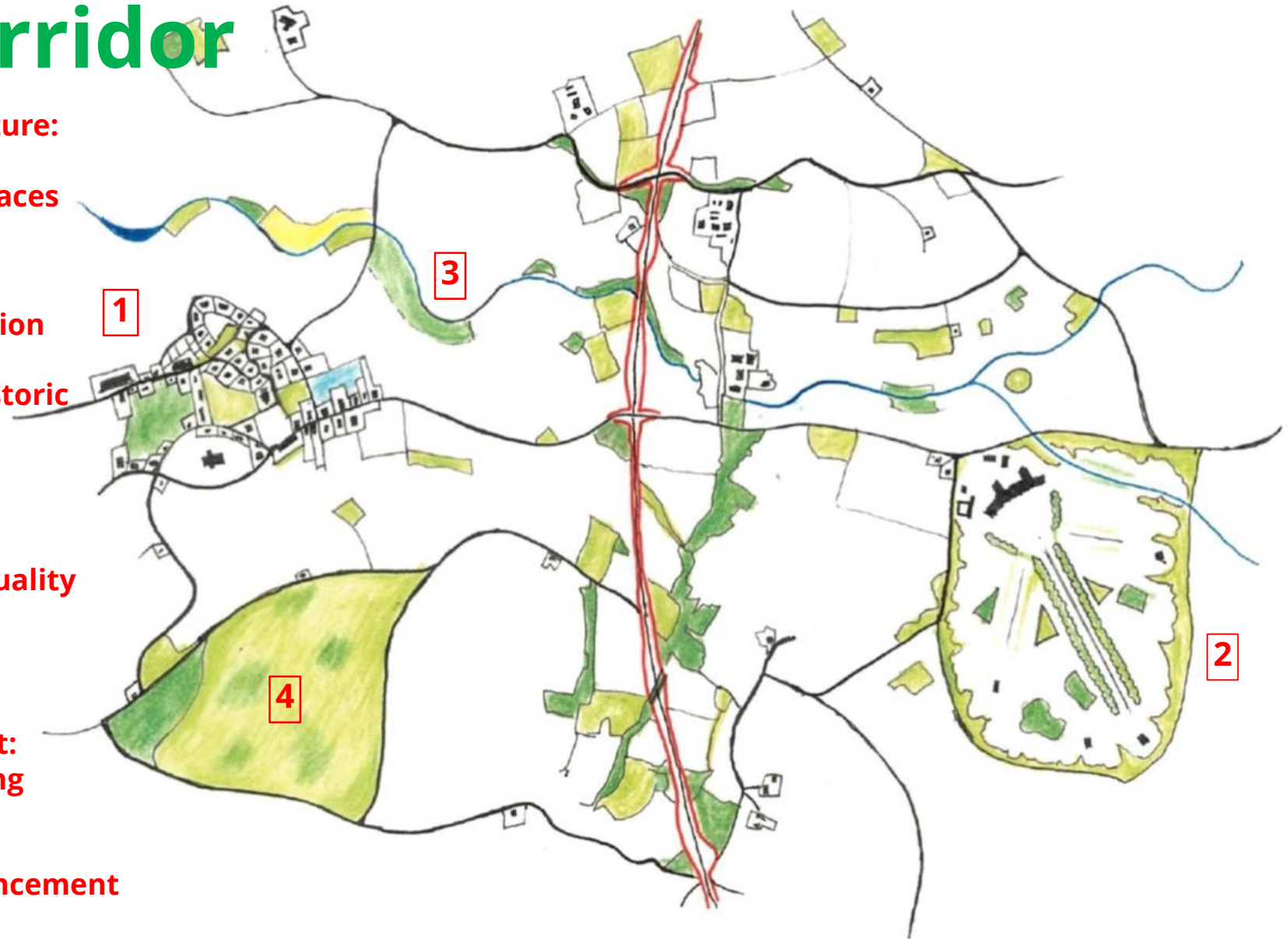
- Enhancement/restoration of parks and gardens
- Improved setting of historic sites & monuments

## 3: Water enhancement:

- Improvement to watercourses, water quality
- Flood attenuation
- SuDS schemes

## 4: Ecological enhancement:

- Improvement to existing wildlife sites
- Woodland creation
- Habitat creation/enhancement



# HS2

## Archaeological Data Service

# OASIS

- The HSG has previously queried provision of HS2 reports to OASIS
  - Contractors are instructed to upload OASIS reports, for validation by the HER/HE. This has not always been happening.
  - HS2 and ADS have written guidance to coach contractors to ensure HS2 fieldwork reports are clearly identifiable, and OASIS entries are consistent
  - HS2 sites will be prefixed by 'HS2' included in the site name.
  - Several OASIS fields (including 'project funder') will be defined as 'HS2' to further support identification.
-

# Digital Archiving

- HS2 only requires a part of the data produced by our contractors
- We are working in partnership with the ADS to define what of the remaining data should be discarded, and what should be archived.
- The ADS has met with our contractors to assess the scale of the digital data and are drawing up the terms of an agreement for archiving.
- There will be a dedicated space on ADS for HS2



# Digital Archiving Procedure

- In order to align the ADS work with our contractors work, the ADS will be reviewing and re-issuing our Digital Archiving Procedure
- This is the technical standard that defines the process of transferring archives to the ADS, and the metadata, formats and other fields that structure the archive
- To be delivered early 2020



# HS2

## Investigating archaeological incidents

Heritage sub-group SEPTEMBER 2019

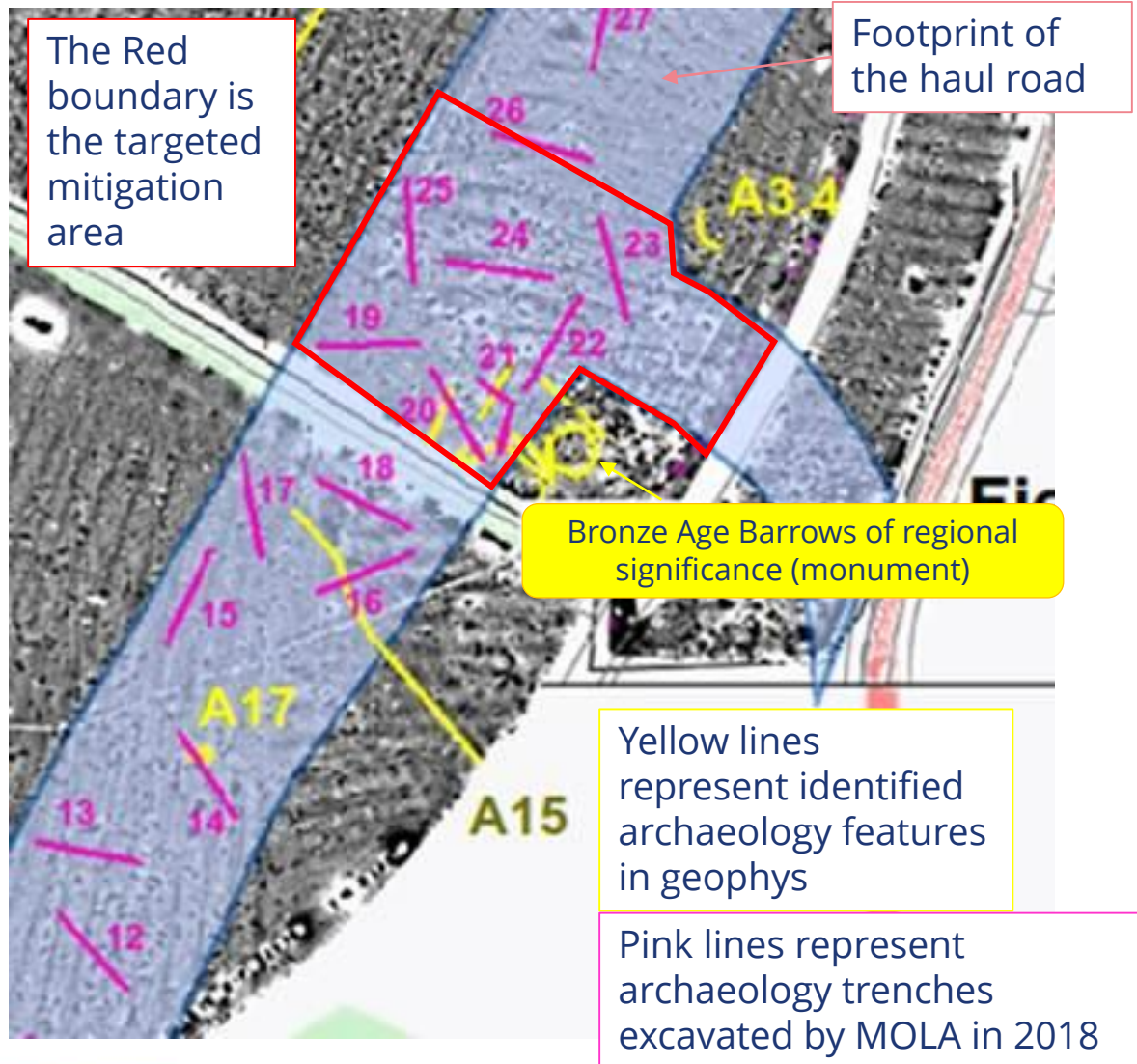


# Executive Summary I

- Following the incident that was raised on HORACE as a level 4 incident in 28-Feb-19 which has been escalated on the 31-Jul-19 to a level 2 event.
- There has been partial damage of archaeology remains of regional significance during excavation of the top / sub soil layer to enable the construction of the DC3FGH Chipping Warden Road Relief Scheme. These remains had been identified as requiring further recording prior to construction. This is a non-compliance with the project EMR's and Code of Construction Practice.
- The conclusion of the investigation is that damage of the archaeology was directly caused by non-application of the procedures in place, which are deemed fit for purpose, but were unintentionally partially omitted. The main root causes contributing to non-application of the procedures are lack of understanding of the HERDS Process by the delivery team, poor integration of HERDS in the safe systems of works and lack of communication at all levels.
- According to the above the main areas of improvement proposed are reinforcing HERDS requirements through existing systems of work and processes, improve Fusion internal communication and coordination, increase awareness on HERDS and streamline the HERDS process which may be too complex for non-specialist staff.



# Executive Summary II - Direct implications



**Total area targeted for mitigation:** reduction from originally 7500m<sup>2</sup> (red boundary) to 3055m<sup>2</sup>. The de-scoped area was confirmed not to be impacted by subsequent construction works.

**Area damaged** – circa 1863m<sup>2</sup>

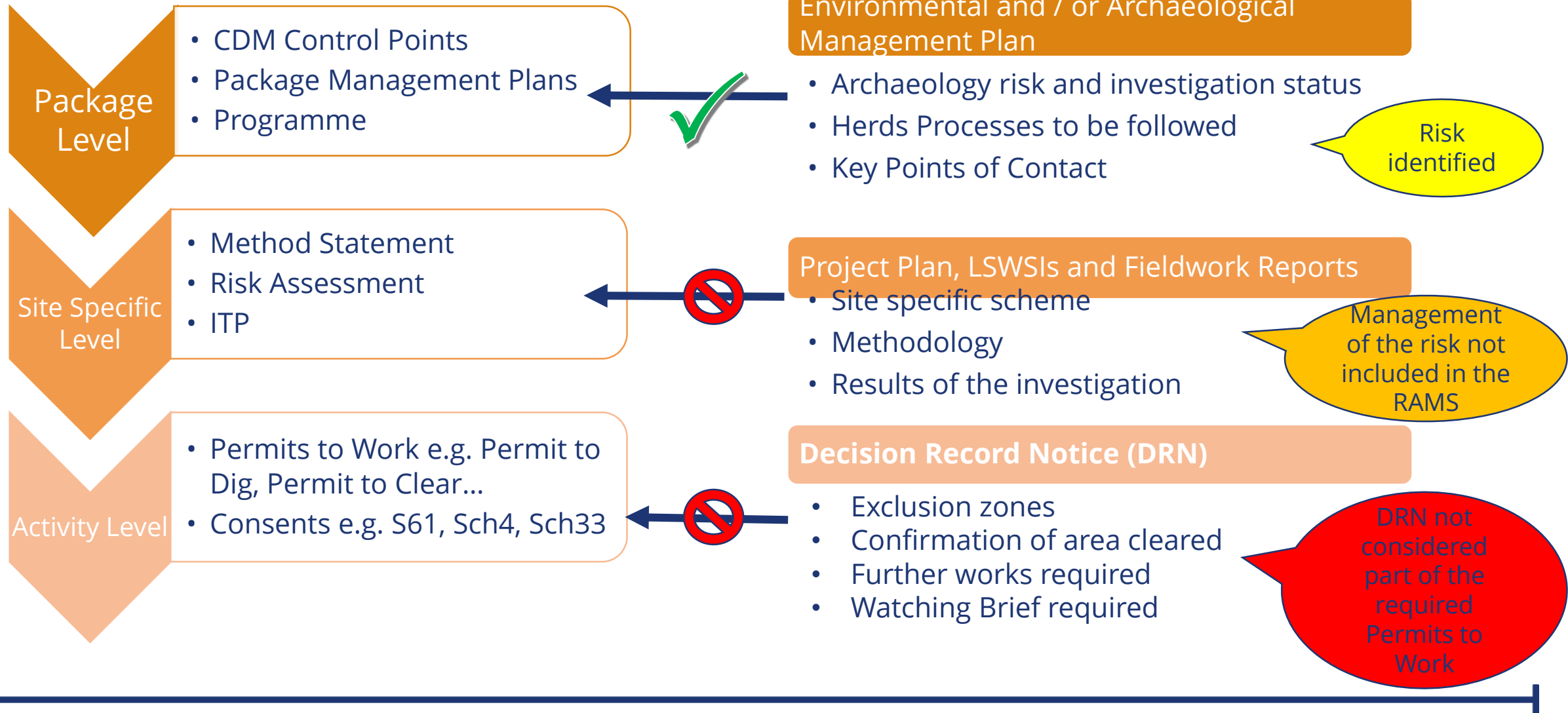
**Depth of the damaged area** approximately 600mm.

Archaeological features of regional significance have been damaged between Trenches 20-22. Although this area had been heavily impacted upon by the WWII impacts (blue area), Dawnus caused further impact on the archaeology remains leading to a 100% loss (red and green area). Fusion were not aware of the WWII impacts prior to the mitigation works.

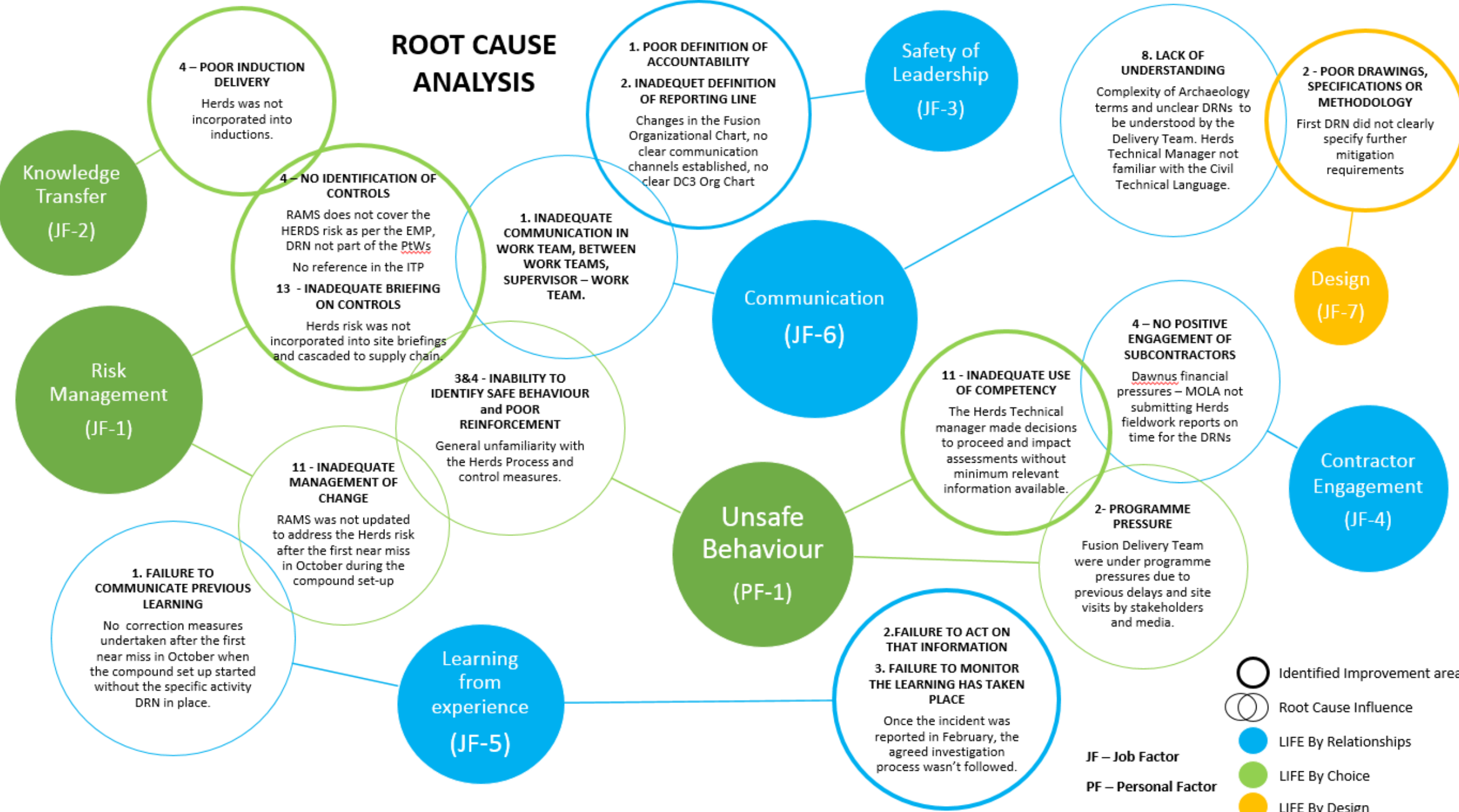
# IMMEDIATE CAUSE OF ACCIDENT – PARTIAL OMISSION OF THE HERDS PROCESS WITHIN THE SAFE SYSTEMS OF WORK

## Safe System of Works - Procedure

## HERDS Process



# ROOT CAUSE ANALYSIS



Identified Improvement area  
  Root Cause Influence  
 LIFE By Relationships  
 LIFE By Choice  
 LIFE By Design

**JF – Job Factor**  
**PF – Personal Factor**

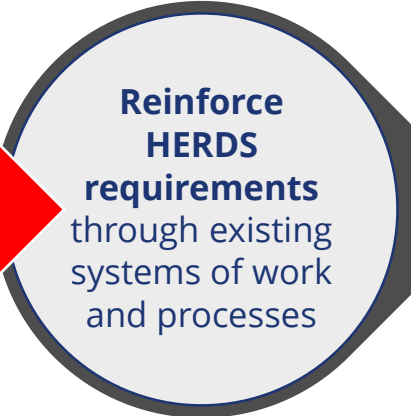
# IMPROVEMENT AREAS - Recommendations

**IMMEDIATE**  
**06/09/2019**



- Review of DRNs and RAMS
- Org Chart update
- Briefing on HERDS

**INTERIM**  
**04/10/2019**



- CP5 and CP6 Hold Points
- Archaeology Management Plan
- RAMS
- DRN as a PTW
- ITP
- Incorporate HERDS into handover forms to other contractors



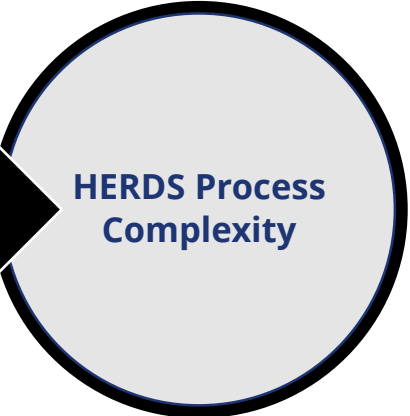
- Brief latest Fusion Org Chart
- Establish reporting lines

**LONG TERM**  
**18/10/2019**



- Incorporate HERDS into Environmental Induction
- Tool Box Talk on HERDS Process
- Increase Team engagement by sharing the history of our sites
- Lessons Learned distribution

**LONG TERM**  
**29/11/2019**



- Possibilities to make it more simple and flexible
- Review the format of the DRNs



# Sub-group sharepoint

- Code 1 (HS2 signed-off) project plans, LS-WSIs, DDBAs and fieldwork reports
  - Contact HS2 historic environment team if a document is missing
- Login-in using the details provided. If in doubt contact HS2 historic environment team
- Lengthy periods without access result in an account being disabled



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2017 Technical Standards	August 4, 2017	Michael Court		
<b>Construction phase</b>	May 26, 2017	Michael Court		
Documents for HS-G Consultation	August 25, 2015	Michael Court		
Heritage Sub-Group Uploads	August 25, 2015	Michael Court		
HS-G Admin	August 25, 2015	Chris Jordan		
Pre-Royal Assent County Specific Documents	July 28, 2017	Michael Court		
Routewide Documents	August 25, 2015	Michael Court		
Presentation	February 2, 2018	Anna Stocks (WARWICKDC)		34 KB



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<b>Buckinghamshire</b>	May 26, 2017	Michael Court		
Heritage Memorandum programme of heritage investigation and recording works	August 14, 2017	Michael Court		
Hertfordshire	May 26, 2017	Michael Court		
London	May 26, 2017	Michael Court		
Northamptonshire	May 26, 2017	Michael Court		
Oxfordshire	May 26, 2017	Michael Court		
Routewide	July 27, 2017	Michael Court		
Staffordshire	May 26, 2017	Michael Court		
Temp file transfer	July 27, 2017	Michael Court		
Warwickshire	May 26, 2017	Michael Court		

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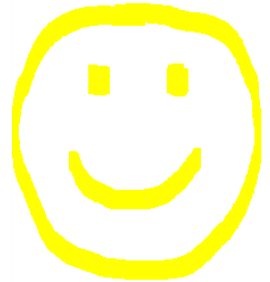
# Heritage Construction phase > Buckinghamshire

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Name	Modified	Modified By	Checked Out To	File Size
DBBAs	May 26, 2017	Michael Court		
Fieldwork reports	May 26, 2017	Michael Court		
LS-WSIs	May 26, 2017	Michael Court		
Project plans	May 26, 2017	Michael Court		
2018_LSWSI_GEOPHYS_BUCKS_DURHAM FARM and WENDOVER DEAN FARM	February 4	Nick Shepherd		3491 KB
2018_LSWSI_GEOPHYS_BUCKS-OXON_7 locations	February 4	Nick Shepherd		7845 KB
2018_LSWSI_TT_BUCKS_MILL HOUSE FARM STOKE MANDEVILLE	February 4	Nick Shepherd		10480 KB

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# HER update

- New heritage data manager being recruited
- Accepting correct spatial information from contractor
  - Then uploaded onto our internal GIS system and therefore visible on the HERDS digital platform to our stakeholders
- Discussion with HERs via Heritage Sub-group HER contact, to understand what information HERs need
- HER data packages can then start being delivered to the local authorities

