Consultation 2026

Bletchley Train Maintenance Depot Option Selection Report.

April 2026

Context for this report

Facilities to stable and maintain trains are essential to the operation of a reliable, punctual and high-quality railway. This includes depots where train cleaning and routine checks can be carried out as part of an efficient train maintenance programme.

A train maintenance depot (TMD) brings together all the functions needed to maintain, service and house trains in one place. It therefore requires a large area of land, incorporating train stabling sidings, a large maintenance workshop building, train servicing equipment and associated infrastructure to support both day-to-day and specialist maintenance activities.

We previously considered whether we could use or modify the existing train maintenance depot in Bletchley. However, we concluded there is insufficient space in the existing Bletchley depot for the number of trains needed to be stabled and maintained for East West Rail. We therefore undertook a detailed options analysis to identify a preferred site for a new facility.

We've carried out a comprehensive option selection process using a range of criteria known as Assessment Factors. They provide a consistent framework for decision-making on design options and a robust basis for identifying preferred options. The appraisal against these criteria is detailed in the following report, which was used to determine the preferred location for the proposed TMD at Bletchley West. This report has been shared with some of our stakeholder previously, following which some sections have been updated. This includes adding reference to the 'made' Mursley Neighbourhood Plan, corrections to the stated carbon figures and corrections to the water courses identified at the assessed sites.

The option selection process was undertaken based on a typical depot layout, with the stabling and workshop buildings positioned towards the eastern end of the site. The next phase of design development will consider how the depot facilities will be orientated at the preferred Bletchley West location, which could include positioning facilities towards the western end of the site. We presented these proposals as part of Design Update Sessions held in the local area in January 2026. Feedback received at these events and in response to the consultation will help us refine our plans.

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Executive summary

The Train Maintenance Depot (TMD) is a key facility for the efficient operation of the East West Rail (EWR) passenger service. It provides overnight stabling along with facilities for the completion of all maintenance, daily servicing and cleaning activities on the EWR passenger rolling stock fleet. The TMD will be supported by a Light Maintenance Depot (LMD) and stabling sidings positioned strategically for use by EWR passenger rolling stock.

The purpose of this report is to summarise the outcome of the Assessment Factors process that was applied to determine the proposed location of the TMD. The selection of the preferred TMD site as part of the assessment factors process has resulted in two rounds of review. These are detailed sequentially within this report.

A long list of locations for a TMD were initially identified along the route, focusing on land outside of built-up areas with sufficient space adjacent to the railway to accommodate the TMD facilities and reception road required for trains entering and leaving passenger service.

Initially a generic TMD layout was developed to evaluate potential locations identified along the EWR route. High-level multi-discipline reviews of these locations were completed to determine a short list of locations for further review through the initial Assessment Factors process.

The initial review was completed on a short list of locations in the East and in the West separately, as identified below:

Western Locations:

- Site WF2 East of M40
- Site WH2 East of Bicester Road
- Site WQ West of Whaddon Road

Eastern Locations:

- Site ED South of Potton Road
- Site EG2 North of St Neots Road

The separation of the review between East and West was due to the requirement to provide a possible location at either end of the EWR route.

The result of the initial Assessment Factor identified Site WF2 East of M40 as the preferred location.

Following further detailed investigation and engagement with utility companies and surrounding receptors of Site WF2 East of M40, additional factors were identified which were

judged to impact the initial review. Additionally, a strategic decision to locate the TMD in the west of route to support the testing and commissioning of new trains was made.

Therefore, a further Assessment Factors review was completed to compare the top two performing locations in the West; Site WQ West of Whaddon Road and Site WF2 East of M40.

The further Assessment Factor review resulted in Site WQ West of Whaddon Road being identified as the preferred TMD location for EWR operations due to it scoring more favourably than Site WF2 East of M40. The differing factors following this further review included:

- A reduction in maintenance costs for Site WQ West of Whaddon Road. This is due to the additional trackwork required for the Site WF2 East of M40 for the reception roads,
- For Railway operations there are improvements for the majority of categories for Site WQ West of Whaddon Road. This is due to the constrained nature of the Site WF2 East of M40 site requiring additional reverse moves compared to Site WQ West of Whaddon Road which offers an improved operational layout. As the freight need across the project has developed this has shown a potential improvement for the use of Site WQ West of Whaddon Road in adapting to freight changes in the future.
- There is an increased complexity of delivery for Site WQ West of Whaddon Road due to the extent of additional adjacent track work required for the reception road but an improvement in delivery programme due to the risk associated with third party utilities at Site WF2 East of M40 when compared to the habitat relocation required for Site WQ West of Whaddon Road.
- There is an improvement for Environment assessment overall for Site WQ West of Whaddon Road due to the impact of Site WF2 East of M40 on the Scheduled Monument and flood risk, in comparison to Site WQ West of Whaddon Road's impact on the residential receptors as part of the future adjacent development.

This preferred location of the TMD in the West drives the need for an LMD in the East along with strategic stabling locations. A separate study is to be completed to evaluate the potential LMD and Stabling options and subject those potential locations to a separate assessment factor process.

1. Abbreviations and Descriptions

Table 1: Abbreviations and Descriptions

Abbreviation	Description
AF	Assessment Factors
AQMA	Air Quality Management Area
BNG	Biodiversity Net Gain
CEMP	Construction Environmental Management Plan
CET	Controlled Emissions Toilet
CoCP	Code of Construction Practice
DCO	Development Consent Order
ECS	Empty Coaching Stock
EWR	East West Rail
FCA	Flood Compensation Area
GHG	Greenhouse Gases
HER	Historic England Records
KSA	Key Strategic Assumptions

LMD	Light Maintenance Depot
MOD	Ministry Of Defence
MRAO	Mullard Radio Astronomy Observatory
MWJV	Mott MacDonald WSP Joint Venture
NHL	National Heritage List
PRoW	Public Right of Way
RRAP	Road Rail Access Point
SO	Strategic Objective
TMD	Train Maintenance Depot
TO	Task Order
TP	Technical Partner

2. Scope

2.1 Introduction

The purpose of this report is to summarise the outcome of the Assessment Factor process that has been applied to determining the preferred location of a Train Maintenance Depot (TMD) for East West Rail (EWR). It summarises the work that has been completed to date and identifies the preferred option. Two rounds of Assessment Factors were undertaken as additional impacts were identified after the conclusion of the first. These are detailed sequentially within this report.

The Assessment Factors are a set of topics which are aligned with the Project objectives and requirements to enable the relative performance of options to be compared against a design baseline or comparator. They provide a consistent framework for decision-making on design options and a robust basis for identifying preferred options.

Each Assessment Factor topic includes a number of supporting considerations. Each of these considerations is individually examined against a baseline/comparator by a suitably qualified and experience subject matter expert. These are then compiled into the overall assessment and considered by a multidisciplinary project team by means of a consistent approach and to develop a consensus as to the preferred option(s).

Further information about the Assessment Factor process can be found in our Assessment Factors factsheet, here: eastwestrail.co.uk/consultation2024/assessment-factors-factsheet.

As part of the EWR scheme, new rolling stock is planned to be purchased to run the new passenger service, which will require maintenance and stabling facilities. This Option Selection Report concentrates on the TMD that would be the main location at which the majority of the passenger rolling stock fleet would be stabled whilst not operating in passenger service. It would also be the location at which all maintenance activities are completed such as component changes and regular exams undertaken in the maintenance workshop, along with daily servicing completed in the stabling area.

To support the activities completed at the TMD, and also allow for the reduction of empty train movements prior to and after passenger service, other facilities are proposed for the overall stabling of the EWR fleet. These will include a Light Maintenance Depots (LMD) and stabling sidings. The locations of these are to be determined through a separate search and assessment factor process. The LMD shall provide daily servicing facilities such as toilet tank emptying (Controlled Emissions Toilet – CET) and consumable replenishment while the stabling sidings could provide overnight stabling and internal cleaning of the trains.

2.2 TMD Overview

The TMD for EWR rolling stock will be a dedicated 24-hour operational maintenance and servicing facility operated seven days per week/365 days per year connected to the route allowing trains to enter and leave passenger service.

The TMD will contain a number of facilities and undertake multiple functions within the same site, including:

- Automatic Vehicle Inspection System (AVIS)
- Train wash/wash plant
- Train stabling
- Maintenance workshop building
- Wheel lathe building
- Site lighting
- Roadways and walkways
- Fencing and security
- Office and welfare facilities

These facilities and functions are described in more detail below:

Automatic Vehicle Inspection System

On entry to the TMD, trains could pass through an automatic vehicle inspection system (AVIS). This facility could contain equipment to scan the trains to measure wheel diameters, brake pad thicknesses, pantograph wear and visual checks for damage. This would provide a non-intrusive verification of the train condition, safety and reliability to determine whether additional intervention would be required outside routine maintenance.

Train wash/wash plant

This facility could be approximately between 20m (21 yards) and 60m (65 yards) in length. It houses washing equipment to clean the exterior of trains as they pass through, either on arrival or departure to or from the TMD. Cleaning of each train can be in the region of three to five minutes, and the facility is designed to provide a water recycling. The associated plant room contains detergent tanks, recycled water tanks, control equipment and pumps.

Maintenance workshop building

The size of the maintenance workshop building would up to approximately 200m (218 yards) by 50m (54 yards), and 10m (32 feet) high depending on the roof profile. Maintenance tracks would run through the workshop for the purpose of:

- Inspection of the trains, using non-specialist tool activities to check components and general fault finding.

- Light maintenance, consisting of intrusive activities from within the pitted area between the train, internal to the train or on the roof via a high-level platform.
- Heavy maintenance, including intrusive activities mainly involving specialist handling equipment, plant to remove underframe equipment and a crane for removal of roof mounted equipment.
- Ancillary workshops for working on components and equipment removed from the trains.

Wheel lathe building

Train wheels wear down during their life and require reprofiling using a wheel lathe. This cuts away metal from the wheel to reprofile it for consistent contact between the wheel and tracks. The size of the building housing the wheel lathe would be in the region of approximately 50m (54 yards) by 20m (21 yards), and 10m (32 feet) high, of similar construction type to the maintenance workshop building, and can be connected to it. This would be one of the noisiest pieces of equipment within the TMD, generating up to 80 decibels (dB) for periods of up to one hour per set of wheels (axle).

Train stabling

Once the train passes through the wash, it would proceed on to the stabling sidings where it would be stabled for the night. The size of the stabling sidings would be determined by the EWR rolling stock fleet. Whilst stabled, staff can complete the routine servicing activities required. These activities would include:

- Screen wash replenishment – Dispensing locations would be provided along the stabling for the replenishment of the screen wash tanks on the trains.
- Sanding replenishment – Dispensing locations would be provided to refill sand boxes on trains to enable later operational dispensation to improve traction between train wheels and track.
- Controlled emission toilet (CET) tanking and water replenishment – Toilets on the trains would need to be emptied on a regular basis and water tanks refilled. Stations would be located along the length of the stabling to enable this.
- Front end cleaning – There is a requirement to manually clean the front ends of trains so that the train driver's vision is not obscured during operation. Equipment would be provided to facilitate this.
- General interior cleaning – Trains would be cleaned internally by staff using the access provisions between sidings.

The stabling sidings would be designed with walkways, lighting and platforms for safe access for staff.

Other notable features

Site lighting appropriate for the different activities taking place on-site would be provided. It would be designed to limit light pollution outside the TMD boundary. Inside the TMD, highways and walkways would be provided to allow safe access to all areas of the site, including emergency access provision. The overall TMD would be surrounded by fencing to prevent trespass, with CCTV for additional security. Access to the site would be controlled.

3. Stage 1- Site Identification

Accounting for all activities and functions that may need to be undertaken within a TMD, a review to identify possible suitable locations for the depot along the EWR route was undertaken.

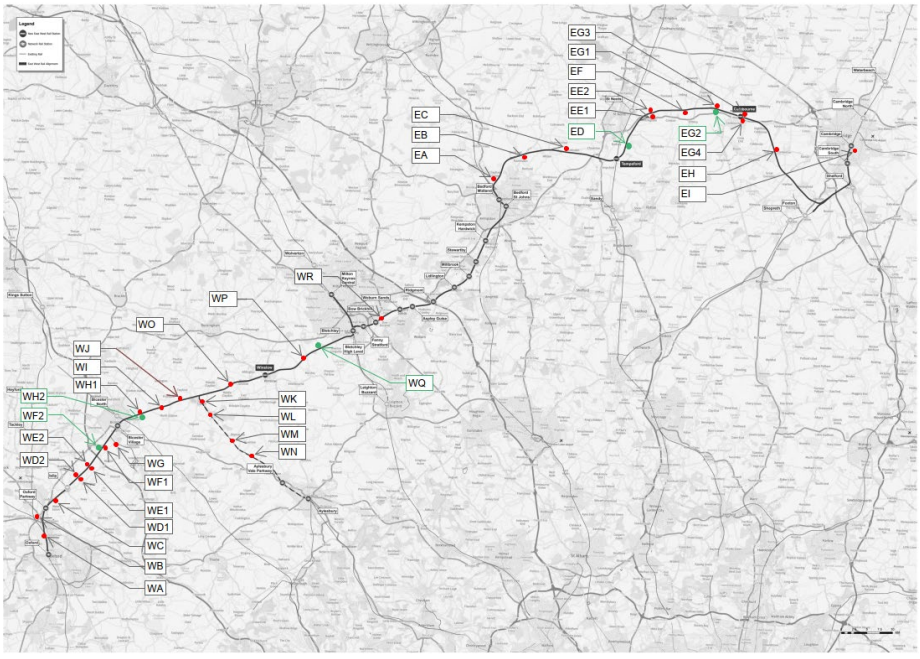
Requirements for the location of the TMD include the need to be close to the route and be sited in a position where it can be operated efficiently. Accounting for first and last train services, for example, if situated at the East end of the route, additional stabling would be required at the opposite end of the route. This would be to limit the distance empty trains would have to move at the start of day and end of day passenger services and not delay any infrastructure maintenance access required during non-operational hours.

3.1 Location Identification

An extensive search of locations has been completed for the TMD and associated Light Maintenance Depot (LMD) and stabling sidings. This OSR and the following narrative focuses on the TMD locations.

Locations were initially identified along the route, focusing on land outside of built-up areas with sufficient space adjacent to the railway to accommodate the TMD facilities and reception road required for trains entering and leaving passenger service. The space to be accommodated was approximately 1km in length for the TMD. The long list of locations can be seen in Figure 3.1 below.

Figure 1: TMD Long List locations map



3.2 Long List Review

An initial review of the long list of locations was competed by technical specialists considering the following parameters:

- Do the site constraints make it feasible to contain a TMD layout with the required facilities.
- Does the track geometry make a connection to the main line possible.
- Are there any environmental constraints considering the wider area impact.
- Does the surrounding road network provide suitable access to the site.
- Are there any clashes with utilities that would cause significant constraints.
- Are there any overlaps with known development allocations and/or planning permission or applications where decisions are pending.

The initial review and identification of locations was led by the environment team to ensure locations considered minimised the potential for environmental impacts.

The conclusion of the review, following the input provided by other technical disciplines, was to determine the short list of locations for taking through the Assessment Factors process.

The long list of locations reviewed is detailed below in Table 3.1 along with the results of the initial discipline reviews and those locations shortlisted for further consideration.

Table 2: TMD Long List

Site	Locations Description	Shortlisted	Commentary
WA	North of Oxford Station	No	Not taken forward due to environmental considerations intersects with scheduled moment, SSSI, flood zone 3.
WB	North of A40	No	Not taken forward due to track limitations.
WC	North East of Oxford Parkway Station	No	Not taken forward due to environmental and planning considerations including intersecting with flood zone 3

Site	Locations Description	Shortlisted	Commentary
			, green belt and nearby Grade II listed buildings.
WD1	East of Bletchindon Road	No	Not taken forward due to environmental and planning considerations including intersecting with flood zone 3 and green belt
WD2	East of Bletchindon Road	No	Not taken forward due to environmental and planning considerations including intersecting with flood zone 3 and green belt
WE1	West of M40	No	Not taken forward due to environmental and planning considerations including intersecting with flood zone 3 and green belt
WE2	West of M40	No	Not taken forward due to environmental and planning considerations including intersecting with flood zone 3 and green belt
WF1	East of M40	No	Not taken forward due to environmental considerations including intersect with flood zone 3 and scheduled monument
WF2	East of M40	Yes	Taken forward
WG	West of Bicester MOD	No	Not taken forward due to site geometry constraints, making it unfeasible to accommodate TMD

Site	Locations Description	Shortlisted	Commentary
WH1	East of Bicester Road	No	Not taken forward due to conflict with CS1 ecological compensation site.
WH2	East of Bicester Road	Yes	Taken forward
WI	West of Station Road	No	Not taken forward due to site geometry constraints, making it unfeasible to accommodate TMD
WJ	West of Main Street	No	Not taken forward due to site constraints, due to significant utilities interface
WK	South of Calvert Junction	No	Not taken forward due to track limitations. Accommodating a TMD that avoids existing ancient woodland would create significant vertical alignment challenges.
WL	East of Lawn Hill Road	No	Not taken forward due to environmental considerations including intersect with, ancient woodland, priority habitat and flood zones 2 and 3.
WM	South of Claydon Road and East of railway	No	Not taken forward due to environmental restrictions, impact on priority habitats
WN 1	South of Buckinghamshire Railway Centre	No	Not taken forward due to operational restrictions.
WO	West of Sandhill Road	No	Not taken forward due to track limitations, for connection to mainline

Site	Locations Description	Shortlisted	Commentary
WP	West of Swan's Way	No	Not taken forward due to track limitations, for connection to mainline.
WQ	West of Whaddon Road	Yes	Taken forward
WR	East of Bow Brickhill Station	No	Not taken forward due to overlap with known development allocation.
EA	South of Carriage Drive	No	Not taken forward due to track limitations.
EB	East of Wilden Road	No	Not taken forward due to road access limitations.
EC	South of Colesden Road	No	Not taken forward due to road access limitations.
ED	South of Potton Road	Yes	Taken forward
EE1	East of Toseland Road	No	Not taken forward due to environmental considerations including potential impacts to priority habitat
EE2	East of Toseland Road	No	Not taken forward due to track limitations.
EF	South of Cambridge Road	No	Not taken forward due to site constraints.
EG1	North of St Neots Road	No	Not taken forward due to overlap with known development allocation.
EG2	North of St Neots Road	Yes	Taken forward
EG3	North of St Neots Road	No	Not taken forward due to overlap with known development allocation.

Site	Locations Description	Shortlisted	Commentary
EG4	North of St Neots Road	No	Not taken forward due to track limitations, for connection to mainline and environmental and planning considerations.
EH	East of Hardwick Road	No	Not taken forward due to road access limitations.
EI	Arriva Traincare Coldhams	No	Not taken forward due to site constraints.

3.3 Final Shortlisted Locations

The final short list of locations taken forward for Assessment Factors included:

Western Locations:

- Site WF2 East of M40
- Site WH2 East of Bicester Road
- Site WQ West of Whaddon Road

Eastern Locations:

- Site ED South of Potton Road
- Site EG2 North of St Neots Road

4. Initial Assessment Factor Process

The initial assessment factor review process was completed by reviewing the Eastern TMD options against each other and the Western TMD options against each other to identify a preferred location for a TMD at either end of the route. High level layouts detailing track and highways concepts were completed and included within the pack of information available to reviewers.

The following provides an overview of each of the locations along with the results of the initial assessment factor review. The baseline options were chosen as the options at the extent of

the route based on the strategic approach of locating an LMD at one end of the route and a TMD at the other.

4.1 General Overview

Each of the locations were reviewed against the generic TMD design that had been developed. The principles of the TMD layout development follow the EWR requirements for the site along with design best practice from knowledge of other worldwide systems. The generic layout contains and provides the following functionality at each of the locations reviewed:

- Access to and from the TMD is possible from both directions on the main line without having to perform any reverse moves on the main line.
- All movements of trains within the TMD can be contained and do not impact on the main line movements.
- Clear standing off the main line for a 2 train consist.
- Stabling for passenger trains.
- Provisional allowance for additional facilities such as body shop and heavy cleaning.

The TMD includes provision for the following facilities:

- Maintenance workshop building for train maintenance and staff and welfare accommodation
- Spares storage building
- Daily servicing plant including Controlled Emission Toilet (CET) discharge, wash plant for external cleaning, sand replenishment and screen wash replenishment
- Plant rooms associated with each servicing function
- An Automatic Vehicle Inspection System (AVIS) on entry to the site
- Cleaners store
- Waste collection and recycling area
- Traction power substation
- Security gate house
- Shunters cabin
- Car parking and highway for circulation
- Walkways and lighting for pedestrian circulation
- 150m track with access from both directions on the main line for the stabling of infrastructure (yellow) plant

4.2 Western Locations

Site WF2 East of M40 (baseline option)

This site is located between the M40 and Bicester Village on the north side of the EWR main line. It is south of Wendlebury.

Figure 2: Indicative depot layout used to review Site WF2 East of M40

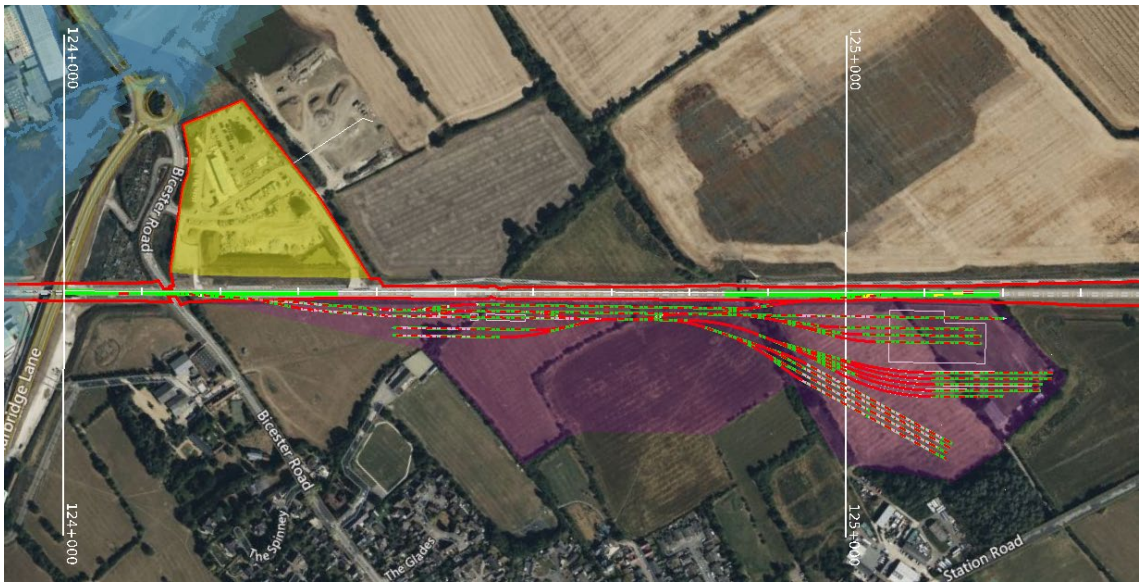
This location has a minor conflict with Flood Zone 3 at the northern end and a conflict with Flood Zone 2 throughout the majority of the location close to the railway. There is a conflict with a single footpath at the northern end of the site which may need to be relocated.

There is a Southern Gas Network high pressure 200mm gas main that crosses the site at the west end and two SSEN 33kv overhead lines that run along the depot site.

Site WH2 East of Bicester Road

This site is located to the northeast of Bicester Village and to the south of the EWR main line.

Figure 3: Indicative layout used to review Site WH2 East of Bicester Road



There are no conflicts with statutory environmental designations for this site. There is however a planning application to the south of the site for up to 65 dwellings and open space.

There are not seen to be any utility diversions needed for this location.

Site WQ West of Whaddon Road

This site is located to the southwest of Bletchley on the north side of the EWR main line.

Figure 4: Indicative depot layout used to review Site WQ West of Whaddon Road

The site is adjacent to a priority habitat of deciduous woodland (former sidings) which one of the entry tracks would go through. This would likely require a like for like replacement elsewhere. It is also adjacent to ancient woodland in the west on the southern side of the main line which is an irreplaceable BNG hotspot. Along the south there are priority deciduous woodland habitat. The western end conflicts with a National Cycle Network route and there is also a conflict with agricultural grade 3 and 4 land across the site. North East of the site on the other side of Whaddon Road there is a planning application, comprising up to 1,855 new dwellings, employment, neighbourhood centre, new schools and associated infrastructure.

4.3 Option Evaluation – Western TMD Locations

Assessment Factor 1: transport user benefits

This factor considers the benefits to transport users including journey time, crowding and quality compared to current journey as well as modal shift.

Table 3: Assessment Factor 1 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Transport user benefits – Overall judgement	Neutral	Neutral	Neutral

Overall transport user benefits are not expected to be impacted by the locations considered for the TMD as they would enable the same timetable, or the timetable could be adjusted to benefit whichever location is chosen.

Assessment Factor 2: potential to unlock economic growth

This factor considers the potential for wider employment and productivity benefits of improved east-west connectivity and the opportunity for stations served by EWR to support housing growth within their catchment areas.

Table 4: Assessment Factor 2 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Potential to unlock economic growth – Overall judgement	Neutral	Neutral	Neutral

The potential to unlock economic growth is not expected to be impacted by the locations considered for the TMD as none of the locations conflict with land availability that could unlock economic growth as none of the locations are in areas that are populated or where dependent development is expected. They would enable the same timetable, or the timetable could be adjusted to benefit whichever location is chosen.

Assessment Factor 3, 4 and 5: cost and affordability

These factors consider the cost to bring the project to full service, including land acquisition, construction and any adaptation and mitigation works, including risk. Alongside consideration of overall affordability based on potential income and other benefits identified in factors 1 and 2.

Table 5: Assessment Factor 3,4 & 5 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Capital Cost	Neutral	Major Improvement	Major Improvement
Operating Cost	Neutral	Neutral	Minor Worsening
Life cycle and Maintenance costs	Neutral	Neutral	Neutral
Income and Cost Opportunity	N/A	N/A	N/A

Capital cost - Both options are circa 15% cheaper than the baseline as they may require less utility diversions. The Site WH2 East of Bicester Road option also has more track than Site WQ West of Whaddon Road thus making Site WQ West of Whaddon Road the lowest cost option.

Operating Cost - The options are further from Oxford than the baseline, requiring longer distance ECS moves and taxis based on the current timetable, which could have an impact on costs of train maintenance, taxis, and traincrew time. With revised assumptions, the differences are: Site WH2 East of Bicester Road +4% (£20k), Site WQ West of Whaddon Road +57% (£293k), compared to the baseline. The relevant (approximate) distances are:

- Oxford – Bicester: 11 miles
- Oxford – Site WH2 East of Bicester Road : 16 miles
- Oxford – Site WQ West of Whaddon Road: 28 miles

Life cycle and maintenance costs – Constructed assets are essentially the same. The differences in Capital Cost are driven by earthworks and civil engineering which may not

require life cycle replacement. Therefore, options are cost neutral. Site WQ West of Whaddon Road is a 33% increase in distance of ECS moves and could have an associated impact on maintenance access hours and efficiency as well as increasing tonnage over the asset, resulting in minor OPEX increases. This could likely be offset by the reduced number of point ends associated with this option.

Assessment Factor 6 – 10: Network capability

These factors consider the following:

- Journey time between housing centres and employment hubs
- Impact on the interchange-to-interchange station journey times
- Ease of interchange with main line rail services e.g. platform-to-platform distance, level change/accessibility, stopping frequency, timetable alignment
- Strategic consideration of the extent to which EWR facilitates long distance passenger services beyond Oxford to Cambridge
- Potential to meet freight demand, as anticipated by the freight industry, through active provision for freight paths

Table 6: Assessment Factor 6 -10 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Short distance connectivity to support commuting travel into key employment hubs (current and future)	N/A	N/A	N/A
Short distance passenger services	Neutral	Neutral	Neutral
Rail passenger connectivity to existing main lines	Neutral	Neutral	Neutral

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Long distance passenger services	Neutral	Neutral	Minor Worsening
Satisfying existing and future freight demand	Neutral	Neutral	Minor Worsening

Long distance passenger service – the options when compared to the baseline are further away from Oxford, requiring longer ECS moves to/from locations beyond Oxford, increasing cost/complexity for journeys beyond Oxford. Site WH2 East of Bicester Road is located nearer to the baseline and is scored Neutral, site WQ West of Whaddon road is a greater distance and therefore ECS moves will be greater and is scored as a Minor Worsening.

Satisfying existing and future freight demand – the options are further from Oxford, requiring longer distance ECS moves, which may have some impact on the capacity available for freight. Site WH2 East of Bicester Road is located nearer to the baseline and is scored Neutral, site WQ West of Whaddon road is a greater distance and therefore ECS moves will be greater and is scored as a Minor Worsening.

Assessment Factor 11 & 12 judgements

These factors consider the ability of the railway to provide a service that meets or exceeds customer, stakeholder and industry expectations as well as the extent to which the EWR takes account of potential future changes to the wider railway strategy/infrastructure.

Table 7: Assessment Factor 11 & 12 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Performance – Maintainability	Neutral	Minor Worsening	Minor Worsening
Performance - Rolling stock reliability	Neutral	Neutral	Neutral

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Performance - Infrastructure reliability	Neutral	Neutral	Neutral
Performance – Operational resilience of EWR	Neutral	Neutral	Minor Worsening
Performance – operational resilience of wider rail network	Neutral	Neutral	Neutral
Alignment with wider railway strategy / infrastructure – Technology and customer experience	Neutral	Neutral	Neutral
Alignment with wider railway strategy / infrastructure – Wider rail network strategy	Neutral	Neutral	Neutral
Alignment with wider railway strategy / infrastructure – Flexibility to adapt to future changes in passenger demand.	Neutral	Minor Worsening	Minor Improvement
Alignment with wider railway strategy / infrastructure – Flexibility to adapt	Neutral	Neutral	Neutral

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
to future changes in freight			

Maintainability – Site WH2 East of Bicester Road increases the distance from maintenance response whether provided from Oxford or Bletchley, increasing disruption. Increased OCS moves reduce available maintenance times and increase asset wear. Site WQ West of Whaddon Road places the TMD closer to a response location (Bletchley) but significantly increases distance of OCS moves.

With regards to infrastructure reliability, it is noted that Site WH2 East of Bicester Road would increase in wear and tear over the baseline due to increased distance of OCS moves, however not significant (<10%). Site WQ West of Whaddon Road reduces the total number of S&C assets, and therefore points of failure by removing mainline crossovers at either end of the depot but introduces additional wear and tear over baseline by increasing the distance of OCS moves.

Operational resilience of EWR – The options are further from Oxford, requiring longer distance ECS moves, which could have some impact on the number of incidents which occur (due to increased interactions), and the ability to recover from them (e.g. increased time to bring a replacement unit from depot to Oxford).

For the alignment with wider railway strategy / infrastructure the two options compare neutral with the baseline across most criteria with little differences. It is known that Chiltern are looking to change their fleet to BEMUs and so have been looking at potential depot locations in the west. The depot layouts developed for EWR at present only cater for the fleet size required for EWR and so further expansion would be required. Further works would need to be completed to understand the needs of Chiltern for depot expansion and the impacts on other disciplines such as Environment.

Flexibility to adapt to future changes in passenger demand – To cater for possible future changes that would include new trains or longer trains, Site WH2 East of Bicester Road is constrained to the south for expansion whereas Site WQ West of Whaddon Road could potentially be expanded to the north.

Assessment Factor 13: Deliverability

This factor considers the risk of harm to workforce and public during construction, operations and maintenance as well as the complexity of the delivery programme or maintenance requirements on efficiently achieving the desired infrastructure state.

This factor considers the risk of harm to workforce and public during construction, operations and maintenance as well as the complexity of the delivery programme or maintenance requirements on efficiently achieving the desired infrastructure state.

Table 8: Assessment Factor 13 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Complexity of delivery	Neutral	Minor Worsening	Neutral
Complexity of maintenance	Neutral	Neutral	Minor Worsening
Safety risk (construction)	Neutral	Minor Worsening	Minor Worsening
Safety risk (operations)	Neutral	Neutral	Neutral
Programme schedule and early benefits enabled	Neutral	Minor Worsening	Neutral

Complexity of delivery – The delivery of scope is deemed non-complex and no differentiating factor between options. Site WH2 East of Bicester Road TMD - Poor traffic route into area for HGVs (Station road exasperated by significant earthwork requirements (approx. 100,000m3 Fill/Cut). This is offset by reduced interface with existing utilities over the baseline. Overall assessed minor worsening. Site WQ West of Whaddon Road TMD - Minor improvements over baseline due to reduced utilities interfaces offset by increased level of earthworks (approx. 188,000m3 Fill/Cut). No differentiation factors associated with general access for works or level of utility interfaces compared to the baseline. Overall impact on complexity of delivery is deemed neutral.

Complexity of maintenance – The baseline Site WF2 East of M40 would place S&C under the footbridge at the Oxford end and in close proximity to road overbridge at Cambridge end. Both may introduce risks for vandalism, constraints on electrification and increase consequence in the event of derailment. The location has a RRAP, improving maintenance response capability. Site WH2 East of Bicester Road would place S&C through two road overbridges at the Oxford end introducing risks for vandalism, constraints on electrification and increase consequence in the event of derailment. Site WQ West of Whaddon Road would place S&C in close proximity to a road overbridge at Oxford end and severs existing access to a maintenance compound. Additional earthwork assets would be introduced to connect to main line at the Cambridge end. Reduced number of point ends due to connection from single line only.

Safety risk (construction) - Delivery of the permanent works are all deemed neutral against construction safety risk. Consideration of increased HGV numbers associated with earthwork, highway suitability to support works as well and enabling works scope are the only differentiating factors. Site WH2 East of Bicester Road has poor traffic route availability and increased earthworks could impact risk to workforce and general public (public roads interface). This is deemed a minor worsening. Site WQ West of Whaddon Road increased earthworks could impact risk to workforce and general public (public roads interface). This is deemed a minor worsening.

Safety risk (operations) - General scope similar in all options. Location is not a significant differentiator for operational safety.

Programme schedule and early benefits enabled - Programme duration and risk for permanent works were all deemed neutral. Consideration of increased earthworks and enabling works are the only differentiating factor. Site WH2 East of Bicester Road has reduced programme risk due to reduced interface with existing utilities. Significant increase in earthworks and constraints associated with local road network deemed to provide an overall minor worsening impact. Site WQ West of Whaddon Road has reduced programme risk due to reduced interface with existing utilities offset by significant increase in earthworks. Good access and minor constraints associated with HGV movements provides an overall neutral assessment.

Assessment Factor 14: Environmental impact and opportunities

This factor considers the impacts on and opportunities to improve local, national and global environment, and local and regional socio-economic conditions not considered in other factors.

AF14 comprises 17 topics that are evaluated against existing baseline conditions. Evaluations also take account of committed developments forming the future baseline and, where applicable, planning applications that are yet to be committed.

Table 9: Assessment Factor 14: Environmental impact and opportunities

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Overall Judgement	Neutral	Major worsening	Minor worsening
Environmental assessment considerations (see 17 supporting considerations below)	Neutral	Major worsening	Minor worsening

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
14.1 Agriculture, forestry and soils	Neutral	Minor worsening	Minor improvement
14.2 Air quality	Neutral	Minor worsening	Minor worsening
14.3 Carbon	Neutral	Minor worsening	Minor worsening
14.4 Community	Neutral	Major worsening	Neutral
14.5 Ecology and biodiversity	Neutral	Neutral	Minor worsening
14.6 Electromagnetic interference	Neutral	Neutral	Neutral
14.7 Equalities	Neutral	Major worsening	Neutral
14.8 Health	Neutral	Major worsening	Neutral
14.9 Historic environment	Neutral	Minor worsening	Neutral
14.10 Land quality	Neutral	Neutral	Neutral
14.11 Landscape and visual	Neutral	Minor worsening	Minor worsening
14.12 Major accidents and natural disasters	Neutral	Neutral	Neutral
14.13 Noise and vibration	Neutral	Minor worsening	Minor worsening
14.15 Socio-economics	Neutral	Minor worsening	Neutral
14.16 Traffic and transport	Neutral	Minor worsening	Minor worsening
14.17 Waste and materials	Neutral	Minor worsening	Minor worsening
14.18 Water resources and flooding	Neutral	Minor improvement	Minor improvement

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
BREEAM considerations and EWR Co's Sustainability Strategic Objectives (where not specifically considered above)	Neutral	Major worsening	Minor worsening

Overall Judgement

Overall, Site WH2 East of Bicester Road is assessed as a major worsening compared to the Baseline (Site WF2 East of M40) due to the impacts on planning application 21/04112/OUT and the number of strategic objectives (air quality, carbon, historic environment, noise and vibration & waste) that Site WH2 East of Bicester Road detracts from.

Site WQ West of Whaddon Road is considered a minor worsening compared to the Baseline due to impacts on ecological receptors, planning application 15/00314/AOP and significantly greater HGV movements and the number of strategic objectives (air quality, carbon, historic environment, communities & waste) that Site WQ West of Whaddon Road detracts from.

Site WH2 East of Bicester Road would result in the demolition / prevention of residential properties coming forward associated with planning application 21/04112/OUT. Further, properties that could be implemented would be subject to potential indirect effects. A major worsening is reported for Community, Equalities & Health and a minor worsening for Agriculture, Forestry and Soils, Air Quality, Carbon, Historic Environment, Landscape and Visual, Noise and Vibration, Socio-economics, Traffic and Transport & Waste and Materials. Conversely, Water Resources and Flooding reported a minor improvement. All other considerations are neutral.

Overall, Site WH2 East of Bicester Road is reported as a major worsening compared to the Baseline, primarily due to the impacts on planning application 21/04112/OUT.

Site WQ West of Whaddon Road would result in the loss of ecological habitat and indirect impacts to residential properties associated with committed development 15/00314/AOP, if implemented. Further, nearly ten times the HGV movements would be required for earthworks. A minor worsening is reported for Air Quality, Carbon, Ecology and Biodiversity, Landscape and Visual, Noise and Vibration, Traffic and Transport & Waste and Materials. Conversely, Agriculture, Forestry and Soils & Water Resources and Flooding reported a minor improvement.

Overall, Site WQ West of Whaddon Road is reported as a minor worsening compared to the Baseline primarily due to impacts on ecological receptors, planning application 15/00314/AOP and significantly greater HGV movements.

The justifications from the environmental Assessment Factor for each supporting consideration are provided below.

Environmental assessment considerations

Agriculture, Forestry and Soils

None of the options would be within Grade 1 to Grade 3a BMV agricultural land.

The impact on soils would be similar across all options, with the smaller area of land for Site WH2 East of Bicester Road being preferred.

Each option would result in direct impacts to two or three agricultural holdings, with some larger commercial holdings affected. The Baseline would require the permanent loss of 16ha of agricultural land, compared to 9ha for Site WH2 East of Bicester Road and 15.5ha for Site WQ West of Whaddon Road. Note - that approximately 2ha of the existing 11ha of agricultural land for Site WH2 East of Bicester Road is within a committed development and is assessed as its future use (residential). Site WH2 East of Bicester Road would also require the demolition of four agricultural (equestrian) buildings.

Overall, Site WH2 East of Bicester Road is considered to be a minor worsening for this consideration compared to the Baseline as the loss of the agricultural buildings is a significant impact and should be avoided, where possible. Site WQ West of Whaddon Road is considered to be a minor improvement for this consideration compared to the Baseline due to the marginally reduced overall footprint and less commercially farmed land.

Air Quality

None of the options would be in the vicinity of any Air Quality Management Areas (AQMA).

Construction Dust: Dust emissions for all options are assumed to be controlled through Code of Construction Practice (CoCP) / Construction Environmental Management Plan (CEMP) measures to avoid significant air quality effects. Construction dust would therefore not be a differentiator.

Operational Air Quality: Trains using EWR would be electrically powered, resulting in no emissions to air from the train fleet. Additionally, there would be no operational impact on the external transport network for these options, therefore not a differentiator, operationally, for either Site WH2 East of Bicester Road or Site WQ West of Whaddon Road in comparison to the Baseline.

Assuming the same duration of construction for both Site WH2 East of Bicester Road and Site WQ West of Whaddon Road as the Baseline, the magnitude of HGV increases could be more than five times greater for Site WH2 East of Bicester Road and nearly ten times greater for the

Site WQ West of Whaddon Road due to anticipated scale of earthworks required. It is not known what the construction traffic routes of the proposed HGVs would be at this time. However, it is assumed that for Site WH2 East of Bicester Road, these traffic movements would pass densely populated areas adjacent to Station Road and Blackthorn Road in and adjacent to the A4421 Wretchwick Way in Bicester, on route to the M40. The Site WQ West of Whaddon Road site would likely pass densely populated areas along the A421 at Buckingham, Tingewick on route to the M40 or through Bletchley and Milton Keynes on route to the M1.

On this basis, during construction, both Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are considered to be a minor worsening compared to the Baseline for this consideration.

Carbon

For the Baseline, GHG emissions would likely result in 3,768 tCO2e. It is estimated that the largest GHG emission source derives from the 7,000m of track, which would equal approximately 2,819 tCO2e. The Baseline would also require seven crossings, which would likely result in an estimated 172 tCO2e. Further, an access road would be required for the Baseline, with an area of 13,161m2 and it is estimated it would result in 79 tCO2e. Finally, earthworks associated with the Baseline would likely result in 698 tCO2e.

For Site WH2 East of Bicester Road, it is anticipated there would be a 24% increase in GHG emissions compared to the Baseline, estimating a total of 4,676 tCO2e. The increase would primarily be due to a significant rise in emissions from the construction of the required footbridge, which would likely contribute 399 tCO2e towards the options overall carbon impact. GHG emissions associated with the earthworks for Site WH2 East of Bicester Road would likely contribute an estimated 1,342 tCO2e, an increase compared to the Baseline. However, there would be only two crossings required for Site WH2 East of Bicester Road, likely to result in 49 tCO2e. As a result, the Site WH2 East of Bicester Road option requires a 24% increase in emissions and is therefore considered to be a minor worsening compared to the baseline.

Site WQ West of Whaddon Road would likely result in a 40% increase in GHG emissions compared to the Baseline, with a total of 5,273 tCO2e. Earthworks activities required are estimated to contribute 2,623 tCO2e, which would be the main contributor to the increase in carbon emissions. There would be only two crossings required for Site WQ West of Whaddon Road, likely resulting in an additional 49 tCO2e.

Overall, Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered a minor worsening compared to the Baseline for this consideration. Note: This assessment has been based on high-level information and does not account for operational emissions such as energy usage.

Community

The Baseline and Site WQ West of Whaddon Road would both have limited community receptors within 250m, although implementation of planning application 15/00314/AOP would increase the number within this boundary significantly for Site WQ West of Whaddon Road. For Site WH2 East of Bicester Road, planning application 21/04112/OUT would result in approximately 27 of the 65 proposed residential properties being demolished or not being able to come forward (based on numbers presented in the Framework Masterplan: Building Height and Density). Site WH2 East of Bicester Road would also have a greater number of residential properties and community facilities (mainly located within the village of, including recreational facilities and Church of England Primary School) within 250m compared to the Baseline.

For the Baseline, Mertons footbridge is to the west where four PRoW converge. It is assumed these would be retained and whilst there may be minor temporary closures, bridge access across the railway is assumed to be retained. Merton FP 6/20, to the east, would need to be diverted around the depot site. For Site WH2 East of Bicester Road, the PRoW using Grange Farm footbridge would be stopped up and re-routed around the depot to the existing level crossing point (Launton FP 12/100) where a new bridge would be constructed. National Cycle Route 51 would be temporarily affected. For Site WQ West of Whaddon Road, National Cycle Route 51 crosses the route at the western end and would be maintained, with potential minor temporary closures. Overall, there would be temporary and permanent effects to users of the PRoW, but suitable mitigation to avoid severance is provided and use of planting could help mitigate impact on views of users.

Overall, Site WH2 East of Bicester Road is considered to be a major worsening compared to the Baseline for this consideration due to the number of residential properties associated with the committed development that would not be taken forward (27) and indirect community impacts on the community of Launton. Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration due to the similar limited number of community receptors in the vicinity, although noting the potential additional residential properties associated with planning application15/00314/AOP.

Ecology and biodiversity

Baseline - The Baseline would be within an area identified from desk study as Coastal and Floodplain Grazing Marsh HPI. This is a high distinctiveness habitat that would require both mitigation and re-provision for BNG if present/affected but would be on the opposite side of the track to the depot, so any direct loss would likely be minimal. There is known otter presence from Chiltern Railway data and possible water vole suitability. It is important to consider hydrological linkages with water reliant habitats to the south of the existing track in terms of possible impacts. A small parcel of deciduous woodland HPI would be present at 118+100 on the opposite side of the alignment so any loss would be unlikely, but it would require replacement planting to compensate if there would be any lost.

Wendlebury Meads and Mansmoor Closes SSSI would be c600m to the south of the Baseline, adjacent to the M40. There are records of GCN present (including licence returns). Note the Letter of Comfort from NE already received and the use of DLL for this species. It is considered that the M40 likely forms a significant barrier to movements of species and is sufficiently distant to avoid negative effects if measures assumed within the CoCP are taken into account.

Severance of possible commuting routes would require mitigation. There are strategic corridors along the Tributary of Langford Brook (associated with the deciduous woodland and ponds at 118+100) to the east and north of solar farm.

There would be loss of connected vegetation including hedgerows and mature trees either side of the line with consequences for possible loss of roosting bats.

Site WH2 East of Bicester Road - Site WH2 East of Bicester Road would require removal of a small area of priority habitat (deciduous woodland), and it would be immediately adjacent to a second larger area of woodland.

There would be a strategic corridor associated with the watercourse at 124+800 with potential for otter and water vole, which would cross the middle of the site. There would be loss of vegetation, which may impact on roosting, foraging and commuting bats. There are known records of GCN within the vicinity of the deciduous woodland HPI. The distance from the SSSI (Stratton Audley Quarries) is 1.8km to the north and therefore would be unlikely to result in any negative effects. Note that the depot currently overlaps with an Ecological Compensation Site for the consented scheme and any works must therefore be designed to avoid negative effects.

Site WH2 East of Bicester Road is considered to be neutral compared to the Baseline for ecology.

Site WQ West of Whaddon Road - Site WQ West of Whaddon Road would overlaps with large areas of priority deciduous woodland habitat, a section of species rich native hedgerow in the northern extent, a watercourse (Tributary of the River Ouzel 21) on the southern extent a minor watercourse, and two ecological compensation sites (ECS) for the consented scheme, noting there would be no direct impact to the ECS or watercourse. Whilst there is a minor amount (2m2) of Ancient Woodland (Salden Wood) reported as directly impacted by Site WQ West of Whaddon Road, this would be on the opposite side of the alignment and would not require any direct tree loss. There would be extensive areas of woodland potentially impacted, resulting in possible loss of roosting, foraging and commuting resources for bats. EWR Alliance data show a large number of roosting sites within the woodland areas. The distance from the Howe Park Wood SSSI is 2.1km north and therefore would be unlikely to result in any negative effects. There would be impacts to two Local Wildlife Sites with entire loss of Railway Siding east of Salden Wood (same wooded areas as described above) and very minor incursion into Salden Wood.

Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for ecology due to the loss of Priority Habitat and Local Wildlife Sites and in the immediate vicinity of irreplaceable Ancient Woodland.

BNG: The Baseline would be predominantly cropland (likely low distinctiveness habitat) with hedgerows, ponds and a small area of woodland also present. Site WH2 East of Bicester Road would likely be majority modified agricultural grassland (likely low distinctiveness habitat) also with hedgerows and woodland present. Despite Site WH2 East of Bicester Road affecting a greater area of priority habitat woodland (likely high distinctiveness habitat) than the Baseline, the Baseline would have other high distinctiveness habitats present including 'other rivers and streams' and 'ponds (priority habitat)', of which other rivers and streams can be particularly hard to compensate for impacts. Both options potentially would have areas of high distinctiveness open mosaic habitats on previously developed land.

Site WH2 East of Bicester Road is considered to be neutral compared to the Baseline for BNG.

Whilst Site WQ West of Whaddon Road is also predominantly cropland with hedgerows, as per the Baseline, there would also be large areas of grassland and woodland present (likely medium and high distinctiveness). Overall, Site WQ West of Whaddon Road would have a larger total land take than the Baseline. It would also be within the Biodiversity Opportunity Area so existing habitats that meet the target habitat types are considered more valuable as they are within a strategic area for that habitat type. Site WQ West of Whaddon Road would require 1.97ha of priority habitat woodland (likely high distinctiveness habitat), a considerably larger area than the Baseline. Site WQ West of Whaddon Road would also be adjacent to ancient woodland, an irreplaceable habitat. Site WQ West of Whaddon Road would be partially within the Whaddon Chase Biodiversity Opportunity Area where the habitats may be recognised to be of local importance, whereas the Baseline habitats would not be. Both woodland and forest and hedgerow would be present within the footprint and target habitat types of the Whaddon Chase Biodiversity Opportunity Area. Site WQ West of Whaddon Road is considered to be a major worsening compared to the Baseline for BNG.

Overall, when considering Ecology & BNG, Site WH2 East of Bicester Road is considered neutral compared to the Baseline for this consideration and Site WQ West of Whaddon Road is a minor worsening for this consideration.

Electromagnetic Interference

Overall, Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered neutral compared to the Baseline. For Site WH2 East of Bicester Road the playground of Launton Church of England Primary School is approximately 80m from the depot. However, this is not deemed to warrant a minor worsening overall.

Equalities

None of the options would affect neighbourhoods (Lower Super Output Areas) who are considered to be in the most deprived decile.

Site WH2 East of Bicester Road would be close to Launton Church of England Primary School and several open spaces, which could impact children and families using these facilities. There would be a notable number of residential properties within 250m, including existing and committed developments. This could impact families, elderly residents, and people with disabilities who may face displacement or increased stress due to construction activities. The demolition and replacement of Mertons footbridge and rerouting of PRoWs could affect people with mobility issues, and the rationalisation of PRoWs would need to be designed to mitigate these impacts.

Site WQ West of Whaddon Road would have less impact on local residents, as there would be fewer community receptors within 250m. Similar to Site WH2 East of Bicester Road, there would be temporary and permanent effects on PRoW users, but suitable mitigation measures are proposed to avoid severance. Temporary closures and rerouting of National Cycle Route 51 and PRoWs could affect those who rely on these routes for commuting or recreational purposes, including people with disabilities and older adults. This option is considered neutral compared to the Baseline, with fewer community receptors affected and a reduced overall footprint. The impacts on PRoWs and National Cycle Route 51 are mitigated, suggesting a more balanced approach.

Overall, Site WH2 East of Bicester Road is a major worsening compared to the Baseline for this consideration due to the demolitions / prevention of housing (planning application 21/04112/OUT) and indirect community impacts on the community of Launton. The proximity to a primary school and recreational facilities means that children and families could be disproportionately affected. Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration due to the similar limited number of community receptors in the vicinity, although noting the potential additional residential properties associated with planning application 15/00314/AOP.

Health

None of the options would affect neighbourhoods (Lower Super Output Areas) who are considered to be in the most deprived decile for overall and health deprivation. However, it is assumed that there are vulnerable groups residing within the general population, who may experience effects differently.

The Baseline and Site WQ West of Whaddon Road would both have limited community receptors within 250m, compared to Site WH2 East of Bicester Road, although implementation of planning application15/00314/AOP would increase the number within this boundary significantly for Site WQ West of Whaddon Road. The planning application 21/04112/OUT for Site WH2 East of Bicester Road would result in approximately 27 of the 65 proposed

residential properties being demolished or not being able to come forward (based on numbers presented in the Framework Masterplan: Building Height and Density), and there would be 118 existing residential properties within 250m. Compared to the Baseline and Site WQ West of Whaddon Road, Site WH2 East of Bicester Road would have a significantly greater number of receptors within 250m, including community and recreational facilities, mainly located within the village of Launton including Launton Church of England Primary School. These residential and community receptors would likely experience some disturbance and / or perception of disturbance to local residents over a period of time, particularly from construction noise and air pollution. Vulnerable groups include children, the elderly, and those suffering from long-term health conditions.

For all options, there would be temporary and permanent effects to users of the PRoW, which could impact the local population's ability to undertake physical activity, but suitable mitigation to avoid severance is provided. For the Baseline, access across the railway line is assumed to be retained across Mertons footbridge located to the west, where four PRoW converge. However, there could be minor temporary closures, as a result Merton FP 6/20, to the east, which would need to be diverted around the depot site. For Site WH2 East of Bicester Road, the PRoW using Grange Farm footbridge would be stopped up and re-routed around the depot to the existing level crossing point (Launton FP 12/100) where a new bridge would be constructed. National Cycle Route 51 would also be temporarily affected. For Site WQ West of Whaddon Road, National Cycle Route 51 would cross the route at the western end and would be maintained, with potential minor temporary closures.

Overall, Site WH2 East of Bicester Road is considered to be a major worsening compared to the Baseline for this consideration due to the demolitions / prevention of housing (planning application 21/04112/OUT) and indirect community impacts on the community of Launton. Site WQ West of Whaddon Road is considered to be neutral when compared to the Baseline for this consideration due to the similar limited number of community receptors in the vicinity, although noting the potential additional residential properties associated with planning application 15/00314/AOP.

Historic Environment

For the purposes of this assessment factor, to ensure historic environment policy and best practice is followed, direct impacts are defined as physical impacts to a heritage asset, indirect impacts are defined as impacts in the setting of a heritage asset.

Baseline - The Baseline would be adjacent to the Alchester Roman Site Scheduled Monument. No physical impacts to the Scheduled Monument are anticipated, however, the construction of the TMD would incur impacts to the setting and character of the asset. There would be no listed buildings within 250m. However, there are several listed buildings within the village of Wendlebury, located approximately 350m west of the Baseline. Construction and operation may subject these assets, particularly the Grade II listed College Farmhouse Stable, located 380m west of the Baseline, to setting impacts.

The Oxfordshire County Council (OCC) notes three non-designated HER within the footprint of the proposed Baseline TMD (PRN13904, PRN29007, PRN12751). These records relate to Romano-British settlement remains that likely extend south from the Alchester Roman Site Scheduled Monument, which is located to the north of the Baseline TMD. Construction of the Baseline TMD would truncate or totally remove any underlying potential archaeology.

There would be no registered parks and gardens, historic battlefields or conservation areas within 250m of the Baseline. The HER notes that the TMD would be set within an historic landscape characterised by agricultural enclosures. This landscape developed following the creation of the railway that led to large boundary changes. The Baseline TMD would have a minor physical impact on the character of this landscape.

Site WH2 East of Bicester Road - There would be no scheduled monuments, historic battlefields, registered parks and gardens or conservation areas within 250m of Site WH2 East of Bicester Road.

The HER includes an area of non-designated, undated and Medieval archaeological features within the order limit for this option. In addition to this, there would be a further eight non-designated archaeological assets recorded within 250m. The presence of numerous archaeological assets in proximity to the option, as well as within the order limit indicates the possibility for medium-high archaeological potential within the option. Any excavation related to the construction of the new depot would have the potential to remove or truncate both known and unknown archaeological remains. Site WH2 East of Bicester Road is considered to be neutral in comparison with the Baseline for buried archaeology.

There would be 10 listed buildings within 250m, including the Grade I Church of St Mary, Grade II* Barn approximately 50 metres south of Manor Farmhouse and a further eight Grade II buildings. The closest listed building to the order limit would be Manor Farmhouse, approximately 40m to the south-west. There would be potential for the heritage value of the listed buildings within 250m to be negatively impacted through changes to their predominantly rural village setting, during construction and operation of the depot. Given the presence of undeveloped rural meadows between Launton and the existing railway line and the changes to setting this option would cause, these impacts would likely be significant to these assets. Site WH2 East of Bicester Road is considered to be a minor worsening compared to the Baseline for built heritage.

Site WH2 East of Bicester Road would be predominantly located within an area of historic landscape characterisation recorded as reorganised enclosures due to the creation of the railway (dating from 1921). Site WH2 East of Bicester Road would also encroach into an area adjacent to Station Road recorded as rural settlement/farmstead (dating from 1811) both of which would be impacted by this option. Grange Farmhouse would be located within this area, which borders the location of Laurels Farmhouse, Watermoor House and Box Tree Farmhouse.

Site WH2 East of Bicester Road is considered to be neutral in comparison with the Baseline for historic landscape.

Site WQ West of Whaddon Road - There would be no scheduled monuments, listed buildings, historic battlefields, registered parks and gardens or conservation areas within 250m of Site WQ West of Whaddon Road. The HER includes a non-designated undated ditch and a findspot dating to the post-medieval period within the order limit, as well as three areas of ridge and furrow and two archaeological notification areas. This option is considered to be neutral compared to the Baseline for built heritage.

In addition, there would be a further 11 non-designated archaeological assets recorded within 250m. The presence of numerous archaeological assets in proximity to the option, as well as within the order limit indicates there could be high archaeological potential within the option. Any excavation related to the construction of the new TMD would have the potential to remove or truncate archaeological remains. Site WQ West of Whaddon Road is considered to be neutral in comparison with the Baseline for buried archaeology.

There would be five areas of historic landscape characterisation recorded within the order limits, these include two enclosures of 19th century date, one enclosure of 20th century date, one parliamentary enclosure (divided allotments) and ancient semi natural woodland which would be impacted by this option. Site WQ West of Whaddon Road is considered to be neutral in comparison with the Baseline for historic landscape.

Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered to be neutral for buried archaeology and historic landscape compared to the Baseline. Site WQ West of Whaddon Road is also considered to be neutral compared to the Baseline for built heritage whilst Site WH2 East of Bicester Road is considered to be a minor worsening. Overall, Site WH2 East of Bicester Road is considered to be a minor worsening compared to the Baseline for this consideration whereas Site WQ West of Whaddon Road is considered to be neutral.

Land Quality

There would be no designated sites within 250m of any option.

Both the Baseline and Site WH2 East of Bicester Road would not be within a Mineral Safeguarding Area (MSA). Site WQ West of Whaddon Road would be partially within a MSA for alluvium under the Buckinghamshire Minerals and Waste Local Plan 2016-2036 (adopted 2019).

Overall, Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered to be neutral compared to the Baseline for this consideration due to there not being any designated land quality sites in the vicinity, and for Site WQ West of Whaddon Road only minor incursion into an MSA.

Landscape and Visual

Baseline - The Baseline would be located in farmland (large open fields at eastern end and smaller fields bordered by hedgerow at western end). Setting has generally rural character but large solar farm to south detracts from this. Well-established vegetation lines the railway corridor. The closest village would be Wendlebury and two farms (College Farm and Elm Tree Farm) are close to north-western boundary. The M40, to the south-west, reduces tranquillity of surrounding landscape. Merton FP 6/20 would cross option site to north. The M40/ A41 junction is brightly lit but the village does not have streetlighting.

Landscape impacts would include loss of farmland and hedgerow and a reduction in tranquillity due to operation of the depot. Visual receptors in the village would have filtered views of the TMD and receptors in residential properties near two farms and users of the PRoW and Langford Lane would have clear views. TMD lighting would introduce a brightly lit area into the currently unlit farmland.

Opportunities: Reduce land take as far as possible to reduce impacts on the existing hedgerows along the option site boundary. The existing PRoW could be diverted to run along the northern boundary of the option site with planting to screen views of the depot. Enhance and connect existing hedgerows along the TMD boundary with new hedgerows. Screen planting is required between the village and the TMD.

Site WH2 East of Bicester Road - Site WH2 East of Bicester Road would be located in farmland between the railway line and Launton. On outskirts of Bicester but character, with small fields bordered by well-established hedgerows and woodland belts is rural. The railway line has been recently rebuilt with new bridge over realigned Station Road. Future expansion of Launton (planning application 21/04112/OUT at Site WH2 East of Bicester Road) would slightly diminish the rural character of the village and reduce green gap between the village and Bicester. Residential receptors in Launton would have mainly filtered views towards the option site. Receptors on PRoWs Launton FP 12/10 and Launton FP 11/10, which would cross option site, and other PRoW in the area would have clear views of the site. No streetlighting in Launton but night skies are affected by skyglow above Bicester.

Landscape impacts would include loss of hedgerow and landscape pattern and introduction of large-scale infrastructure into the rural landscape. Activity in the TMD would noticeably reduce tranquillity and introduce a large lit area into unlit landscape. Visual receptors in Launton would have mainly partially screened or filtered views of the TMD and the existing woodland north-east of the village would partially screen the TMD from Station Road. Users on local PRoW would have filtered and clear views of the TMD.

The planning application 21/04112/OUT at Site WH2 East of Bicester Road would result in a significantly greater number of residential properties in addition to the existing residential properties and community facilities, mainly located within the village of Launton including recreational facilities and Launton Church of England Primary School, within 250m.

Site WH2 East of Bicester Road would be a minor worsening compared to the Baseline for this consideration due to greater adverse landscape effects and larger number of visual receptors affected.

Opportunities: retain field boundary vegetation of construction site boundary and provide new woodland belts along the southern boundary of the option site to integrate the depot into the landscape and mitigate visual impacts on receptors in Launton and using PRoWs.

Site WQ West of Whaddon Road - Site WQ West of Whaddon Road would be located in farmland sloping down towards existing railway line. Weasel Lane/ Mursley Restricted BOAT 20/1 runs along northern boundary. The landscape has rural character, comprising attractive valley in good condition with intact pattern of fields bordered by well-established hedgerows and woodland belts. Few detracting elements, tranquil and unlit at night. Views towards the option site would be screened from Newton Longville and nearby residential properties by intervening vegetation but site would be visible from Mursley Restricted BOAT 20/1 and Whaddon Road. There would be a large number of visual receptors with close views of the site if the planning application 15/00314/AOP were implemented.

Landscape impacts would include loss of woodland belt close to existing railway line, introduction of large-scale infrastructure into rural landscape, loss of tranquillity due to the operation of depot and extensive earthworks to construct depot on sloping valley side. The depot would be largely screened from Newton Longville by day, although the taller structures might be visible above intervening vegetation. TMD lighting would be apparent in night-time views as large lit area in unlit landscape. Properties near the site and in the future planning application 15/00314/AOP would have clear or filtered views of TMD. Users on the PRoW and Whaddon Road would have clear views.

Site WQ West of Whaddon Road would be a minor worsening compared to the Baseline for this consideration due to greater adverse landscape effects and larger number of visual receptors affected.

Opportunities: screen the depot with planting and potentially earthworks.

Major Accidents and Natural Disasters

There would be no COMAH sites within 250m.

At this stage, there is insufficient detail to complete an assessment for the major accidents and natural disasters consideration.

Noise and Vibration

The Baseline would not be within proximity to any residential receptors. Site WH2 East of Bicester Road would have the village of Launton to the south, including the recreational facilities and Launton Church of England Primary School. Further, planning application (21/04112/OUT) would result in additional residential receptors in immediate proximity to the

TMD. Whilst Site WQ West of Whaddon Road would have no existing residential properties within the vicinity, implementation of a planning application (15/00314/AOP) to the north east would result in additional residential receptors in proximity to the depot.

Overall, Site WH2 East of Bicester Road is a minor worsening compared to the Baseline for this consideration due to the proximity to the village of Launton. Site WQ West of Whaddon Road is also a minor worsening compared to the Baseline for this consideration, as the proposed residential properties in the planning application may be impacted.

Socio-economics

For this consideration, direct impacts are defined as demolition or land take to businesses.

There would be no business resources directly affected by the Baseline. Site WH2 East of Bicester Road would have direct impact on an equestrian facility and such impacts are reported in AF14.1. There would be potential for minor job displacement or loss as a result. Site WQ West of Whaddon Road would have two compounds directly impacted, but it is assumed these are related to railway infrastructure and would have no permanent employment associated with them.

Overall, Site WH2 East of Bicester Road is considered to be a minor worsening compared to the Baseline for this consideration due to the direct impact to the equestrian facility, whereas Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration as no job displacement or loss from direct impacts is anticipated.

Traffic and Transport

The Baseline would be located further from residential receptors and would require significantly less HGV construction traffic movements compared to Site WH2 East of Bicester Road and Site WQ West of Whaddon Road. Assuming the same duration of construction, the magnitude of HGV increase could be more than five times greater for Site WH2 East of Bicester Road and nearly ten times greater for Site WQ West of Whaddon Road.

Site WH2 East of Bicester Road would result in temporary disruption to Station Road and Bicester Road during construction. Site WQ West of Whaddon Road may result in temporary disruption to Salden Lane during construction.

For the Baseline, Mertons footbridge, to the west, where four PRoWs converge is assumed to be retained and whilst there may be minor temporary closures, bridge access across the railway is assumed to be retained. Merton FP 6/20, to the east, would need to be diverted around the depot site. For Site WH2 East of Bicester Road, the PRoW using Grange Farm footbridge would be stopped up and re-routed around the depot to the existing level crossing point (Launton FP 12/100 which is assumed to not be affected). National Cycle Route 51 would be temporarily affected. For Site WQ West of Whaddon Road, National Cycle Route 51 would cross the route at the western end and would be maintained, with potential minor temporary

closures. Overall, there would be temporary and permanent effects to users of the PRoW, but suitable mitigation to avoid severance would be provided.

Overall, Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered to be a minor worsening compared to the Baseline for this consideration, as although there are minor differences in PRoW and temporary road disruption, they would both require significantly more HGV construction traffic movements (in the context of the overall number of HGVs required for the project, this does not warrant a major worsening for either option).

Waste and Materials

On a worst-case basis, and in line with the HGV movement assumptions, it is assumed that all cut material would be exported, and all fill material would be imported. The net volume of excavated material would be twice as high for Site WH2 East of Bicester Road, compared to the Baseline and four times as high for Site WQ West of Whaddon Road. It should be noted that the reuse of material has not been considered but there would be potential for this to occur.

The Baseline and Site WQ West of Whaddon Road would not require any demolition material to be produced. Three agricultural buildings would be demolished for Site WH2 East of Bicester Road and would require approximately 360t of demolition material.

Overall, Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered to be a minor worsening compared to the Baseline for this consideration due to the greater excavated material exported, and for Site WQ West of Whaddon Road, the demolition material requirements.

Water Resources and Flooding

Water Resources and Flooding - The Baseline would be two drains running either side of the existing alignment and one watercourse that would cross the proposed TMD site. This watercourse (Chiltern Rail line), a tributary to the northern end, and a main river to the south of the railway would cause flood risk to a large section of the site (Flood Zone 2), with the northeastern section of the site in Flood Zone 3. There would also be flood risk from surface water for the Baseline.

Site WH2 East of Bicester Road would cross one watercourse but would not be within Flood Zones 2 or 3. Site WQ West of Whaddon Road would not directly impact the Tributary of the River Ouzel 22 watercourse adjacent the railway on the southern extent but does have drains from the attenuation pond running adjacent to the existing railway on the north. It would not be within Flood Zones 2 or 3. There would be small sporadic areas of flood risk from surface water for Site WQ West of Whaddon Road but none for Site WH2 East of Bicester Road. There would be some drainage under/through the railway from north to south at Site WQ West of

Whaddon Road, however, these produce less flow paths than those of the baseline. These can be mitigated/managed utilising culverts or drainage design.

Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are both considered to be a minor improvement compared to the Baseline for water resources and flooding due to both having less watercourse conflict and not being in areas of flood zone.

Groundwater – The TMD would be unlikely to have a significant effect on groundwater flow due to having limited below ground features. They may pose a risk of contamination from pollutants present on site infiltrating the ground or being carried off site in uncontrolled runoff which then infiltrates. There may be a small impact on local recharge associated with a change in land use within the site perimeter rendering the surface less permeable to rainfall.

The Baseline would be situated on top of unproductive Oxford Clay bedrock and alluvial superficial deposits. It would be situated over 1km away from the nearest WFD designated groundwater body. The Wendlebury Meads & Mansmoor Closes (SSSI), which is potentially groundwater dependent, would be ~600m southwest at its closest point, with a potential pathway for contaminants through the alluvial deposits.

Site WH2 East of Bicester Road would be situated in a similar geological setting to the Baseline, however, is not underlain by any mapped alluvial deposit. There would be no groundwater receptors currently identified within 1km of this option. Stratton Audley Quarries SSSI would be located within 2km of the site, but there is no viable pathway for potential contaminants from the site to impact it. Site WH2 East of Bicester Road is considered to be a minor improvement over the Baseline for this reason.

Site WQ West of Whaddon Road would be situated on top of unproductive Oxford Clay bedrock, with glacial till superficial cover. There would be no identified groundwater receptors within 2km of this option, and therefore Site WQ West of Whaddon Road is considered to be a minor improvement over the Baseline.

Overall - Considering both water resources and flooding & groundwater, overall, both Site WH2 East of Bicester Road and Site WQ West of Whaddon Road are considered minor improvements compared to the Baseline for this consideration.

BREEAM considerations and EWR Co's sustainability Strategic Objectives

Baseline (Site WF2 East of M40)

- The Baseline would require the permanent loss of 16ha of agricultural land. This would likely have a negative impact on the Natural Environment SO related to protecting the function of soil ecosystems and enhancing the biodiversity of soil and land resources.
- The Baseline would require HGVs to transport cut and fill material, which would likely have an adverse impact on achieving the Community SO related to air quality.

- Emissions would be likely to result in 3,768 tCO2e, mainly derived from the 7,000m of track (approx. 2,819 tCO2e). The Baseline requires seven crossings (estimated 172 tCO2), a 13,161m2 access road (79 tCO2e) and earthworks (698 tCO2e). This would likely have an adverse impact on achieving the Carbon SO.
- The Baseline would be adjacent to a scheduled monument; although no physical impacts are anticipated, the construction of a maintenance depot would impact its setting and character. Construction and operation may also impact the setting of several listed buildings approximately 350m west. Construction would truncate or totally remove any underlying potential archaeology which may be present. This would likely have an adverse impact on the Historic Environment and Landscape SO related to sensitive integration within landscape character, visual context, and historic places.
- The Baseline would include loss of farmland and hedgerow and a reduction in tranquillity due to operation of the depot. Visual receptors in Wendlebury would have filtered views of the depot and receptors in residential properties near two farms and users of the PRoW would have clear views. Depot lighting would introduce a brightly lit area into the currently unlit farmland. Therefore, this would likely have an adverse impact on the Historic Environment and Landscape SO related to sensitive integration within landscape character, visual context and historic places.
- The Baseline would not be within proximity to any residential receptors, which would likely have a beneficial impact on the Community SO related to noise.

Site WH2 East of Bicester Road

- Site WH2 East of Bicester Road would require the loss of 9ha of agricultural land. Approximately 2ha of the existing 11ha of agricultural land would be within a planning application and is assessed as its future use (residential). This would likely have a negative impact on the Natural Environment SO related to protecting the function of soil ecosystems and enhancing the biodiversity of soil and land resources.
- The magnitude of HGVs could be more than five times greater than the Baseline. It is assumed that these traffic movements would pass densely populated areas. This would have an adverse impact on the Community SO related to air quality.
- There would be anticipated to be a 24% increase in emissions compared to the Baseline (approx. 4,676 tCO2e). The increase would mainly be due the construction of a footbridge (approx. 399 tCO2e). Emissions associated with the earthworks would likely contribute an estimated 1,342 tCO2e, an increase compared to the Baseline. However, there would be only two crossings required (49 tCO2e). This has been assessed as a minor worsening compared to the Baseline and would likely have an adverse impact on achieving the Carbon SO.
- Site WH2 East of Bicester Road would have medium-high archaeological potential, thus excavation related to the construction of the new depot could remove or truncate both known and unknown archaeological remains. There would be 10 listed buildings within 250m, which could be negatively impacted by significant changes to their setting during

construction and operation. Site WH2 East of Bicester Road represents a minor worsening to the historic built environment in comparison to the Baseline and would likely have an adverse impact on the Historic Environment and Landscape SO related to sensitive integration within landscape character, visual context and historic places.

- Site WH2 East of Bicester Road would include loss of hedgerow and landscape pattern and introduction of large-scale infrastructure into the rural landscape. Activity in the depot would noticeably reduce tranquillity and introduce large lit area into unlit landscape. Visual receptors in a nearby village would have partially screened/ filtered views of the depot and the existing woodland north-east of the village would partially screen the depot. Users of local PRoW would have filtered and clear views of the depot. The option would be a minor worsening compared to the Baseline due to greater adverse landscape effects and larger number of visual receptors affected and would further impact the Historic Environment and Landscape SO related to sensitive integration within landscape character, visual context and historic places.
- Site WH2 East of Bicester Road is considered to be a minor worsening compared to the Baseline due to the proximity to a nearby village. This has the potential to detract from the Community SO related to noise. The net volume of excavated material would be twice as high compared to the Baseline, which has been assessed as a minor worsening and could have an adverse impact on achieving the Circular Economy SO.

Site WQ West of Whaddon Road

- Site WQ West of Whaddon Road would require the loss of 15.5ha of agricultural land. This has been assessed as a minor improvement compared to the Baseline and could have a positive impact on achieving the Natural Environment SO related to protecting the function of soil ecosystems and enhancing the biodiversity of soil and land resources.
- The number of HGVs would be more than ten times greater than the Baseline. It is assumed that these traffic movements would pass densely populated areas. This would have an adverse impact on the Community SO related to air quality.
- Site WQ West of Whaddon Road would likely result in a 40% increases in emissions compared to the Baseline, with a total of 5,273 tCO2e. Earthworks activities required would be estimated to contribute 2,623 tCO2e, which is the main contributor to the increase in carbon emissions. There would be only two crossings required for Site WQ West of Whaddon Road, likely resulting in an additional 49 tCO2e. This has been assessed as a minor worsening compared to the Baseline and is likely to have a negative impact on achieving the Carbon SO.
- Site WQ West of Whaddon Road would have high archaeological potential, thus any excavation related to the construction of the new depot has the potential to remove or truncate archaeological remains. This would likely have an adverse impact on the Historic Environment and Landscape SO related to sensitive integration within landscape character, visual context and historic places. Site WQ West of Whaddon Road

would include loss of woodland belt close to existing railway line, introduction of large-scale infrastructure into rural landscape, loss of tranquillity due to the operation of a depot and extensive earthworks to construct the depot on a sloping valley side. The depot would be largely screened from a nearby village by day, although the taller structures might be visible above intervening vegetation. Depot lighting would be apparent in night-time views as a large lit area in an unlit landscape. Users of the PRoW would have clear views. This has been assessed as a minor worsening compared to the Baseline due to greater adverse landscape effects and larger number of visual receptors affected, which would likely have further adverse impacts on achieving the Historic Environment and Landscape SO related to sensitive integration within landscape character, visual context and historic places.

- Site WQ West of Whaddon Road is considered to be minor worsening compared with the Baseline, as the proposed residential properties in the planning application may be impacted. This would have the potential to detract from the Community SO related to noise.
- The net volume of excavated material would be four times as high compared to the Baseline, which has been assessed as a minor worsening and could have an adverse impact on achieving the Circular Economy SO.

Overall, Site WH2 East of Bicester Road is considered a major worsening compared to the Baseline for this consideration due to the number of strategic objectives the option detracts from, and Site WQ West of Whaddon Road is considered a minor worsening.

Assessment Factor 15: Consistency with Local Plans (adopted and emerging)

This factor considers impacts on and opportunities to support development allocations and consistency with the development plan.

Table 10: Assessment Factor 16 judgements

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
Consistency with Local Plans (adopted and emerging) – Overall judgement	Neutral	Neutral	Minor Worsening
Impacts on and opportunities	Neutral	Neutral	Minor Worsening

Factor	Baseline – Site WF2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road
to support adopted Local Plans			
Impacts on an opportunities to support the emerging Local Plans	Neutral	Neutral	Neutral

This assessment is based on an interrogation of the policies map of the relevant local plans.

Baseline Option - Site WF2 East of M40 - as the baseline option it is scored as 'neutral'. The site lies within the open countryside where there is a general presumption against inappropriate development. However, it does not impact on any specific policy allocation or designation.

Site WH2 East of Bicester Road is comparable to the baseline option in that it also lies within the open countryside but does not directly interface with any policy allocations or designations. Accordingly, it is also scored as 'neutral'.

Site WQ West of Whaddon Road lies adjacent to a strategic development allocation and is also partially covered by a mineral safeguarding designation with a small area covered by a 'made' Neighbourhood Plan. Accordingly, it is scored as 'minor worsening' compared to the other two options.

It should be noted that the overall score for Site WH2 East of Bicester Road mainly reflects the provisions of adopted plan policy which are afforded greater weight over emerging plans. The judgement may therefore change as the emerging Neighbourhood Plan and any emerging Local Plans develop further.

Impacts on and opportunities to support the adopted Local Plans

Baseline Option - Site WF2 East of M40

This assessment considers consistency with the adopted Cherwell Local Plan 2011-2031 Part 1 adopted in December 2013. There are no relevant policies in the adopted Oxfordshire Minerals and Waste Local Plan. There are no relevant 'made' Neighbourhood Plans.

The site is not subject to any specific policy allocation or designation on the adopted local plan policies map. However, it lies within the open countryside where the plan's spatial strategy seeks to strictly control new development.

The north-eastern boundary of the site at Langford Lane forms the southernmost boundary of the Alchester Roman Town Scheduled Ancient Monument which is covered by Policy ESD15 which seeks (inter alia) to conserve, sustain and enhance heritage assets in the district. AF14 assesses the potential environmental impact of the proposed options, including on heritage assets. For this reason these matters are not considered as part of this assessment. As the baseline option it is scored as 'neutral'.

Site WH2 East of Bicester Road

This assessment considers consistency with the adopted Cherwell Local Plan 2011-2031 Part 1 adopted in December 2013. There are no relevant policies in the adopted Oxfordshire Minerals and Waste Local Plan. There are no relevant 'made' Neighbourhood Plans.

The site is not subject to any specific policy allocation or designation on the adopted local plan policies map. However, it lies within the open countryside where the plan's spatial strategy seeks to strictly control new development.

A number of PRoW cross the site and the southern side of Station Road is identified as a "Conservation Target Area". AF14 assesses the potential environmental impact of the proposed options, including on heritage assets. For this reason these matters are not considered as part of this assessment. Accordingly it is scored as neutral, the same as the baseline option.

Site WQ West of Whaddon Road

This assessment considers consistency with the adopted Vale of Aylesbury Local Plan 2013-2033 adopted in September 2021 and the 'made' Mursley Neighbourhood Plan which was 'made' on 2nd May 2024.

The spatial vision and objectives of the local plan seek to manage development in such a way as to retain areas of countryside in predominantly rural character where high quality landscapes, heritage, cultural and biodiversity assets are protected and, where possible enhanced. The site lies within the open countryside. Policy S2 seeks to avoid new development in the countryside, especially where it would compromise the character of the countryside between settlements and would result in a negative impact on the identities of neighbouring settlements or lead to their coalescence.

The eastern boundary of the site at Whaddon Road lies adjacent to a site allocated under Policy D-NLV001 on land south of the A421 and east of Whaddon Road which is proposed for a mixed use sustainable urban extension to the south-west of Milton Keynes comprising up to 1,855 new dwellings, employment, neighbourhood centre, new schools and associated infrastructure. While there is no direct interface between this option and the strategic

allocation, and while the illustrative concept plan for the allocation identifies new landscape planting along the Whaddon Road boundary it is considered that this proximity to allocated development results in the potential for impacts on the proposed development from the TMD use of this site and so it warrants a score of “minor worsening” compared to the other two options. It is acknowledged, however, that this is marginal and could possibly be addressed through the provision of appropriate mitigation.

The western part of the site lies within the area covered by the ‘made’ Mursley Neighbourhood Plan (MNP). Policy MUR7: Green Infrastructure Network of the MNP identifies a green infrastructure network which comprises a number of sites identified for their ecological, biodiversity, landscape character or recreational importance. Assessment of any wildlife / ecological impacts are covered under AF14.5.

The southern part of the site is identified as a Minerals Safeguarding Area in the adopted Buckinghamshire Minerals and Waste Local Plan 2016-2036 adopted in July 2019. Policy 1 of that plan requires development in such areas to demonstrate that either prior extraction is feasible and viable, that the mineral is not of any value, the development is temporary in nature and can be restored in a manner which would not inhibit future extraction or that there is an overriding need for the development.

When the minerals safeguarding and Neighbourhood Plan designation are added to the proximity to strategic scale development it is considered that a score of “minor worsening” is justified.

Impacts on and opportunities to support the emerging Local Plans

Baseline Option - Site WF2 East of M40 - This assessment considers consistency with the emerging Cherwell Local Plan Review 2040 (Consultation Draft Regulation 18) which was published for consultation between September and November 2023. As a Regulation 18 consultation draft local plan it does not contain any specific definitive policies or allocations in respect of this option. However, it does carry forward the adopted policy aspirations to resist inappropriate development in the countryside and protect heritage assets.

There is no relevant emerging Minerals and Waste Local Plan and no emerging Neighbourhood Plans affecting this site option. As the baseline option it is scored as 'neutral'.

Site WH2 East of Bicester Road - This assessment considers consistency with the emerging Cherwell Local Plan Review 2040 (Consultation Draft Regulation 18) which was published for consultation between September and November 2023. As a Regulation 18 consultation draft local plan it does not contain any specific definitive policies or allocations in respect of this

option. However, it does carry forward the adopted policy aspirations to resist inappropriate development in the countryside.

There is no relevant emerging Minerals and Waste Local Plan and no emerging Neighbourhood Plans affecting this site option. As the impacts are similar in AF15 terms to the baseline option, Site WH2 East of Bicester Road is scored as 'neutral'.

Site WQ West of Whaddon Road - There are no emerging local plans or minerals and waste local plans relevant to the consideration of this option. There is, however, an emerging Neighbourhood Plan in the form of the Site WQ West of Whaddon Road Neighbourhood Plan 2023-2033 Submission Version published on 8th March 2024. The eastern half of this option falls within the Neighbourhood Plan Designated Area.

The emerging Neighbourhood Plan contains no specific policy allocations or designations which affect this option site. Accordingly, Site WQ West of Whaddon Road is scored as 'neutral'.

It should be noted that this score in respect of Site WQ West of Whaddon Road only considers consistency with the emerging Newton Longville Neighbourhood Plan 2023-20330 submission version as this is the only emerging plan at a sufficiently advanced stage.

4.4 Eastern Locations

Site ED South of Potton Road

This site is located to the east of Little Barford between the EWR main line and the A428.

Figure 5: Indicative depot layout used to review Site ED south of Potton Road

This site proposes to reuse the proposed East Coast Main Line (ECML) Hub area that could be used for the construction compound during the construction of the core section of the EWR route. The following assumptions have been made in the review of this area given its unique intended use:

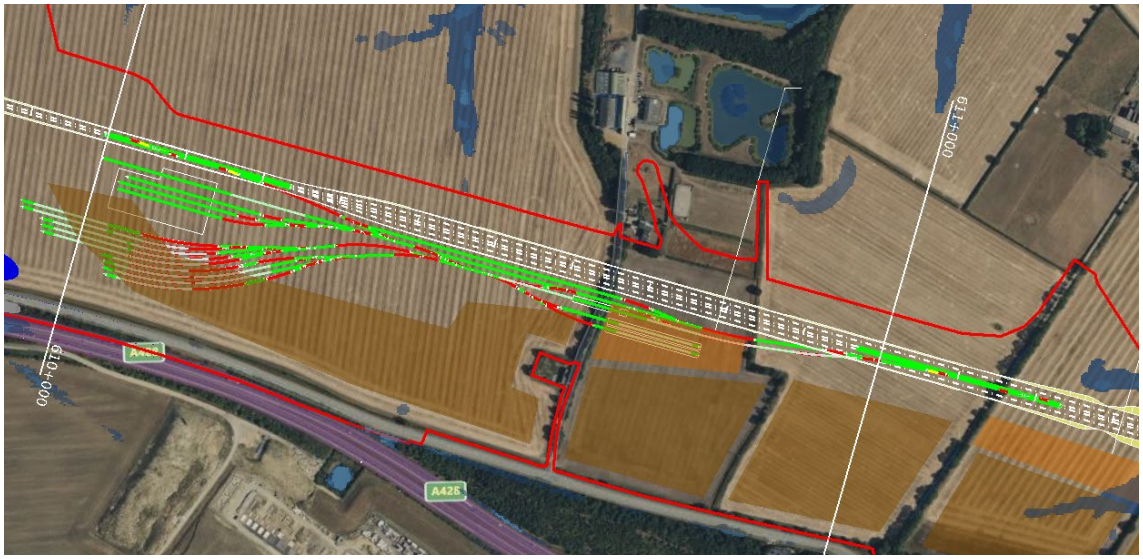
- The ECML hub could be constructed in the same location as the TMD.
- The overall phasing of the hub and TMD are unknown at this stage of the works.
- The level of earthworks for both may be different and as part of the review do not account for each other.
- The hub is a temporary facility, but it is likely the hub and TMD would be combined to some degree as part of eithers construction and/or use.

Track access is provided in both directions for this option but the levels of the area connecting to the main line are challenging. There are potential conflicts with the loss of BMV land which would require mitigation and there is a water course that crosses part of the site. No utilities have been identified in this area.

Site EG2 North of St Neots Road(baseline option)

This site is located to the northwest of Cambourne and sits in between the EWR main line (to the north) and the A428 (to the south).

Figure 6: Indicative depot layout used to review Site EG2 north of St Neots Road



This location would require the rerouting of two public rights of way and also grade 2 agricultural land. There is also a residential property near this location. There could be some utility diversions as a result of this property location. The site has good access to the A428 and is also near the proposed Cambourne train station.

This section provides an overview of the assessment completed for the eastern options.

4.5 Option Evaluation- Eastern TMD locations

This section provides an overview of the assessment completed for the eastern options.

Assessment Factor 1: transport user benefits

This factor considers the benefits to transport users including journey time, crowding and quality compared to current journey as well as modal shift.

Table 11: Assessment Factor 1 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Transport user benefits – Overall judgement	Neutral	Neutral

Overall Transport User Benefits are not expected to be impacted by the locations of the TMDs as they enable the same timetable. Both options would offer the same service. However, a TMD closer to Tempsford station is not expected to start the service offering a call at Tempsford station.

The judgement identified no impact on value of time, user charge benefits or modal shift for both options.

Assessment Factor 2: potential to unlock Economic Growth

This factor considers the potential for wider employment and productivity benefits of improved east-west connectivity and the opportunity for stations served by EWR to support housing growth within their catchment areas.

Table 12: Assessment Factor 2 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Potential to unlock Economic Growth – Overall judgement	Neutral	Minor Improvement

The Site ED South of Potton Road TMD seems to be a better option due to the location compared to Site EG2 North of St Neots Road 's location. The option considered at Site EG2 North of St Neots Road is within 2km of the EWR station and it is in land potentially available for development that could unlock economic growth for the city and the region as well as support the strategic goals of the project.

Assessment Factor 3, 4 and 5: cost and affordability

These factors consider the cost to bring the project to full service, including land acquisition, construction and any adaptation and mitigation works, including risk. Alongside consideration of overall affordability based on potential income and other benefits identified in factors 1 and 2.

Table 13: Assessment Factor 3, 4 & 5 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Capital Cost	Neutral	Major Worsening
Operating Cost	Neutral	Major Worsening
Lifecycle Cost	Neutral	Neutral
Maintenance Cost	Neutral	Minor Worsening
Income and Cost Opportunity	N/A	N/A

Overall judgement is a worsening for Site ED South of Potton Road due to higher capital cost and further distance driving additional OPEX.

Capital cost - 18% worse in the Site ED South of Potton Road option driven by the civil engineering works required for earthworks.

Operating costs - Site ED South of Potton Road is further from Cambridge, requiring longer distance ECS moves and taxis, which could have an impact on costs of train maintenance, taxis, and traincrew time.

Maintenance costs - Site ED South of Potton Road increases the distance of ECS moves by approx. 33% resulting in increased asset wear and reduced maintenance hours, reducing efficiency.

Assessment Factor 6 – 10: Network capability

These factors consider the following:

Journey time between housing centres and employment hubs.

Impact on the interchange-to-interchange station journey times.

Ease of interchange with main line rail services e.g. platform-to-platform distance, level change/accessibility, stopping frequency, timetable alignment.

Strategic consideration of the extent to which EWR facilitates long distance passenger services beyond Oxford to Cambridge.

Potential to meet freight demand, as anticipated by the freight industry, through active provision for freight paths.

Table 14: Assessment Factor 6-10 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Short distance connectivity to support commuting travel into key employment hubs (current and future)	N/A	N/A
Short distance passenger services	Neutral	Neutral

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Rail passenger connectivity to existing main lines	Neutral	Neutral
Long distance passenger services	Neutral	Minor Worsening
Satisfying existing and future freight demand	Neutral	Minor Worsening

Site ED South of Potton Road is further from Cambridge than the baseline (Site EG2 North of St Neots Road), requiring longer distance ECS moves to/from locations beyond Cambridge, increasing cost/complexity for journeys beyond Cambridge and also having an impact on the capacity available for freight.

Assessment Factor 11 & 12: Railway operations

These factors consider the ability of the railway to provide a service that meets or exceeds customer, stakeholder and industry expectations as well as the extent to which the EWR takes account of potential future changes to the wider railway strategy/infrastructure.

Table 15: Assessment Factor 11 & 12 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Performance – Maintainability	Neutral	Minor Worsening
Performance – Rolling stock reliability	Neutral	Neutral
Performance – Infrastructure reliability	Neutral	Neutral
Performance – Operational resilience of EWR	Neutral	Minor Worsening

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Performance – Operational resilience of wider rail network	Neutral	Neutral
Alignment with wider railway strategy / infrastructure – Overall judgement	Neutral	Neutral

For performance each of the criteria were neutral across the sites with the exception of those detailed in the above table.

Maintainability - Site ED South of Potton Road is further from Cambridge, requiring longer distance ECS moves, which may have some impact on the time available for infrastructure and rolling stock maintenance. Site ED South of Potton Road potentially increases asset wear due to greater volume of ECS moves but not assumed to impact reliability.

Operational resilience of EWR – Site ED South of Potton Road is further from Cambridge, requiring longer distance ECS moves, which could have some impact on the number of incidents which occur (due to increased interactions), and the ability to recover from them (e.g. increased time to bring a replacement unit from the TMD to Cambridge).

Alignment with wider railway strategy / infrastructure - There are no known railway emerging plans in these areas.

Assessment Factor 13: Deliverability

This factor considers the risk of harm to workforce and public during construction, operations and maintenance as well as the complexity of the delivery programme or maintenance requirements on efficiently achieving the desired infrastructure state. Future demand may require additional trains or additional length to trains. Both locations have the potential to provide additional stabling or additional length to existing proposed stabling.

Table 16: Assessment 13 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Complexity of delivery	Neutral	Minor Worsening

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Complexity of maintenance	Neutral	Minor Worsening
Safety risk (construction)	Neutral	Minor Worsening
Safety risk (operations)	Neutral	Neutral
Programme schedule and early benefits enabled	Neutral	Major Worsening

Complexity of delivery - Delivery of scope deemed non-complex and no differentiating factor between options. Site ED South of Potton Road option delivery deemed a minor worsening over the baseline due to additional interfaces with existing utilities, constrained work area between proposed EWR alignment and new A428 and working in close proximity to existing residents/properties. No differentiating factors associated with general construction traffic access.

Large level of earthworks required for Site ED South of Potton Road option in comparison to Site EG2 North of St Neots Road (Site EG2 North of St Neots Road– 31,260m3/ Site ED South of Potton Road - 764,000m3). These additional works do not significantly impact the complexity of delivery but supports the minor worsening assessment over the baseline when comparing the works required using the ECML hub as a base.

Complexity of maintenance – Site ED South of Potton Road introduces interfaces between S&C and road crossings. Transitions onto underbridges would create risks with differential stiffness. If these are overbridges, the risks could be increasing derailment severity, electrification complexity and vandalism risk.

Safety risk (construction) - General scope similar in each option and therefore safety risk to workforce not deemed a differentiating factor. Significant increase to HGV numbers (approx. 44,500no.) on local roads due to earthwork required to deliver the depot may subsequently increase the likely impact to the local residents and road users. As such the Site ED South of Potton Road option is deemed a minor worsening over the baseline when comparing the works required using the ECML hub as a base.

Safety risk (operations) - General scope similar in both locations. Location is not a significant differentiator for operational safety. Specific implementation is more important.

Programme schedule and early benefits enabled - Site ED South of Potton Road option deemed a major worsening over the baseline for programme risk due to the interface with REDRAG status utilities and required diversions and the extensive earthworks required to support construction. On the assumption that stockpiling and local roads can support excavation productivity rates of 10,000m3 per week, the additional earthworks alone could take approximately 73 weeks based on using the ECML hub as the base.

Assessment Factor 14: Environmental impact and opportunities

This factor considers the impacts on and opportunities to improve local, national and global environment, and local and regional socio-economic conditions not considered in other factors.

AF14 comprises 17 topics that are evaluated against existing baseline conditions. Evaluations also take account of committed developments forming the future baseline and, where applicable, planning applications that are yet to be committed.

The Site ED South of Potton Road TMD option is positioned in the vicinity of the ECML Logistics Hub. When this Assessment Factor was undertaken, the layout and construction programme for the ECML Logistic Hub was not available. To account for this uncertainty on whether the Hub would be constructed prior to the Site ED South of Potton Road TMD, two environmental option appraisals have been undertaken for Site ED South of Potton Road: 1. Site ED South of Potton Road – TMD construction excluding ECML Logistics Hub Option B; 2 Site ED South of Potton Road – TMD construction post ECML Logistics Hub Option B. These two options are referred to as 1. Site ED South of Potton Road (excluding ECML Hub) and 2. Site ED South of Potton Road (post ECML Hub) within the rest of this section. Where Site ED South of Potton Road is used, it refers to both options. On a worst-case basis, the Site ED South of Potton Road (excluding ECML Hub) are the scores considered within the Assessment Factor process.

Table 17: Assessment Factor 14 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road (excluding ECML hub)	Site ED South of Potton Road (post ECML hub)
Overall Judgement	Neutral	Major worsening	Minor worsening
Environmental assessment considerations (see 17 supporting	Neutral	Major worsening	Minor worsening

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road (excluding ECML hub)	Site ED South of Potton Road (post ECML hub)
considerations below)			
14.1 Agriculture, forestry and soils	Neutral	Minor worsening	Minor improvement
14.2 Air quality	Neutral	Major worsening	Minor worsening
14.3 Carbon	Neutral	Major worsening	Major worsening
14.4 Community	Neutral	Minor worsening	Neutral
14.5 Ecology and biodiversity	Neutral	Minor worsening	Minor worsening
14.6 Electromagnetic interference	Neutral	Neutral	Neutral
14.7 Equalities	Neutral	Neutral	Neutral
14.8 Health	Neutral	Neutral	Neutral
14.9 Historic environment	Neutral	Neutral	Neutral
14.10 Land quality	Neutral	Neutral	Neutral
14.11 Landscape and visual	Neutral	Neutral	Neutral
14.12 Major accidents and	Neutral	Neutral	Neutral

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road (excluding ECML hub)	Site ED South of Potton Road (post ECML hub)
natural disasters			
14.13 Noise and vibration	Neutral	Minor improvement	Minor improvement
14.15 Socio-economics	Neutral	Neutral	Neutral
14.16 Traffic and transport	Neutral	Major worsening	Minor worsening
14.17 Waste and materials	Neutral	Major worsening	Major worsening
14.18 Water resources and flooding	Neutral	Minor Worsening	Minor worsening
BREEAM considerations and EWR Co's Sustainability Strategic Objectives (where not specifically considered above)	Neutral	Major worsening	Major worsening

Overall Judgement

Site ED South of Potton Road (excluding ECML Hub) would require significantly greater earthworks resulting in 16 times the HGV movements as well as impacts to the A428 Improvement Scheme ecological mitigation. A major worsening is reported for Air Quality, Carbon, Traffic and Transport and Waste and Materials and a minor worsening for Agriculture, Forestry and Soils, Communities, Ecology and Biodiversity and Water Resources and Flooding. Conversely, Noise and Vibration reported a minor improvement. All other considerations are neutral.

Overall, Site ED South of Potton Road (excluding ECML Hub) is reported as a major worsening compared to the Baseline primarily due to the greater HGV movements and impact on the A428 Improvement Scheme mitigation.

Site ED South of Potton Road (post ECML Hub) would require significantly greater earthworks resulting in seven times the HGV movements as well as impacts to the A428 Improvement Scheme ecological mitigation. A major worsening is reported for Carbon and Waste and Materials and a minor worsening for Air Quality, Ecology and Biodiversity, Traffic and Transport and Water Resources and Flooding. Conversely, Agriculture, Forestry and Soils and Noise and Vibration reported a minor improvement. All other considerations are neutral.

Overall, Site ED South of Potton Road (post ECML Hub) is reported as a minor worsening compared to the Baseline primarily due to the greater HGV movements (but not as many as the excluding ECML Hub) and impact on the A428 Improvement Scheme mitigation.

The justifications from the environmental Assessment Factor for each supporting consideration are provided below:

Environmental assessment considerations

Agriculture, Forestry and Soils

Neither option would be within land anticipated to be Grade 2 agricultural land according to provisional maps. There is Post 1998 survey coverage for the Baseline, which maps the land as ~16ha of Grade 3a and ~1ha Grade 2. There is no Post 1988 survey coverage for Site ED South of Potton Road. In total, the Baseline would require ~17ha BMV land and Site ED South of Potton Road (excluding ECML Hub) ~20ha, although noting this reduces to ~13ha when considering the agricultural land that could already have been removed by the A428 Improvement Scheme committed development. Once the land requirements associated with the ECML Hub have been taken into account, significantly less BMV land would be lost for Site ED South of Potton Road (post ECML Hub).

Both options would affect three commercial farm holdings, with the Baseline resulting in the loss of approximately 4ha more of commercial agricultural farm holding land than Site ED South of Potton Road (taking account of the A428 Improvement Scheme committed development). In addition, at Tempsford, three farm buildings at Top Farm would be demolished by the TMD and/or ECML Hub.

For the Baseline, of the 17ha that would be lost, a large amount would be required for stockpiling of materials during construction, however, there would be potential for some of this to be returned to agriculture use during operation. Of the ~20ha that would be lost at Site ED South of Potton Road, ~7ha would already be required for the A428 Improvement Scheme committed development, and a significant amount of the remaining agricultural land would be used for the schemes ecological mitigation replacement and/or the ECML Hub. Therefore, there would be little potential for any of the Site ED South of Potton Road agricultural land to

be returned. Therefore, on the assumption of the A428 Improvement Scheme committed development implementation, there is a minor worsening for Site ED South of Potton Road (excluding ECML Hub) compared to the Baseline due to the lower potential of being able to return land to agricultural use despite slightly more land being lost. Site ED South of Potton Road (post ECML Hub) is considered to be a minor improvement compared to the Baseline for this consideration as the majority of the agricultural land at Site ED South of Potton Road would have already been lost.

Air Quality

The Baseline and Site ED South of Potton Road would have limited air quality receptors within the immediate vicinity of either option. There is one area of open space within 250m of Site ED South of Potton Road, Abbotsley Golf Course, however this is now understood to have ceased operating.

The Baseline would require 11,765m2 of highways access track compared to 13,625m2 for Site ED South of Potton Road, resulting in longer vehicle movements.

HGV movements for Site ED South of Potton Road (excluding ECML Hub) would be 16 times greater than the Baseline due to the significant cut and fill material required. Site ED South of Potton Road (post ECML Hub) would be seven times greater than the Baseline. Once the cut and fill requirements associated with the ECML Hub have been taken into account, the HGV movements for Site ED South of Potton Road (post ECML Hub) would be seven times greater than the Baseline. There is an opportunity to reduce HGV movement further by delivering the EMCL logistics hub earlier in the construction programme and using it to support the civils and rail system phases of construction. However, the phasing of the construction work of the hub and TMD was not confirmed at the time of the Assessment Factor. For the purpose of assessment, it was assumed that all TMD material is transported in and out via HGV.

Overall, Site ED South of Potton Road (excluding ECML Hub) is considered to be a major worsening compared to the Baseline due to the additional HGV movements. Site ED South of Potton Road (post ECML Hub) is considered to be a minor worsening for the Baseline as there are still greater HGV movements but not significantly greater to be a major worsening for air quality.

Carbon

For the Baseline it is assumed that the majority of GHG emission associated with the option would likely derive from steel used for the length of track, which would result in an estimated 2,819 tCO2e from 7,000m of track. Two crossings would also be required which would likely result in an estimated 49 tCO2e. Earthworks associated with the Baseline would likely result in GHG emissions equalling an estimated 111 tCO2e. Overall, GHG emissions associated with the Baseline would likely result in 2,979 tCO2e.

Site ED South of Potton Road (excluding ECML Hub) would result in an estimated 2,919 tCO2e from 7,250m of track. Eight crossings would also be required for Site ED South of Potton Road which would likely result in an estimated 196 tCO2e. Earthworks would likely result in GHG emissions equalling an estimated 2,584 tCO2e. Overall, GHG emissions would likely result in 5,700 tCO2e. Note, the above figures do not include minor further GHG emissions associated with the demolition of a residential property (Rectory Farm Cottage) or three farm buildings at Top Farm. Overall, Site ED South of Potton Road (excluding ECML Hub) is considered to be a major worsening for this consideration due to the estimated 91% increase in GHG emission.

Site ED South of Potton Road (post ECML) Hub would result in similar emissions as Site ED South of Potton Road (excluding ECML Hub) with a decrease in GHG emissions from earthworks to 1,100 tCO2e. Compared to the Baseline, there is an estimated 42% increase in GHG emissions totalling 4,215 tCO2e. Overall, Site ED South of Potton Road (post ECML Hub) is also major worsening compared to the Baseline for this consideration.

Note: This assessment has been based on high-level information and does not account for operational emissions such as energy usage.

Community

The Baseline would not require the demolition of any residential properties but approximately 30 are within 250m including 'The Bungalow' off St Neots Road which would be surrounded. Site ED South of Potton Road would require the demolition of one residential property, Rectory Farm Cottage and approximately five are within 250m. Once the land requirements associated with the ECML Hub have been taken into account, this residential demolition would be needed and is therefore not a differentiator. Residential properties within 250m of both options may increase should future development in this area come forward, however this is not committed and therefore not considered as part of this Assessment Factor.

The Baseline would intersect two PRoW, Elsworth BW4 and Knapwell FP5. The EWR scheme already closes Elsworth BW4 and provides a bridge structure for Knapwell FP 5. This structure might have to be marginally larger to provide crossing over the eastern end of the depot. Therefore, additional impacts to PRoW caused by the Baseline are of little significance. No PRoW would be impacted by Site ED South of Potton Road.

Overall, Site ED South of Potton Road (excluding ECML Hub) is a minor worsening compared to the Baseline for this consideration due to the residential demolition. Site ED South of Potton Road (post ECML Hub) is neutral compared to the Baseline for this consideration as there is little between the options.

Ecology and biodiversity

There would be no Statutory and Non-Statutory designated sites or Priority Habitat directly affected by either the Baseline or Site ED South of Potton Road. Site ED South of Potton Road would impact a larger area of SSSI impact zone, however the closest SSSI is St Neots Common,

3.1km northwest whereas Elsworth Wood SSSI is 790m from the Baseline. No impact pathways on either are considered likely due to the composition of the site and the distance from the DCO Project.

Species surveys have not been carried out and therefore no data is available at this time, although surveys have been carried out in relation to the A428 Improvement Scheme committed development (in proximity to Site ED South of Potton Road) including radio tracking for bats, including barbastelle bat. Whilst these bats are not considered linked to SAC populations, maintaining functional and structural connectivity and avoiding collision risk are essential considerations. At this point, information is not available with regard to the A428 Improvement Scheme committed development mitigation or the rationale for the schemes approach. Removing or amending mitigation specifically designed for barbastelle would result in significant complications for the A428 Improvement Scheme committed development interface.

Overall, given the lack of detail, a worst case has been assumed and Site ED South of Potton Road is considered to be a minor worsening compared to the Baseline for ecology due to the potential impacts on the mitigation proposed for the A428 Improvement Scheme committed development with regard to bats. However, the lack of data is a limitation due to limited information available on the A428 Improvement Scheme proposals.

BNG - Both options would be predominantly cropland (low or medium distinctiveness habitats). Site ED South of Potton Road (excluding ECML Hub) would have a greater length of hedgerow habitats present than the Baseline. Site ED South of Potton Road (excluding ECML Hub) would also have two areas of woodland and potentially 0.16km of other rivers and streams habitat which would both potentially be high distinctiveness habitat types.

Site ED South of Potton Road (excluding ECML Hub) would have a large area of habitat identified to be of local importance, whereas the Baseline does not. Further, Site ED South of Potton Road (excluding ECML Hub) would also have greater land take compared to the Baseline. Once the land requirements associated with the ECML Hub have been taken into account much of this ecological land would already have been lost.

Site ED South of Potton Road (excluding ECML Hub) is considered to be a minor worsening compared to the Baseline for BNG. Site ED South of Potton Road (post ECML Hub) is considered to be neutral compared to the Baseline for BNG.

Overall, Site ED South of Potton Road is considered to be a minor worsening compared to the Baseline for this consideration due to the potential A428 mitigation impacts, notably on bat species.

Electromagnetic Interference

There would be no sensitive receptors within 100m of either option.

Overall, Site ED South of Potton Road is considered to be neutral compared to the Baseline for this consideration.

Equalities

Neither option would affect neighbourhoods (Lower Super Output Areas) who are considered to be in the most deprived decile and there would be no significant impact on deprived neighbourhoods with either option. From an equalities perspective, differential effects arise where protected characteristic groups are likely to be affected in a different way when compared to the general population. This may be because groups have specific needs or are more susceptible to the effects due to their protected characteristic. These effects are not dependent on the number of people affected.

The Baseline would not require the demolition of any residential properties but approximately 30 are within 250m including 'The Bungalow' off St Neots Road which would be surrounded. Site ED South of Potton Road would require the demolition of one residential property, Rectory Farm Cottage and approximately five are within 250m. Once the land requirements associated with the ECML Hub have been taken into account, this residential demolition would be needed and is therefore not a differentiator. Residential properties within 250m of both options may increase should future development in this area come forward, however this is not committed and therefore not considered as part of this Assessment Factor.

The Baseline would intersect two PRoW, Elsworth BW4 and Knapwell FP5. The EWR scheme already closes Elsworth BW4 and provides a bridge structure for Knapwell FP 5. This structure might have to be marginally larger to provide crossing over the eastern end of the depot. Therefore, additional impacts to PRoW caused by the Baseline are of little significance. No PRoW would be impacted by Site ED South of Potton Road.

Overall, Site ED South of Potton Road is considered to be neutral compared to the Baseline for this consideration as there is little between the options. The amenity impacts and the PRoWs diversions, are likely to affect the same equality groups, children, older people and disabled people for both options.

Health

Neither option would affect neighbourhoods (Lower Super Output Areas) who are considered to be in the most deprived decile for overall and health deprivation. However, it is assumed that there are vulnerable groups residing within the general population, who may experience effects differently.

The Baseline would not require the demolition of any residential properties but approximately 30 are within 250m including 'The Bungalow' off St Neots Road which would be surrounded. Site ED South of Potton Road would require the demolition of one residential property, Rectory Farm Cottage and approximately five are within 250m. Once the land requirements associated with the ECML Hub have been taken into account, this residential demolition would

be needed and is therefore not a differentiator. Residential properties within 250m of both options may increase should future development in this area come forward, however this is not committed and therefore not considered as part of this Assessment Factor.

There would be temporary and permanent effects to users of the PRoW for the Baseline, which may impact the local population's ability to undertake physical activity but suitable mitigation to avoid severance is provided. The Baseline would intersect two PRoW, bridleway Elsworth BW4 and footpath Knapwell FP5. The EWR Scheme would already require the closure of Elsworth BW4. It is also assumed that the Knapwell FP5 would be reopened, with a crossing over the eastern end of the depot. In comparison, no PRoW would be impacted by Site ED South of Potton Road.

Overall, Site ED South of Potton Road is considered to be neutral compared to the Baseline for this consideration.

Historic Environment

For the purposes of this assessment, to ensure historic environment policy and best practice is followed direct impacts is defined as physical impacts to a heritage asset, indirect impacts is defined as impacts in the setting of a heritage asset.

Baseline (Site EG2 North of St Neots Road) - There would be no scheduled monuments within the Baseline depot footprint or within a 250m buffer. Despite this, non-designated buried archaeology has been identified, specifically a complex network of linear and curvilinear features/anomalies identify by geophysical survey and interpreted as a possible settlement (Historic England Records (HER): MCB22309) of probable Iron Age to Roman date. The construction of the depot in this located would result in a direct physical impact on any potential buried archaeology and totally remove remains within the construction footprint.

There would be no designated built heritage assets within the depot footprint, however one Grade II listed building is, a Mile post near junction with Elsworth Road (National Heritage List (NHL) 1331369) would be c. 180m south-west of the Baseline depot. Despite the asset's proximity to the Baseline, any potential setting impacts incurred through the construction and operation of the depot would not be considered significant.

There would be no registered parks and gardens, historic battlefields or conservation areas within 250m of the Baseline.

Site ED South of Potton Road - There would be no scheduled monuments, listed buildings, registered parks and gardens, historic battlefields or conservation areas within 250m of Site ED South of Potton Road. The HER show that one non-designated asset would be within the order limits (undated/medieval features at Potton Road, Eynesbury Hardwicke). In addition to this, two areas of non-designated ridge and furrow would extend from within the 250m buffer into the order limits as would five non-designated landscape lines recorded as open-field headland, cultivation marks. All but one of these cultivation marks have also been recorded by the NMP.

Within 250m there would be an additional two non-designated landscape lines recorded as open-field headland, cultivation marks as well as non-designated Iron Age/Romano-British settlement enclosures/Medieval field system, SW of Rectory Farm, one area of ridge and furrow and a further eight non-designated HER points. The presence of numerous archaeological assets in proximity to Site ED South of Potton Road, as well as within the order limit, indicates a high potential for unknown archaeology. Any excavation related to the construction of the new depot may totally remove or truncate any potential underlying archaeological remains. Site ED South of Potton Road is considered to be neutral in comparison with the Baseline for buried archaeology. It is unknown whether construction of the ECML Hub would remove or truncate any of the potential underlying archaeological remains and therefore Site ED South of Potton Road (post ECML Hub) is also considered to be neutral compared to the Baseline for this consideration.

The conservation area of Little Barford would be located approximately 1.2km to the west of the order limits and contains ten listed buildings. Although these designated built heritage assets are beyond 250m buffer, it would be possible that during construction the appearance of the worksite, visual disturbance through the movement of plant, associated noise and the appearance and height of structures within the depot when completed would have the potential to impact the value of the conservation area and listed buildings within it through changes to their setting.

There would be four non-designated buildings recorded within 250m, including the barns and the site of timber framed barn at Top Farm, Sheepfold in Bunker's hill and Rectory Farm, Abbotsley. Only the barns at Top Farm and Rectory Farm appear to remain extant, however, it is not possible to confirm this from available data. Any below ground remains of these assets should be considered archaeological. There would be potential for the heritage value of these extant buildings to be negatively impacted through changes to their predominantly rural farmland setting as a result of this option. During construction, the appearance of the worksite, visual disturbance through the movement of plant and associated noise would have the potential to impact the setting and value of the non-designated buildings. This option is considered to be neutral in comparison with the Baseline for non-designated built heritage.

Overall, Site ED South of Potton Road is considered neutral compared to the Baseline for this consideration.

Land Quality

There would be no designated sites within 250m of either option.

Overall, Site ED South of Potton Road is considered to be neutral compared to the Baseline for this consideration due to there not being any designated land quality sites in the vicinity of either option.

Landscape and Visual

Baseline Site EG2 North of St Neots Road TMD - The site of the Baseline is currently open farmland which slopes down towards Cambourne and A428 to the south. The fields are bordered by mature hedgerows and Elsworth BW 4 PRoW crosses the option site. The Baseline would be on the northern boundary of an area locally designated as West Cambridgeshire Hundreds Priority Landscape. Tranquillity is low due to noise generated by traffic on the A428. The Baseline would be clearly visible from The Bungalow residential property but well screened from Cambourne by the A428 and vegetation along the road corridor and northern boundary of Cambourne. There would be a small number of isolated residential receptors north of the A428 who would have views of the Baseline and residents on St Neots Road would have oblique views. The A428 is lit and streetlighting in Cambourne lightens the night sky.

The Baseline would be between the EWR line and the A428, on land effectively severed from the landscape to the north. This would minimise the landscape effects of the depot on this area. Woodland mitigation planting along the northern boundary of the EWR line would further limit effects on this landscape and existing vegetation would limit effects on the townscape of Cambourne to the south. A small number of residential receptors and people using Elsworth BW 4 would have views of the depot. The taller structures in the depot would add to the existing urbanising effect of the A428 on landscape and views. Lighting in the depot would extend lighting into unlit land to the north and the existing low tranquillity would be further reduced.

Site ED South of Potton Road - The site of Site ED South of Potton Road is on open, gently undulating farmland which rises to the north. A power station, the ECML and the A428 area to the west detract from the rural character of the area. Woodland belts provide enclosure and screening. Traffic on the A428 and trains on the ECML reduce tranquillity towards the northern end of the options site but the landscape is more tranquil towards the south. There is streetlighting along Barford Road and in St Neots, reducing the darkness of the sky above. The site is currently visible from Potton Road and a small number of isolated residential properties to the east and is close to Abbotsley Hotel Golf and Country Club. Views of the site from St Neots and Little Barford to the west are screened by intervening vegetation. There are no PRoWs in the vicinity. Implementation of the A428 Black Cat to Caxton Gibbet Road Improvement Scheme where the new dual carriageway A421 would run parallel to the new railway line intersects with the order limits boundary for Site ED South of Potton Road and will have already impacted the landscape before this option would have been implemented.

The Site ED South of Potton Road would be on land locked between EWR in cutting and the A421 in cutting and embankment. It would generally be below surrounding ground level, limiting adverse effects on the landscape but tall structures in the depot would be apparent, urbanising the landscape. Lighting in the depot would extend lighting into unlit farmland. Tempsford Station would also be lit. Tranquillity would be further reduced but traffic on the

A421 would have an equal or greater adverse effect. The A421 would provide some screening for views from Potton Road and residential properties to the east. The existing ground levels would provide some screening from the west. Woodland belts would partially screen the depot but the taller structures in the depot could be apparent from Barford Road. Mitigation planting on the western side of EWR would also provide screening.

Overall, Site ED South of Potton Road is considered to be neutral compared to the Baseline for this consideration as both would have similar permanent effects on the landscape. In both cases the depot would increase the urbanising effect. Both would be seen in the context of lit dual carriageways.

Major Accidents and Natural Disasters

There are no COMAH sites within 250m.

At this stage, there is insufficient detail to complete an assessment for the major accidents and natural disasters consideration.

Noise and Vibration

Both options would be within relatively rural areas with limited local immediate receptors. The area surrounding the Baseline is mainly affected by the A428 road whereas the area surrounding Site ED South of Potton Road is already affected by railway noise (ECML) and the industrial area south of St Neots. There would be a handful of residential and/or agricultural holdings in the immediate vicinity of both options. The Baseline could indirectly impact two residential properties, The Lawn, approximately 40m north and The Bungalow, approximately 50m to the south. There would be scattered properties around Site ED South of Potton Road but they are relatively well separated. The large residential area south of St Neots is already affected by railway noise and the A428 road traffic noise.

Overall, Site ED South of Potton Road is considered to be a minor improvement compared with the Baseline due to the existing noise climate and proximity to larger residential areas which already experiences railway noise from the ECML and road traffic noise from the A428.

Socio-economics

There would be no businesses directly impacted by either option (other than agricultural).

Overall, Site ED South of Potton Road (excluding and post ECML Hub) is considered to be neutral compared to the Baseline for this consideration.

For this consideration, direct impacts are defined as demolition or land take to businesses. Indirect impacts, such as visual and noise, on business receptors are to be assessed at a future stage.

Traffic and Transport

HGV movements for Site ED South of Potton Road (excluding ECML Hub) could be 16 times greater than the Baseline due to the significant cut and fill material required. Site ED South of

Potton Road (post ECML Hub) could be seven times greater than the Baseline. Once the cut and fill requirements associated with the ECML Hub have been taken into account, the HGV movements for Site ED South of Potton Road (post ECML Hub) would be seven times greater than the Baseline. There is an opportunity to reduce HGV movement further by delivering the EMCL logistics hub earlier in the construction programme and using it to support the civils and rail system phases of construction. However, the phasing of the construction work of the hub and TMD was not confirmed at the time of the Assessment Factor. For the purpose of assessment it was assumed that all TMD material is transported in and out via HGV.

For the Baseline, two minor roads that provide access to Coldharbour Farm and Lawn Farm would be stopped up, however alternative provision to access both properties would be provided by the Knapwell FP5 bridge. Site ED South of Potton Road (excluding ECML Hub) crosses the B1046 and six minor roads compared to just one minor road for the Baseline. The A428 Black Cat to Caxton Gibbet Road Improvement Scheme intersects the order limits of where the Site ED South of Potton Road TMD location would be. Of these impacts, it is unclear at the time of assessment what road changes would have already occurred for Site ED South of Potton Road (post ECML Hub).

The Baseline would intersect two PRoW, Elsworth BW4 and Knapwell FP5. The EWR scheme already closes Elsworth BW4 and provides a bridge structure for Knapwell FP5. This structure might have to be marginally larger to provide crossing over the eastern end of the depot. Therefore, additional impacts to PRoW caused by the Baseline are of little significance. No PRoW would be impacted by Site ED South of Potton Road.

Overall, Site ED South of Potton Road (excluding ECML Hub) is considered to be a major worsening compared to the Baseline for this consideration due to the increase in HGV movements. Site ED South of Potton Road (post ECML Hub) is considered to be a minor worsening compared to the Baseline for this consideration (in the context of the overall number of HGVs required for the project this does not warrant a major worsening).

Waste and Materials

On a worst-case basis, and in line with the HGV movement assumptions, it is assumed that all cut material would be exported and all fill material would be imported. There is an opportunity to reduce HGV movement further by delivering the EMCL logistics hub earlier in the construction programme and using it to support the civils and rail system phases of construction. However, the phasing of the construction work of the hub and TMD was not confirmed at the time of the Assessment Factor. The net volume of excavated material would be 24 times higher for Site ED South of Potton Road (excluding ECML Hub) compared to the Baseline due to the differences in topography of the two sites. The net volume of excavated material would be 10 times higher for Site ED South of Potton Road (post ECML Hub). It should be noted that the reuse of material has not been considered but there is potential for this to be undertaken.

Note, the above figures do not include demolition material associated with the demolition of agricultural buildings at Top Farm and the residential property at Rectory Farm Cottage that would be required for Site ED South of Potton Road (excluding ECML Hub).

Overall, and considering the quantitative data available, Site ED South of Potton Road is considered to be a major worsening compared to the Baseline for this consideration due to the greater excavated material exported.

Water Resources and Flooding

Water Resources - The Baseline would not cross any watercourses but would intercept a number of minor drainage ditches (note these are already affected by the line of route at this location). One of the drainage ditches potentially feeds the Lawn Farm Fisheries ponds and therefore mitigation may be required to ensure continued flow. Further engagement with the fishery landowner is required to determine any potential impacts and likely mitigations.

Site ED South of Potton Road would cross four watercourses: Top Farm Watercourse running through the middle of the site, and three tributaries of Hen Brook running alongside roads at the northern end of the site.

There would be no Source Protection Zones or Flood Zones within either option.

Site ED South of Potton Road is considered to be a minor worsening compared to the Baseline for water resources due to the interface with existing watercourses. Of these impacts, it is unclear at the time of assessment what water network changes would have already occurred for Site ED South of Potton Road (post ECML Hub).

Flood Risk - The Baseline would not cross any significant watercourses and would be located outside of flood zones 2 and 3. There is no evidence of surface water flooding from available online mapping. Therefore, there would be no expected requirement for floodplain storage compensation associated with this option.

Site ED South of Potton Road crosses Top Farm watercourse which would require a significant realignment in a tight space next to cutting, or, culverting, which would likely require floodplain storage compensation with impacts on flood risk and WFD. In addition, Site ED South of Potton Road occupies floodplain within an area of flood zone 3 and therefore would require floodplain compensation. Hen Brook tributaries further north would be intercepted in the mainline rail cutting, making interaction with them of neutral effect. Therefore, Site ED South of Potton Road is considered to be a major worsening compared to the Baseline for flood risk. Of these impacts, it is unclear at the time of assessment what water network changes would have already occurred for Site ED South of Potton Road (post ECML Hub).

Groundwater - The Baseline would not be within a WFD designated groundwater body or SPZ. However, it would be situated on top of unproductive Oxford Clay bedrock with a superficial cover of Glacial Till. The nearby Elsworth Wood SSSI has been identified as potentially groundwater dependent and would be 760m north of the Baseline. While bedrock is

unproductive, these two areas may be connected by groundwater flows in the shallow glacial till, and therefore there would be a possibility that changes in groundwater quality or interruptions in flows from the depot area could impact this protected area. No other relevant groundwater receptors have been identified.

Site ED South of Potton Road would not be within a WFD designated groundwater body. There would be no groundwater relevant protected areas within 2km, and no SPZ. There would be no known groundwater abstractions within 2km of the asset. Site ED South of Potton Road would be situated on the unproductive Oxford Clay bedrock, with a superficial cover of Glacial Till.

Site ED South of Potton Road is considered a minor improvement compared to the Baseline for groundwater due to the reduced risk of impacts to a potentially groundwater dependent terrestrial ecosystem.

Overall, Site ED South of Potton Road is considered to be a minor worsening in comparison to the Baseline for this consideration due to impact on watercourses, and compensation that would be required from being in flood zones.

BREEAM and EWR Co's Environmental Sustainability Strategic Objectives

Baseline - Site EG2 North of St Neots Road

The Baseline would result in the loss of commercial agricultural land. Of the 17ha of BMV land required, a large amount would be required for stockpiling of materials during construction, however there is the potential for some of this to be returned to agriculture use during operation. This would likely have a negative impact on the Natural Environment SO related to protecting the function of soil ecosystems and enhancing the biodiversity of soil and land resources.

The Baseline would require HGVs to transport cut and fill material, which would likely have an adverse impact on achieving the Community SO related to operational noise and the Carbon SO.

The majority of emissions for the Baseline would likely derive from steel used for the length of track, resulting in an estimated 2,819 tCO2e from 7,000m of track. Two crossings would also be required, which would likely result in 49 tCO2e. Earthworks would be estimated to generate 111 tCO2e. Overall emissions would likely result in 2,979 tCO2e. This would likely have an adverse impact on achieving the Carbon SO.

The Baseline would have residential properties within 50m. This may have an adverse impact on achieving the Community SO related to operational noise.

Site ED South of Potton Road

Site ED South of Potton Road (excluding ECML Hub) would result in the loss of approximately 4ha less of commercial agricultural land from farm holdings than the Baseline. Of the 20ha BMV land required, ~7ha would already be required for the A428 Improvement Scheme committed development, and much of the remaining agricultural land would be used for ecological mitigation replacement. Thus, there would be limited potential for agricultural land to be returned and would likely have an adverse impact on the Natural Environment SO related to protecting the function of soil ecosystems and enhancing the biodiversity of soil and land resources. Site ED South of Potton Road (post ECML Hub) would also have an adverse impact as, although less, some agricultural land would be lost.

HGV movements could be 16 (excluding ECML Hub) or seven (post ECML Hub) times greater than the Baseline due to the significant cut and fill material required, resulting in a major worsening and minor worsening for air quality, respectively. This would likely have an adverse impact on achieving the Community SO related to operational noise and Carbon SO.

Emissions would likely largely derive from steel used for the length of track. Eight crossings are required, compared to two for the Baseline. Earthworks are estimated to increase compared to the Baseline. Overall, Site ED South of Potton Road would likely result in a major worsening compared to the Baseline, with an estimated 91% increase (excluding ECML Hub) and 42% increase (post ECML Hub) in emissions totalling 5,700 and 4,215 tCO2e, respectively. This would have an adverse impact on achieving the Carbon SO.

There would be scattered properties around Site ED South of Potton Road but they are relatively well separated, thus the option is considered to be a minor improvement compared with the Baseline due to the existing noise climate and proximity to larger residential areas which already experience railway noise from the ECML and road traffic noise from the A428. This may have a positive impact on achieving the Community SO related to noise.

Based on current assumptions, the net volume of excavated material would be 24 times higher for Site ED South of Potton Road (excluding ECML Hub) and ten times high for Site ED South of Potton Road (post ECML Hub) compared to the Baseline, which has been assessed as a major worsening and would have an adverse impact on achieving the Waste SO.

Assessment Factor 15: Consistency with Local Plans (adopted and emerging)

This factor considers impacts on and opportunities to support development allocations and consistency with the development plan.

Table 18: Assessment Factor 15 judgements

Factor	Baseline – Site EG2 North of St Neots Road	Site ED South of Potton Road
Consistency with Local Plans (adopted and emerging) – Impacts on and opportunities to support Local Plans	Neutral	Minor Improvement
Consistency with Local Plans (adopted and emerging) – Impacts on and opportunities to support emerging Local Plans	Neutral	Neutral

The Site ED South of Potton Road option is considered to be a minor improvement overall when compared with the Baseline Option. In terms of consistency with adopted Local Plans, the Site ED South of Potton Road Option would avoid the Lord's Bridge Consultation Area and therefore have less potential for impact on the Mullard Radio Astronomy Observatory.

In terms of consistency with emerging Local Plans, specifically the Bedford Local Plan 2040, the Site ED South of Potton Road option is considered unlikely to affect phasing or build out of the Little Barford new settlement, over and above the impact of the new EWR railway. The baseline option would avoid the Little Barford new settlement site. Therefore, at the time of writing, there are no key differentiating factors in respect of consistency with emerging Local Plans which would change the judgement set out for consistency with adopted Local Plans, and the Site ED South of Potton Road Option is thus considered to be a minor improvement overall when compared with the Baseline Option.

*Note: The assessment of consistency with emerging Local Plans only considers consistency with the emerging Bedford Borough Local Plan 2040 (BBLP 2040) (April 2022) as this is the only emerging plan at a sufficiently advanced stage.

Impacts on opportunities to support the adopted Local Plans

This assessment considers consistency with the Bedford Borough Local Plan 2030 (BBLP 2030) (including saved policies from the Allocations and Designations Local Plan (ADLP)); Huntingdonshire's Local Plan to 2036 (HLP); the South Cambridgeshire Local Plan (SCLP) (September 2018); the Bedford Borough, Luton Borough and Central Bedfordshire Councils

Minerals and Waste Local Plan: Strategic Sites and Policies (M&WLP) (2014); and the Cambridgeshire and Peterborough Minerals and Waste Local Plan (M&WLP) (July 2021). There are no relevant made neighbourhood plans.

Both options are within the countryside, outside of the defined settlements under the adopted local plans.

The Baseline Option (Site EG2 North of St Neots Road) is located wholly within the Lord's Bridge Consultation Area 2 designated under Policy TI/7 of the SCLP. This policy seeks to safeguard the international importance of the Mullard Radio Astronomy Observatory (MRAO), including through avoiding harm to the Observatory from proposals for telecommunications and microwave operations within the consultation area. It is assumed that the proposals for the baseline option would include such operations and would therefore have the potential to impact on the MRAO, albeit it is noted that this option is towards the boundary of the consultation area, and further investigation and consultation with the University of Cambridge would be needed.

There are no other differentiating factors between the options under this AF. As such, the Site ED South of Potton Road depot option is considered to be a minor improvement over the Baseline Option, as it would avoid the Lord's Bridge Consultation Area and therefore have less potential for impact on the MRAO.

Impacts on and opportunities to support the emerging Local Plans

This assessment only considers consistency with the emerging Bedford Borough Local Plan 2040 (BBLP 2040) (April 2022); the Huntingdonshire Local Plan Update – Further Issues and Options Paper (September 2024) and the Greater Cambridge Local Plan First Proposals Consultation (2021) and Local Plan Development Strategy Update (Regulation 18 Preferred Options) (January 2023).

The reviews of the relevant Minerals and Waste Local Plans has not commenced, and there are no relevant emerging Neighbourhood Plans.

The emerging Bedford Local Plan 2040 (April 2022) is currently at examination. The spatial development strategy in part focuses new growth on the EWR transport corridor.

The Local Plan 2040 proposes to allocate land at Little Barford for a new settlement of at least 4000 homes and in the region of 4ha of employment land (under Policy HOU19). The Little Barford new settlement is anticipated to be built out whilst EWR is being constructed.

The Site ED South of Potton Road option includes land-take within the Little Barford new settlement, along the eastern boundary of the allocated site. It is assumed that the TMD will be required permanently to support the operation of the railway.

The land required for the Site ED South of Potton Road option within the Little Barford allocation is also required permanently for the EWR rail corridor and would be located

between the EWR railway corridor and the realigned A428. As such, this land would effectively be 'sterilised' by the EWR railway corridor and realigned A428, and the land uses appropriate in this location would be limited, irrespective of whether this TMD option is taken forward.

As such, the Site ED South of Potton Road option is considered unlikely to impact the phasing or build-out of the Little Barford new settlement site over and above the impact of the railway. The baseline option would avoid the Little Barford new settlement site.

Taking the above into account, and when considering consistency with the emerging Bedford Local Plan 2040 only, the Site ED South of Potton Road option is judged to be neutral when compared with the Baseline Option.

The emerging Huntingdonshire Local Plan is at an early stage. In September 2024, Huntingdonshire District Council (HDC) published a Further Issues and Options Paper setting out a range of potential options for the Local Plan and seeking comments from the public and stakeholders. The Paper does not include detailed policy wording or a Policy Map, which are expected to be set out in the draft Local Plan, anticipated by HDC to be published in Summer/Autumn 2025.

The emerging Greater Cambridge Local Plan is also at an early stage. The First Proposals Local Plan Consultation Draft (2021) proposes to broadly carry forward the policy safeguarding the Mullard Radio Astronomy Observatory at Lord's Bridge (under Policy I/SI), which may continue to be relevant to the Baseline Option at Site EG2 North of St Neots Road .

The First Proposals document also sets out the intention to identify Cambourne as a broad location for future growth in the 2030s to respond to the opportunity presented by the proposed EWR station at Cambourne (Policy S/CB). The exact location of this proposed strategic development is not defined in the document, but it is stated that future development at Cambourne may need to consider how to 'integrate with and maximise the opportunity provided by East West Rail' (p.100). There is the potential that the TMD option at Site EG2 North of St Neots Road would not support this.

The Greater Cambridge Local Plan Development Strategy Update (2023) focused on employment and housing provision and the development strategy for Greater Cambridge. It indicated that it was necessary for further work to be undertaken to understand the implications of both water supply and housing delivery on the draft Local Plan targets for jobs and homes before concluding the most appropriate targets to include in the draft Local Plan. It also indicated that further work was required to consider the site-specific sustainability implications of potential solutions to meet the development needs. Since the Development Strategy Update was published, the Government has established a Cambridge Water Scarcity Group and allocated funding to help address the water supply issue. The Councils have indicated that progress has been made, but there are still uncertainties regarding how much development can be planned for based upon available water supplies (see Greater Cambridge

Local Development Scheme – November 2024). As of November 2024, the expansion of Cambourne has not been confirmed as a key strategic site in the emerging Local Plan.

The early indications are that in terms of consistency with emerging Local Plans, the Site ED South of Potton Road depot option would be an improvement over the baseline option at Site EG2 North of St Neots Road , given that the former is less likely to impact on the MRAO and would avoid any potential for conflict with a future strategic development at Cambourne. However, in the absence of detailed policy wording and policy maps setting out allocated and designated sites, it is not possible to reach a judgement on the consistency of the options with the Huntingdonshire and Greater Cambridge Local Plans. The draft proposals should however be kept under review as the Plan progresses.

4.6 Stakeholder Feedback

As part of the Non-Statutory Consultation undertaken between November 2024 and January 2025 the Technical Report prepared as part of the consultation materials included a map indicating the five shortlisted locations for a TMD. In response to the consultation there were concerns raised on the community impacts of the potential depot locations, including disruption to local communities and loss of farmland. Concerns were raised on the potential harm to wildlife and suggestions to locate away from sensitive ecological zones.

Some specific feedback from the Non-Statutory Consultation on depots included:

- For depots, please consider the reuse / expansion of existing network rail facilities rather than use new green field sites I would like to see more detail on construction. There is little evidence on how we are looking to minimise disruption for local residents.

- The Train Maintenance Depot/Train Infrastructure Depots etc. need to be located away from existing communities and well away from the Core Sustenance Zones of Barbastelle bats especially those belonging to the Hardwick Wood maternity roost. Barbastelles are sensitive to disturbance by people, light, noise, vibration. And would be detrimentally affected by dust and any water pollution from construction activities too.

Network Rail were engaged during the short listing process and at conclusion of the assessment factors process and had no comments on the options proposed.

4.7 Outcome of the Initial Assessment Factor process

A summary of the judgements against the initial assessment factor process is provided in the table below. Factors where the judgement is neutral for all options have been excluded for clarity. These are the results prior to the reassessment detailed in the following sections

A summary of the judgements against the initial assessment factor process is provided in the table below. Factors where the judgement is neutral for all options have been excluded for clarity. These are the results prior to the reassessment detailed in the following sections.

Table 19: Summary of initial judgements (neutral judgements excluded)

Assessment Factor	Baseline F2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road	Baseline Site EG2 North of St Neots Road	Site ED South of Potton Road
Potential to unlock Economic Growth	Neutral	Neutral	Neutral	Neutral	Minor Improvement
Cost and Affordability – Capital Cost	Neutral	Major Improvement	Major Improvement	Neutral	Major Worsening
Cost and Affordability – Operating Cost	Neutral	Minor Worsening	Major Worsening	Neutral	Major Worsening
Long Distance passenger services	Neutral	Minor Worsening	Minor Worsening	Neutral	Minor Worsening
Satisfying existing and future freight demand	Neutral	Minor Worsening	Minor Worsening	Neutral	Minor Worsening
Performance – Maintainability	Neutral	Minor Worsening	Minor Worsening	Neutral	Minor Worsening
Performance – Operatio	Neutral	Minor Worsening	Minor Worsening	Neutral	Minor Worsening

Assessment Factor	Baseline F2 East of M40	Site WH2 East of Bicester Road	Site WQ West of Whaddon Road	Baseline Site EG2 North of St Neots Road	Site ED South of Potton Road
nal Resilience					
Alignment with wider railway – Change in future passenger demand	Neutral	Minor Worsening	Minor Improvement	Neutral	Neutral
Environment	Neutral	Major Worsening	Minor Worsening	Neutral	Minor Worsening
BREEAM considerations and EWR Co's sustainability Strategic Objectives	Neutral	Major Worsening	Minor Worsening	Neutral	Minor Worsening
Deliverability	Neutral	Minor Worsening	Minor Worsening	Neutral	Minor Worsening
Consistency with Local Plans (adopted and emerging)	Neutral	Neutral	Minor Worsening	Neutral	Minor Improvement

4.8 East vs West Comparison

The overall judgements from the initial assessment factor process identified that the baseline options performed the best and so are the preferred locations .

Comparing the baseline options from an overall cost perspective, Site EG2 North of St Neots Road was a cheaper location in terms of construction but the operational costs which would be sustained over a longer period of time are increased when compared to the Site WF2 East of M40 site. There are also external factors around the Site EG2 North of St Neots Road location that favoured the Site WF2 East of M40 location as a more suitable TMD. These include the future potential for the growth of the Cambourne area as part of the emerging Greater Cambridge Local Plan, and the possible impact on the Lord's Bridge Consultation Area which seeks to safeguard the international importance of the Mullard Radio Astronomy Observatory (MRAO).

The proposed construction phasing of the project is that Oxford-Bedford infrastructure will be completed first, before the new railway is completed from Beford-Cambridge. Positioning the TMD West of Bedford would enable new trains to be phased into service on existing infrastructure and maximise the infrastructure available for testing and staff training.

The conclusion of the initial assessment factor process identified the western site (Site WF2 East of M40) as the preferred location for the TMD over the Eastern Site EG2 North of St Neots.

5. Initial Assessment Factor Conclusion

Following the identification of a long list of options for a possible TMD along the EWR route, the long list of options was reviewed in a number of stages, resulting in the 5 shortlisted options that have been subject to the assessment factor process. These were:

- Site WF2 East of M40
- Site WH2 East of Bicester Road
- Site WQ West of Whaddon Road
- Site ED South of Potton Road
- Site EG2 North of St Neots Road.

Following completion of the initial assessment factors process, Site WF2 East of M40 was identified as the preferred TMD location for EWR operations. This location scored best overall and the increased capital cost was offset by the reduced operating costs that had been calculated.

The location of the TMD in the west is considered preferable from a strategic programme perspective as it can be constructed and used before the Bedford to Cambridge section of the route comes online and allows for the rolling stock fleet to be introduced and fully commissioned with the ability to run on the existing route from day one.

6. Further Assessment Factor Process

Having determined the preferred option as WF2 East of M40, further design work was undertaken as part of ongoing design development.

During this design work additional issues were discovered, along with more information on some known issues, as set out in Section 6.1. It was deemed these could impact the previous assessment factor analysis by altering the assessment of the Baseline site, WF2 East of M40 and therefore change the comparative scoring of the other locations.

The strategic decision to locate a depot West of Bedford (discussed in Section 4.8) would not be impacted by the new information, therefore the assessment factor process was run to review the top two performing sites in the West.

The second preferred site in the West, which was Site WQ West of Whaddon Road, was also developed to the same level of design detail to enable a fair assessment.

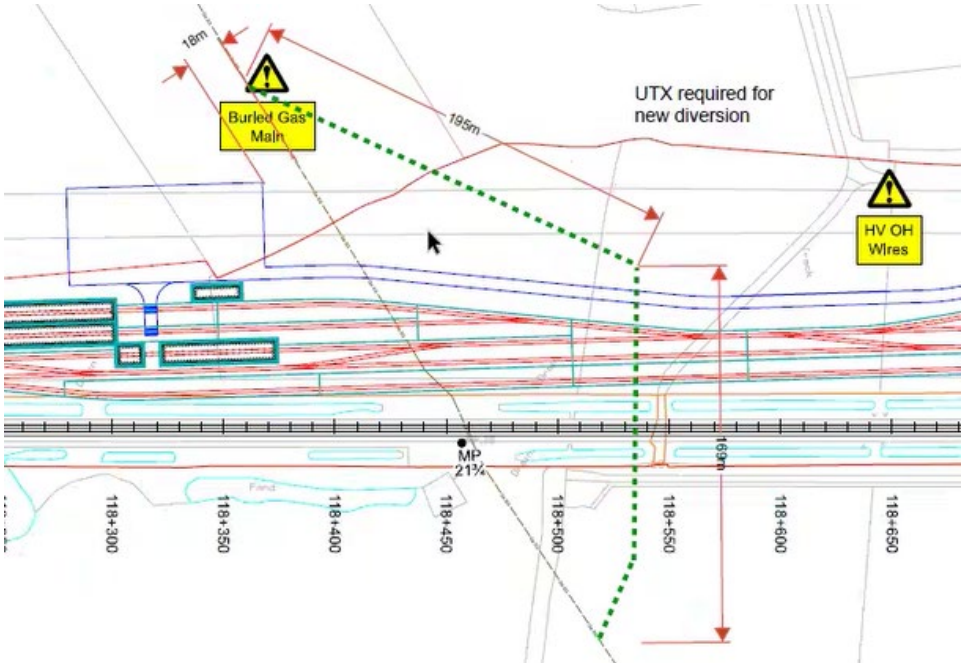
6.1 Constraints Identified Following Initial Assessment Factor conclusion

Utilities (High Pressure gas main and overhead HV cables)

There is a Southern Gas Network high pressure gas main that crosses the site at the west end and two SSEN 33kv overhead lines that run parallel to the existing rail corridor and along proposed location of the depot site and at a point cross directly over the proposed location of buildings within the TMD, thus requiring a diversion

Following the initial assessment factor, during design development further information was obtained on the complexity and extents of both required diversions, which had greater potential programme and cost impacts than initially anticipated.

Figure 7: Proposed gas diversion (shown by broken green line)

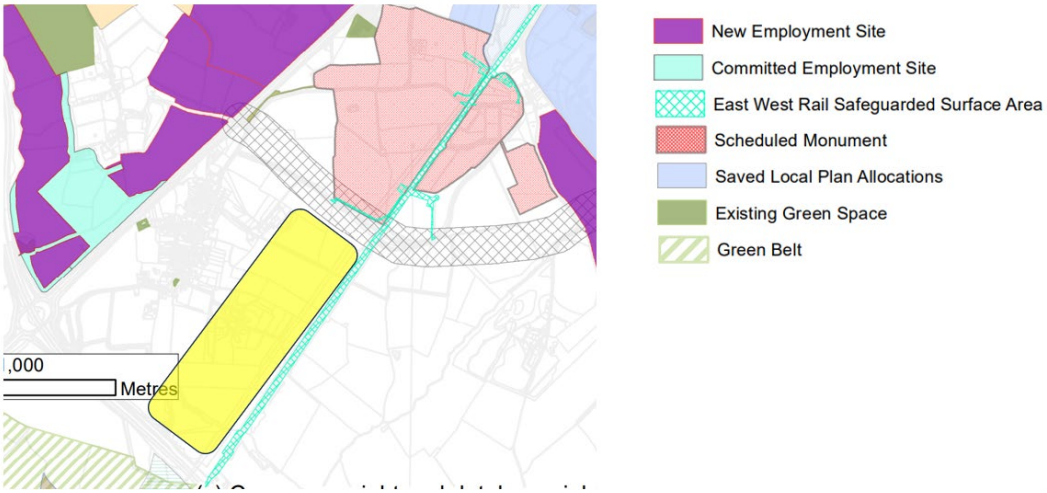


The diversion works associated with the OH cables would be to the north of their existing position, bringing them closer in proximity to a built-up area. The extent of the diversion works proposed to the east would affect the connection from the solar farm into the SSEN network. Works to the west would impact the Scheduled Ancient Monument area.

Bicester bypass road (dedicated corridor for the development)

Following the initial assessment factors Cherwell DC produced a new draft local plan, this showed Langford Lane to the east is to be developed to form a Bicester bypass (as shown by the grey hatch in the image below). The impact of this would require movement of the TMD site (show in yellow in the image below) to the south west along the main line corridor by approximately 150m.

Figure 8: Bicester bypass location (Source: Cherwell Local Plan 2042)



Historic England (impact on Alchester Roman Site Scheduled Monument 1006365)

To the north east of WF2 East of M40 is the Alchester Roman Site Scheduled Monument. There is no physical impact to the designated area of the Scheduled Monument anticipated from the TMD. However, there is potential to impact buried remains outside the designated area which, during the initial Assessment Factor process, were judged to be likely associated with the scheduled monument. This was confirmed through subsequent consultation with Historic England. These remains could, therefore, be of demonstrable equivalent significance to the scheduled monument and should be treated accordingly. Further, the land required has increased in size since the initial assessment factor, impacting a greater area of buried remains (see flood mitigation measures below). The area required, therefore, had the potential for substantial harm to the Scheduled Monument. During consultation, Historic England also identified key views south and southwest of the Roman town that contribute to its significance and expressed concerns over the impact of the TMD on these views and in the wider setting of the scheduled monument.

Flood mitigation measures (site levels requiring raising the TMD)

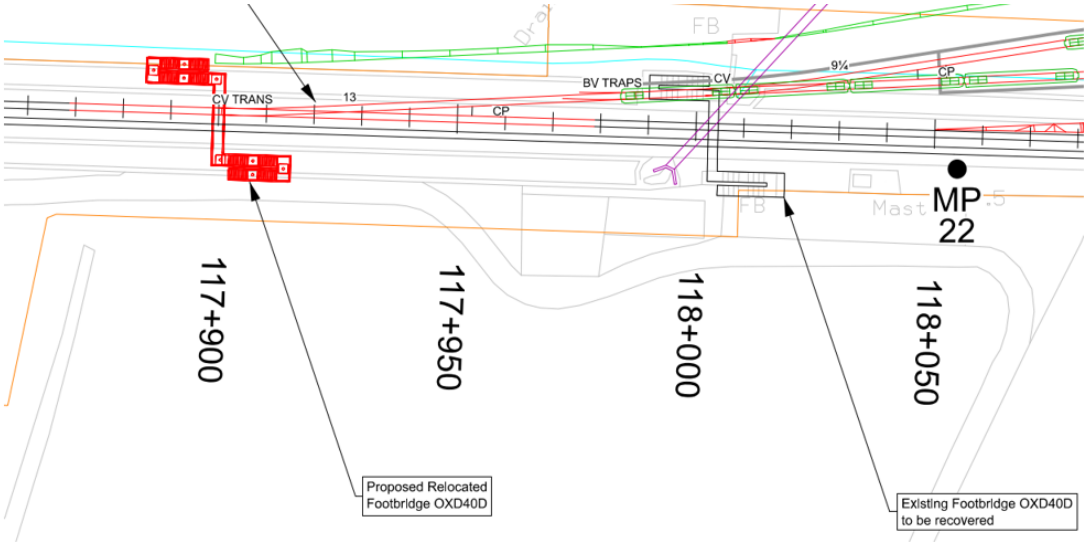
Site WF2 East of M40 resides within both Flood Zones 2 and 3, therefore land raising associated with the TMD would require compensatory storage to offset the volume loss of the Flood Zone adjacent to the TMD. Following the initial assessment factor, further design development identified that a large area of land would need to be raised by up to 1.8m to ensure the TMD was above the design standard of flooding. In order to offset this large volume of floodplain loss, it would be necessary to lower a large parcel of land between the TMD and Wendlebury to the north and/or require excavation adjacent to the scheduled monument (potentially in an area of historical remains) to the east to maintain the current level of flood risk required by the regulator.

Both of these would increase the overall area of land required for the preferred TMD location, bringing it closer to the village of Wendlebury than the initial Assessment Factor. In undertaking these mitigation works there would also be further significant challenges (cost and technical) such as excavation in the vicinity of the high pressure gas main and how to hydraulically link the mitigation areas (filling and draining) with adjacent watercourses.

Impact on existing footbridge

As a result of moving the depot to accommodate the emerging local plan, the proposed depot entry track would intersect an existing footbridge. This may need to be demolished and rebuilt further south as shown below.

Figure 9: Footbridge relocation (shown in red)



Limitations on reception track entry to the TMD

The design prior to the initial assessment factors was based on high-level operational assumptions. As part of developing the design, operational analysis was undertaken to develop requirements for trains entering and exiting the depot from/to the mainline. This resulted in the introduction of higher speed junctions and longer reception roads from the east and west to bring the train to a stop before entering the depot. These changes are needed to prevent trains accessing the depot impacting passenger trains operating on the mainline.

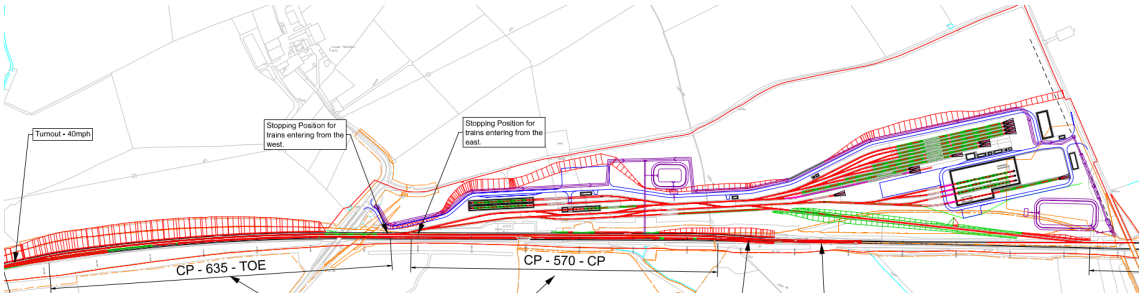
There is limited space to accommodate the required reception roads without impacting the existing M40 overbridge, which would add significant cost. This means trains entering the depot would be required to reverse multiple times between exiting the mainline and entering a stabling road (increasing operational cost and complexity).

6.2 Stage 2 – Re-Option Evaluation

Both of the designs at Site WF2 East of M40 and Site WQ West of Whaddon Road still contain the same functionality as described in Section **Error! Reference source not found.**. The change that has been introduced as part of the design development is the introduction of longer reception roads for train entry and exit.

Figure 10: Updated site layout used in re-assessment of Site WF2 East of M40

Figure 11: Updated site layout used in re-assessment of Site WQ West of Whaddon Road



The remainder of this section provides an overview of the assessment completed.

Assessment Factor 1: transport user benefits

This factor considers the benefits to transport users including journey time, crowding and quality compared to current journey as well as modal shift.

Table 20: Assessment Factor 1 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Transport user benefits	Neutral	Neutral

Given the change to the design of the locations, there is no impact on this factor and so the scores remain the same.

Assessment Factor 2: potential to unlock Economic Growth

This factor considers the potential for wider employment and productivity benefits of improved east-west connectivity and the opportunity for stations served by EWR to support housing growth within their catchment areas.

Table 21: Assessment Factor 2 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Potential to unlock economic growth	Neutral	Neutral

Given the change to the design of the locations, there is no impact on this factor and so the scores remain the same.

Assessment Factor 3, 4 and 5: cost and affordability

These factors consider the cost to bring the project to full service, including land acquisition, construction and any adaptation and mitigation works, including risk. Alongside consideration of overall affordability based on potential income and other benefits identified in factors 1 and 2.

Figure 12: Assessment Factor 3, 4, & 5 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Capital Cost	Neutral	Neutral
Operating Cost	Neutral	Neutral
Life cycle	Neutral	Neutral
Maintenance Cost	Neutral	Minor Improvement
Income and Cost Opportunity	Neutral	Neutral

Overall Judgement

The baseline has limited access and is subject to construction difficulty as it is near an existing developed (housing) location, while Site WQ West of Whaddon Road is a location with no access difficulty and facilitates easier construction works. Overall cost impact for both options are neutral in comparison.

Capital Cost

The CAPEX cost for both options are neutral with Site WQ West of Whaddon Road being circa 4.5% lower than the baseline.

Operating Cost

Until stabling locations and traincrew depot locations are known, it is difficult to be definitive on the number of ECS moves and taxi journeys. The stabling and circulation plan, and

traincrew strategy could be optimised for whichever TMD site is chosen. Relevant risks will need to be identified and mitigated.

Lifecycle Cost
Given that the asset infrastructure is comparable in both size and capital cost, it is assumed that the Life Cycle Costs (LCC) for both options may also be similar. Consequently, a neutral position can be taken from a cost perspective, with no significant financial advantage favouring one option over the other.

Maintenance Cost
Although the number and type of S&C used across the two sites are similar, the Site WQ West of Whaddon Road design has approximately 45% more track. By increasing the length of track, the maintenance effort could also increase proportionately considering that this track will need to be maintained and renewed.

The reception roads at Site WQ West of Whaddon Road are also on gradients, greater than those at Site WF2 East of M40. Increased track gradient can lead to increased corrugation, largely due to the greater traction and braking forces required by trains. This could result in more frequent rail grinding and a shorted renewal life of that section of track.

The operational movements for both sites have been reviewed. Trains entering and leaving Site WF2 East of M40 have to be reversed to enter the depot, whereas trains entering Site WQ West of Whaddon Road don't, when approaching from the west. This may significantly reduce the life the S&C located on the reception roads at Site WF2 East of M40 resulting in additional maintenance and renewal costs at the depot. It is believed that this exceeds the additional maintenance costs associated with the additional track at Site WQ West of Whaddon Road.

The facilities at both sites are very similar so building maintenance should remain roughly similar.

Assessment Factor 6 – 10: Network capability

These factors consider the following:

Journey time between housing centres and employment hubs.

Impact on the interchange-to-interchange station journey times.

Ease of interchange with main line rail services e.g. platform-to-platform distance, level change/accessibility, stopping frequency, timetable alignment.

Strategic consideration of the extent to which EWR facilitates long distance passenger services beyond Oxford to Cambridge.

Potential to meet freight demand, as anticipated by the freight industry, through active provision for freight paths.

Table: Assessment Factor 6 - 10 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Short distance connectivity to support commuting travel into key employment hubs (current and future)	Neutral	Neutral
Short distance passenger services	Neutral	Neutral
Rail passenger connectivity to existing main lines	Neutral	Neutral
Long distance passenger services	Neutral	Neutral
Satisfying existing and future freight demand	Neutral	Neutral

No material impacts were identified as part of the review for this factor.

Assessment Factor 11 & 12: Railway operations

These factors consider the ability of the railway to provide a service that meets or exceeds customer, stakeholder and industry expectations as well as the extent to which the EWR takes account of potential future changes to the wider railway strategy/infrastructure.

Table 22: Assessment Factor 11 & 12 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Performance – Maintainability	Neutral	Neutral
Performance – Rolling stock reliability	Neutral	Neutral

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Performance – Infrastructure reliability	Neutral	Minor Improvement
Performance – Operational resilience of EWR	Neutral	Major Improvement
Performance – Operational resilience of wider rail network	Neutral	Neutral
Alignment with wider railway strategy / infrastructure – Overall judgement	Neutral	Minor Improvement

Maintainability

It is assumed that having the TMD at Site WQ West of Whaddon Road could introduce a higher number of ECS moves, considering that it is currently assumed that all services returning to the TMD will end at Oxford. If this assumption is correct then maintenance of the track and S&C between Oxford and Site WQ West of Whaddon Road should increase. However, this could be marginal in comparison to the baseline location at Site WF2 East of M40 and in reality trains returning to the depot could be terminated at Oxford, Cambridge or even Bletchley.

Infrastructure Reliability

Although the number and type of S&C used across the two sites are similar, the Site WQ West of Whaddon Road design has approximately 45% more track. The reception roads at Site WQ West of Whaddon Road are also on gradients, greater than those at Site WF2 East of M40. This could increase the likelihood of a failure occurring considering that the Site WQ West of Whaddon Road design has increased the number of assets that it needs to maintain. However, if the track is properly maintained then the risk of additional failures may be low.

The operational movements for both sites have been reviewed. Trains entering and leaving Site WF2 East of M40 have to be reversed to enter the depot, whereas trains entering Site WQ West of Whaddon Road don't, when approaching from the west. This could reduce the reliability of the S&C located on the reception roads at Site WF2 East of M40. Overall resulting in the reliability for Site WQ West of Whaddon Road being a minor improvement.

Operational Resilience of EWR

Site WQ West of Whaddon Road has a much better layout than Site WF2 East of M40, with full length reception road at the west end, and two eastern accesses. There are also fewer reversals required than for Site WF2 East of M40. (The location, however, has implications for traincrew depots/strategy, that may mean greater difficulty in recovering the train service from perturbation.)

Wider rail network strategy

Overall, Site WQ West of Whaddon Road has some flexibility in improvements that can be made to benefit the wider rail network from a freight perspective and longer trains.

The depot layouts developed for EWR at present only cater for the fleet size required for EWR and so further expansion would be required if wider rail network involvement was required. It is deemed that Site WQ West of Whaddon Road would lend itself to some further stabling but only by a couple of roads at most and not impact the current proposed operations of the depot.

There is also potential for the reception roads at Site WQ West of Whaddon Road to incorporate the use of freight by providing a passing loop. If this was required it would need to be developed within the design in more detail.

For the above reasons Site WQ West of Whaddon Road is seen as a minor improvement.

Flexibility to adapt to future changes in Passenger Demand

To cater for possible future changes that would include new trains or longer trains, Site WF2 East of M40 is constrained for expansion whereas Site WQ West of Whaddon Road could potentially be expanded to the north.

Flexibility to adapt to future changes in Freight Demand

Future changes in freight could make use of a possible freight loop at the depot location which interfaces with the reception road if implemented. This would need to be determined through operational modelling.

Assessment Factor 13: Deliverability

This factor considers the risk of harm to workforce and public during construction, operations and maintenance as well as the complexity of the delivery programme or maintenance requirements on efficiently achieving the desired infrastructure state.

Table 23: Assessment Factor 13 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Complexity of delivery	Neutral	Minor Worsening

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Complexity of maintenance	Neutral	Minor Worsening
Safety risk (construction)	Neutral	Minor Worsening
Safety risk (operations)	Neutral	Neutral
Programme schedule and early benefits enabled	Neutral	Minor Improvement

Complexity of delivery

Overall, both options have similar depot layout and design elements. No element requires complex or non-standard installation or construction. Minor difference between proposals are not significant enough to justify change in assessment level.

Both options have reasonable highway access to SRN and is not deemed a factor in the assessment of complexity of delivery.

The level of earthworks overall are deemed greater at Site WQ West of Whaddon Road but this will have little impact on complexity of delivery.

The additional constraints at Site WF2 East of M40 associated with utilities and any required diversion are deemed to be off-set by additional environmental works and mitigation required for the existing woodland area at Site WQ West of Whaddon Road.

Site WQ West of Whaddon Road is deemed a minor worsening due to the increased online track intervention required between Swan's Way and Salden Lane.

Complexity of maintenance

The assets and facilities located at both depot locations are similar and will undergo the same type of maintenance. Site WF2 East of M40 does have a larger variety of S&C but these are considered as standard.

The S&C for the reception road on the east of the Site WQ West of Whaddon Road site is on a curve. This is considered as non-standard and adds an increased level of complexity to the maintenance at the site. If the location of this S&C is changed so that it is located on a straight then the complexity of maintenance would reduce. Both sites deemed to have no discernible difference to general public or impact on local highways (assuming cut/fill balance for both options require similar HGV movements).

Safety Risk
Both sites deemed to have no discernible difference to general public or impact on local highways (assuming cut/fill balance for both options require similar HGV movements).

Site WQ West of Whaddon Road is deemed a minor worsening due to the increased online track intervention required between Swan's Way and Salden Lane and associated increased risk to workforce working adjacent to operational railway or during possession/blockades.

Safety Risk (Operations)
No significant differentiators identified at this stage. Factors to note:

Site WQ West of Whaddon Road: The operational flexibility improvements may provide an element of resilience. High ECS moves may increase risk.

Site WF2 East of M40: Flood zones may increase hazards, particularly if changes to flood risk are difficult to predict, or mitigations are unsuccessful. Increase in requirement for reverse moves may increase risk. Footbridge relocation impact uncertain.

Programme Schedule
Programme duration and general sequence logic for depot scope deemed similar with differentiating factors such as increased online track works at Site WQ West of Whaddon Road and replacement footbridge at Site WF2 East of M40 not significantly impacting over programme duration, complexity or programme risk.

The largest differentiating programme risk identified concerns the utility impact and diversion requirements at Site WF2 East of M40. This third-party interface could significantly impact overall construction duration and is only partially offset by the risk associated with habitat translocation/creation at Site WQ West of Whaddon Road. As such, Site WQ West of Whaddon Road is deemed a minor improvement over the baseline.

Assessment Factor 14: Environmental impact and opportunities

This factor considers the impacts on and opportunities to improve local, national and global environment, and local and regional socio-economic conditions not considered in other factors.

AF14 comprises 17 topics that are evaluated against existing baseline conditions. Evaluations also take account of committed developments forming the future baseline and, where applicable, planning applications that are yet to be committed.

The planning assumptions only considers planning applications and TWAO/DCO applications which directly interface with or adjoin the proposed options as of planning May 2025.

Baseline: There are no committed developments, no current planning applications and no DCOs or TWAO developments in the area covered by, or adjacent to, the site boundary for this location.

Site WQ West of Whaddon Road: There are no committed developments, no current planning applications and no DCO developments in the area covered by the site boundary for this location. There are many tens of applications associated with a TWAO for East West Rail Phase 2 (TWA/18/APP/04). It should also be noted that an outline planning permission was granted in December 2022 (despite having been submitted in 2015) by Aylesbury Vale DC for a major strategic scale development on land adjacent to the eastern boundary of this option site. Furthermore, recent months have seen a plethora of applications for the approval of reserved matters and discharge of conditions, all of which are current applications, suggesting this proposed development is very much "live". Details of the original outline application (15/00314/AOP) are provided below:

Land South Of The A421 West Of Far Bletchley North Of The East West Rail Link And East Of Whaddon Road Newton Longville Outline planning application with all matters reserved except for access for a mixed-use sustainable urban extension on land to the south west of Milton Keynes to provide up to 1,855 mixed tenure dwellings (C3); an employment area (B1); a neighbourhood centre including retail (A1/A2/A3/A4/A5), community (D1/D2) and residential (C3) uses; a primary and a secondary school; a grid road reserve; multi-functional green space; a sustainable drainage system; and associated access, drainage and public transport infrastructure.

Table 24: Assessment Factor 14 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Overall Judgement	Neutral	Major Improvement
Environmental assessment considerations (see 17 supporting considerations below)	Neutral	Major Improvement
14.1 Agriculture, forestry and soils	Neutral	Minor Improvement
14.2 Air quality	Neutral	Minor Worsening
14.3 Carbon	Neutral	Minor Worsening
14.4 Community	Neutral	Neutral
14.5 Ecology and biodiversity	Neutral	Minor Worsening

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
14.6 Electromagnetic interference	Neutral	Neutral
14.7 Equalities	Neutral	Neutral
14.8 Health	Neutral	Neutral
14.9 Historic environment	Neutral	Major Improvement
14.10 Land quality	Neutral	Neutral
14.11 Landscape and visual	Neutral	Minor Worsening
14.12 Major accidents and natural disasters	Neutral	Neutral
14.13 Noise and vibration	Neutral	Minor Worsening
14.15 Socio-economics	Neutral	Neutral
14.16 Traffic and transport	Neutral	Minor Worsening
14.17 Waste and materials	Neutral	Minor Worsening
14.18 Water resources and flooding	Neutral	Major Improvement
BREEAM considerations and EWR Co's Sustainability Strategic Objectives (where not specifically considered above)	Neutral	Neutral

Overall Judgement
On balance, for Environmental Assessment Considerations, it is considered that Site WQ West of Whaddon Road is a major improvement over the Baseline. This is due to the avoidance of significant risks to the Scheduled Monument and Flood Risk; however, Site WQ West of Whaddon Road will be located close to residential receptors in the future (as part of the committed development). Site WQ West of Whaddon Road is considered to be neutral for BREEAM and wider EWR sustainability strategic objectives, and there are no major risks to the success of any SOs as a result of the Site WQ West of Whaddon Road option.

Environment Assessment Considerations
The Baseline option at Site WF2 East of M40 would also impact two landholdings - which have equestrian interests and therefore sensitive in nature, and would result in some loss of coastal and floodplain grazing marsh (more than if the TMD was not in this location, which is classified as irreplaceable habitat). The Baseline option would be close to residential receptors in Site WF2 East of M40.

The Baseline option at Site WF2 East of M40 has significant risks:

To the Alchester Scheduled Monument. Physical impacts to the Scheduled Monument include utility diversions of high pressure gas mains and electricity diversions (which would impact new areas of the Scheduled Monument), as well as changes to the water table from the introduction of drainage ponds immediately adjacent to the Scheduled Monument, resulting in reduced preservation and loss archaeological remains within the scheduled area. The construction and presence of the TMD would also result in impacts through changes to setting and character of the asset, particularly through the removal of associated archaeological remains.

The TMD and associated infrastructure would be within large areas of flood zone 2 and 3, necessitating large areas of flood plain compensation. This flood risk is associated with the Chiltern Rail watercourse, a tributary to the north and Wendlebury Brook, a main river is located to the west and south of the TMD.

Comparatively, at Site WQ West of Whaddon Road, at present there are limited residential receptors. However, there is a committed development (15/00314/AOP) which would introduce a large quantum of housing to the area once complete.

Site WQ West of Whaddon Road would result:

In the loss of priority woodland habitat and local wildlife site.

Indirect impacts to residential properties associated with committed development 15/00314/AOP, if implemented. These include short term air quality and carbon impacts associated with HGV movements and earthworks required. A minor worsening compared to the Baseline is reported for Air Quality, Landscape and Visual, Noise and Vibration.

Due to increased excavation there would be a minor worsening compared to the Baseline for Carbon, Traffic and Transport, and Waste and Materials.

However, compared to the Baseline, a major improvement is reported for Historic Environment as it would reduce the impacts of the EWR scheme on Alchester Scheduled Monument. There was a major improvement for Water Resources and Flooding due to avoidance of large areas of flood zones 2 and 3. Agriculture, Forestry and Soils reported a minor improvement due to a reduction in land required from agricultural holdings and sensitive receptors.

Overall, due to the avoidance of significant risks to the Scheduled Monument and Flood Risk, Site WQ West of Whaddon Road has been rated as a major improvement against the Baseline. Whilst Site WQ West of Whaddon Road will be located close to residential receptors in the future (as part of the committed development), future properties would be set back from the TMD buildings by over 75m and separated by vegetation screening, and measures could be employed such as additional glazing to reduce noise impacts. Whilst there is increased excavation and earthworks compared to the baseline, the Site WQ West of Whaddon Road options is also located close to the strategic road network - A421 and M40, and traffic associated effects would only occur during construction.

Agriculture, Forestry and Soils

Neither option would be within Grade 1 or 2 agricultural land.

ALC post-1988 data clearly indicates that Site WQ West of Whaddon Road would affect both Subgrade 3a (say 35%) and Subgrade 3b agricultural land; but, there is no comparable data for the baseline scheme.

The Provisional ALC data suggests that Site WF2 East of M40 (Baseline) would affect Grade 3 agricultural land, but with no breakdown of Subgrade 3a/3b possible.

The impact on soils would be similar across both options.

With regard to impact on holdings, the Baseline would affect two holdings - both of which appear to have equestrian interests; the Site WQ West of Whaddon Road scheme would affect a single (arable) holding.

The areas affected are approximately 39ha for the baseline scheme and 31ha for Site WQ West of Whaddon Road due to additional need for flood compensation areas (FCA) in the Baseline option.

Overall, Site WQ West of Whaddon Road is considered to be a minor improvement compared to the Baseline due to the reduced overall footprint and fewer, less sensitive holdings affected.

Quality

Neither of the options would be in the vicinity of any Air Quality Management Areas (AQMA).

Construction Dust: Dust emissions for all options are assumed to be controlled through Code of Construction Practice (CoCP) / Construction Environmental Management Plan (CEMP) measures to avoid significant air quality effects. Construction dust would therefore not be a differentiator.

Operational Air Quality: Trains using EWR would be electrically powered, resulting in no emissions to air from the train fleet. Additionally, there would be no operational impact on the external transport network for these options, therefore not a differentiator, operationally, for Site WQ West of Whaddon Road in comparison to the Baseline.

Based on the information currently available, assuming the same duration of construction for both Site WQ West of Whaddon Road and the Baseline, the magnitude of HGV increases would be 2.2 times greater for the Site WQ West of Whaddon Road option.

Overall Site WQ West of Whaddon Road represents a minor worsening as there is increased excavation and earthworks compared to the baseline, however Site WQ West of Whaddon Road option is also located close to the strategic road network - A421 and M40, and traffic associated effects would only occur during construction.

Carbon

The Baseline option, Site WF2 East of M40, involves a considerable requirement for track earthworks fill and a large access road and a very small amount of excavation. This results in 4,552tCO2e.

In comparison, the Site WQ West of Whaddon Road TMD option has a similar size track access road and fill requirement, however there is a considerably larger requirement for excavation. This results in 6,456tCO2e, which represents a 42% increase and a minor worsening in comparison to the Baseline.

Note: This assessment is based on high-level information and only considers construction carbon. Operational carbon is currently not considered.

Community

Both the Baseline and Site WQ West of Whaddon Road would have limited community receptors within 250m, although implementation of planning application 15/00314/AOP would increase the number within this boundary significantly for Site WQ West of Whaddon Road. The majority of houses would be offset from the depot, the closest residential receptors would be over 75m away.

For the Baseline, Mertons Footbridge is to the west where four PRoW converge. It is assumed these would be retained and whilst there may be minor temporary closures, bridge access across the railway is assumed to be retained. Merton FP 6/20, to the east, would need to be diverted around the depot site.

For the Site WQ West of Whaddon Road option, National Cycle Route 51 would be temporarily affected where it crosses the DOLB at the western end and borders the TMD site. The cycle route would be maintained, with potential minor temporary closures. Overall, there would be temporary and permanent effects to users of the PRoW, but suitable mitigation to avoid severance is provided and use of planting could help mitigate impact on views of users.

Overall, Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration due to the similar limited number of community receptors in the vicinity, although noting the potential additional residential properties associated with planning application 15/00314/AOP.

Ecology and biodiversity

Baseline

The Baseline would be within an area identified from desk study as Coastal and Floodplain Grazing Marsh HPI. This is a high distinctiveness habitat that would require both mitigation and re-provision for BNG if present/affected but would be on the opposite side of the track to the depot, so any direct loss would likely be minimal. There is known otter presence from Chiltern Railway data and possible water vole suitability. It is important to consider hydrological linkages with water reliant habitats to the south of the existing track in terms of possible impacts. A small parcel of deciduous woodland HPI would be present at 118+100 on the opposite side of the alignment so any loss would be unlikely, but it would require replacement planting to compensate if there would be any lost.

Wendlebury Meads and Mansmoor Closes SSSI would be c.600m to the south of the Baseline, adjacent to the M40. There are records of GCN present (including licence returns). Note the Letter of Comfort from NE already received and the use of DLL for this species. It is considered that the M40 likely forms a significant barrier to movements of species and is sufficiently distant to avoid negative effects if measures assumed within the CoCP are taken into account. Severance of possible commuting routes would require mitigation. There are strategic corridors along the Tributary of Langford Brook (associated with the deciduous woodland and ponds at 118+100) to the east and north of the solar farm. There would be loss of connected vegetation including hedgerows and mature trees either side of line with consequences for possible loss of roosting bats.

Site WQ West of Whaddon Road

Site WQ West of Whaddon Road would overlap with large areas of priority deciduous woodland habitat, a section of species rich native hedgerow in the northern extent, two watercourses (Tributary of the River Ouzel 21 & Tributary to Salden Crabtree Farm Drain 2), and two ecological compensation sites (ECS) for the consented scheme, noting there would be no direct impact to the ECS or the two culverted watercourses. Ancient Woodland (Salden Wood) is on the opposite side of the alignment and would not require any direct tree loss.

There would be new areas of woodland potentially impacted, resulting in possible loss of roosting, foraging and commuting resources for bats. Some areas of woodland in the vicinity however were already included within the DOLB without the TMD being located at Site WQ West of Whaddon Road.

EWR Alliance data shows a large number of roosting sites within the woodland areas. The distance from the Howe Park Wood SSSI is 2.1km north and therefore would be unlikely to result in any negative effects. There would be impacts to two Local Wildlife Sites with entire loss of Railway Siding east of Salden Wood (same wooded areas as described above) and very minor incursion into Salden Wood. Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for ecology due to the loss of Priority Habitat and Local Wildlife Sites and in the immediate vicinity of irreplaceable Ancient Woodland.

BNG: The Baseline is thought to be predominantly cropland (likely low distinctiveness habitat) with hedgerows, and ponds. However, there are also small areas of high distinctiveness woodland and coastal and floodplain grazing marsh also present, as well as both high and medium distinctiveness watercourses. In addition, the Baseline is adjacent to a large area of priority habitat containing coastal and floodplain grazing marsh and lowland meadow which could be partially impacted as part of the option.

Whilst Site WQ West of Whaddon Road is also predominantly cropland with hedgerows, it would remove around four times the area of medium distinctiveness grassland and twice the area of high distinctiveness woodland compared to the Baseline. However, no watercourses or coastal and floodplain grazing marsh would be affected in comparison. Approximately 2ha of National Forest Inventory woodland priority habitat is already being removed as part of EWR CS1 works, and the post-development habitat of mixed scrub is assumed to be the Baseline in this instance. Site WQ West of Whaddon Road would be partially within the Whaddon Chase Biodiversity Opportunity Area where the habitats may be recognised to be of local importance, whereas the Baseline habitats would not be.

However, as noted above, Site WQ West of Whaddon Road impacts two watercourses, while the Baseline impacts four including high distinctiveness other rivers and streams watercourse habitat (Wendlebury Brook) as well as ditches (Chiltern Raillne). Compensating for degradation to the river habitat in the Baseline could be very challenging, so it should be a priority to retain this watercourse in its present condition and any activities within 10m of the watercourse bank should be avoided where possible to minimise river condition impacts and riparian encroachment. The Baseline contains multiple PROW footpaths which would impact community access to the area, while Site WQ West of Whaddon Road does not. All considered, Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for BNG.

Overall, when considering Ecology & BNG, Site WQ West of Whaddon Road would be considered a minor worsening compared to the Baseline for this consideration.

Electromagnetic Interference
There would be no sensitive receptors within 100m of either option.

Overall, Site WQ West of Whaddon Road is considered neutral compared to the Baseline.

Equalities
Neither option would affect neighbourhoods (Lower Super Output Areas) who are considered to be in the most deprived decile.

Site WQ West of Whaddon Road would have less impact on local residents, as there would be fewer community receptors within 250m. There would be temporary and permanent effects on PRoW users, but suitable mitigation measures are proposed to avoid severance. Temporary closures and rerouting of National Cycle Route 51 and PRoWs could affect those who rely on these routes for commuting or recreational purposes, including people with disabilities and older adults. The impacts on PRoWs and National Cycle Route 51 are mitigated, suggesting a more balanced approach.

Overall, Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration due to the similar limited number of community receptors in the vicinity, although noting the potential additional residential properties associated with planning application 15/00314/AOP.

Health
Neither option would affect neighbourhoods (Lower Super Output Areas) who are considered to be in the most deprived decile for overall and health deprivation. However, it is assumed that there are vulnerable groups residing within the general population, who may experience effects differently.

Both the Baseline and Site WQ West of Whaddon Road would have limited community receptors within 250m, although implementation of planning application15/00314/AOP would increase the number within this boundary significantly for Site WQ West of Whaddon Road.

For both options, there would be temporary and permanent effects to users of the PRoW, which could impact the local population's ability to undertake physical activity, but suitable mitigation to avoid severance is provided. For the Baseline, access across the railway line is assumed to be relocated across Mertons footbridge located to the west, where four PRoW converge. However, there could be minor temporary closures, as a result Merton FP 6/20, to the east, which would need to be diverted around the depot site. For Site WQ West of Whaddon Road, National Cycle Route 51 would cross the route at the western end and would be maintained, with potential minor temporary closures.

Overall, Site WQ West of Whaddon Road is considered to be neutral when compared to the Baseline for this consideration due to the similar limited number of community receptors in the vicinity, although noting the potential additional residential properties associated with planning application 15/00314/AOP.

Historic Environment

For the purposes of this assessment, to ensure historic environment policy and best practice is followed, direct impacts is defined as physical impacts to a heritage asset, indirect impacts are defined as impacts through changes to the setting of a heritage asset.

Baseline

The Baseline would be adjacent to the Alchester Roman Site Scheduled Monument. Physical impacts to the Scheduled Monument could arise through changes to the water table from the introduction of drainage ponds immediately adjacent to the scheduled monument, resulting in reduced preservation and loss of archaeological remains within the scheduled area. The construction of the TMD would also result in impacts through changes to setting and character of the asset, and through the removal of associated archaeological remains associated with utility diversions that would be required.

There would be no listed buildings within 250m. However, there are several listed buildings within the village of Wendlebury, located approximately 350m west of the Baseline. Construction and operation may subject these assets, particularly the Grade II listed College Farmhouse Stable, located 380m west of the Baseline, to setting impacts.

The Oxfordshire County Council (OCC) notes three non-designated HER records within the footprint of the proposed Baseline TMD (PRN13904, PRN29007, PRN12751). These records relate to Romano-British settlement remains that likely extend south from the Alchester Roman Site Scheduled Monument, which is located to the north of the Baseline TMD. A number of fields of medieval ridge and furrow which are not included in the HER are noted within the footprint of the proposed Baseline TMD which would be partially removed or truncated by the proposed works. The large density of non-designated archaeological remains within 250m of the Baseline suggests a high potential for previously unrecorded archaeological remains to be present within the Baseline TMD. Construction of the Baseline TMD would truncate or totally remove any underlying potential archaeology.

There would be no registered parks and gardens, historic battlefields or conservation areas within 250m of the Baseline. The HER notes that the TMD would be set within an historic landscape characterised by agricultural enclosures. This landscape developed following the creation of the railway that led to large boundary changes. The Baseline TMD would have a minor physical impact on the character of this landscape.

Site WQ West of Whaddon Road

There would be no designated heritage assets, including scheduled monuments, listed buildings, historic battlefields, registered parks and gardens or conservation areas within 250m of Site WQ West of Whaddon Road. The nearest designated asset is the Grade II Listed Lower Salden Farm is located approximately 270m north of the Site WQ West of Whaddon Road TMD. Other assets including the Site WQ West of Whaddon Road Conservation Area and its Grade I Listed Church of St Faith approximately 1.3km south-east, as well as several Grade II

Listed buildings on the village outskirts of Site WQ West of Whaddon Road approximately 800m south-east, are all situated substantially greater distances. Given the separation from these heritage assets, the absence of any within the immediate 250m study area, and the lack of any direct intervisibility to setting relationship that would be meaningfully affected, the Site WQ West of Whaddon Road TMD is considered to be neutral for built heritage.

The HER records a non-designated undated ditch and a findspot dating to the post-medieval period within the order limit, as well as three areas of ridge and furrow and two archaeological notification areas (ANAs). The two ANAs relate to a Roman settlement and an undated settlement identified through geophysical survey, both of which comprise several enclosures and associated remains. In addition, there would be a further 11 non-designated archaeological assets recorded within 250m, including a Roman farmstead immediately north of the Site WQ West of Whaddon Road TMD. The presence of numerous archaeological assets in proximity to the option, as well as within the order limit indicates there could be high archaeological potential within the option. Any excavation related to the construction of the new TMD would have the potential to remove or truncate archaeological remains. Despite similarity in the scale of non-designated assets likely to be impacted between the two options, Site WQ West of Whaddon Road is considered to be a major improvement in comparison with the Baseline for buried archaeology due to not causing any harm to a Scheduled Monument.

There would be five areas of historic landscape characterisation recorded within the order limits, these include two enclosures of 19th century date, one enclosure of 20th century date, one parliamentary enclosure (divided allotments) and ancient semi natural woodland which would be impacted by this option. Site WQ West of Whaddon Road is considered to be neutral in comparison with the Baseline for historic landscape.

Site WQ West of Whaddon Road is considered to be major improvement for buried archaeology, neutral for built heritage and neutral for the historic landscape when compared to the Baseline. This would result in an overall major improvement for Historic Environment.

Land Quality

There would be no designated sites within 250m either option.

The Baseline would not be within a Mineral Safeguarding Area (MSA) whereas Site WQ West of Whaddon Road would be partially within a MSA for alluvium under the Buckinghamshire Minerals and Waste Local Plan 2016-2036 (adopted 2019).

Overall, Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration due to there not being any designated land quality sites in the vicinity, and for Site WQ West of Whaddon Road only to have a minor incursion into an MSA.

Landscape and Visual

Baseline

The Baseline would be located in farmland (large open fields at eastern end and smaller fields bordered by hedgerow at western end). Setting has generally rural character but large solar farm to south detracts from this. Well-established vegetation lines the railway corridor. The closest village would be Wendlebury and two farms (College Farm and Elm Tree Farm) are close to north-western boundary. The M40, to the south-west, reduces tranquillity of surrounding landscape. Merton FP 6/20 would cross option site to north. The M40/ A41 junction is brightly lit but the village does not have streetlighting.

Landscape impacts would include loss of farmland and hedgerow and a reduction in tranquillity due to operation of the depot. Visual receptors in the village would have filtered views of the TMD and receptors in residential properties near two farms and users of the PRoW and Langford Lane would have clear views. TMD lighting would introduce a brightly lit area into the currently unlit farmland.

Opportunities: Reduce land take as far as possible to reduce impacts on the existing hedgerows along the option site boundary. The existing PRoW could be diverted to run along the northern boundary of the option site with planting to screen views of the depot. Enhance and connect existing hedgerows along the TMD boundary with new hedgerows. Screen planting is required between the village and the TMD.

Site WQ West of Whaddon Road

Site WQ West of Whaddon Road would be located in farmland sloping down towards existing railway line. Weasel Lane/ Mursley Restricted BOAT 20/1 runs along northern boundary. The landscape has rural character, comprising attractive valley in good condition with intact pattern of fields bordered by well-established hedgerows and woodland belts. Few detracting elements, tranquil and unlit at night. Views towards the option site would be screened from Newton Longville and nearby residential properties by intervening vegetation but site would be visible from Mursley Restricted BOAT 20/1 and Whaddon Road. There would be a large number of visual receptors with close views of the site if the planning application 15/00314/AOP were implemented.

Landscape impacts would include loss of woodland belt close to existing railway line, introduction of large-scale infrastructure into rural landscape, loss of tranquillity due to the operation of depot and extensive earthworks to construct depot on sloping valley side. The depot would be largely screened from Newton Longville by day, although the taller structures might be visible above intervening vegetation. TMD lighting would be apparent in night-time views as large lit area in unlit landscape. Properties near the site and in the future planning application15/00314/AOP would have clear or filtered views of TMD. Users of the PRoW and Whaddon Road would have clear views.

Site WQ West of Whaddon Road would be a minor worsening compared to the Baseline for this consideration due to greater adverse landscape effects and larger number of (future) visual receptors affected.

Opportunities: screen the depot with planting and potentially earthworks.

Overall, Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for this consideration.

Major Accidents and Natural Disasters

There are no COMAH sites within 250m of either option. Therefore, Site WQ West of Whaddon Road is considered neutral against the Baseline for this consideration.

At this stage, there is insufficient detail to complete an assessment for the major accidents and natural disasters consideration.

Noise and Vibration

The Baseline would not be within 50m to any residential receptors. Whilst Site WQ West of Whaddon Road would have no existing residential properties within the vicinity, implementation of a planning application 15/00314/AOP to the north east would result in additional residential receptors in proximity to the depot.

Overall, Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for this consideration, as the proposed residential properties in the planning application would be in close proximity to the TMD, if implemented.

Socio-economics

For this consideration, direct impacts are defined as demolition or land take to businesses.

There would be no business resources directly affected by the Baseline. Site WQ West of Whaddon Road would have two compounds directly impacted, but it is assumed these are related to railway infrastructure and would have no permanent employment associated with them.

Overall, Site WQ West of Whaddon Road is considered to be neutral compared to the Baseline for this consideration as no job displacement or loss from direct impacts is anticipated.

Traffic and Transport

The Baseline would be located further from residential receptors and would require significantly less HGV construction traffic movements compared to Site WQ West of Whaddon Road. Assuming the same duration of construction, the magnitude of HGV increase would be over two times greater for Site WQ West of Whaddon Road.

For the Baseline, Mertons footbridge, to the west, where four PRoWs converge is assumed to be retained and whilst there may be minor temporary closures, bridge access across the

railway is assumed to be retained. Merton FP 6/20, to the east, would need to be diverted around the depot site. National Cycle Route 51 would be temporarily affected. For Site WQ West of Whaddon Road, National Cycle Route 51 would cross the route at the western end and would be maintained, with potential minor temporary closures. Overall, there would be temporary and permanent effects to users of the PRoW, but suitable mitigation to avoid severance would be provided.

Overall, Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for this consideration, as although there are minor differences in PRoW and temporary road disruption, Site WQ West of Whaddon Road requires significantly more HGV construction traffic movements (in the context of the overall number of HGVs required for the project, this does not warrant a major worsening for either option).

Waste and Materials

On a worst-case basis, and in line with the HGV movement assumptions, it is assumed that all cut material would be exported, and all fill material would be imported. The net volume of excavated material would be 2.3 times as high for Site WQ West of Whaddon Road. It should be noted that the reuse of material has not been considered but there would be potential for this to be occur.

Overall, Site WQ West of Whaddon Road is considered to be a minor worsening compared to the Baseline for this consideration due to the greater excavated material exported.

Water Resources and Flooding

Water Resources and Flooding

The Chiltern Rail line watercourse, a tributary to the northern end, and Wendlebury Brook, a main river to the southern end, would cause flood risk to a large section of the Baseline (Flood Zone 2), with the northeastern section of the site in Flood Zone 3. There would also be flood risk from surface water for the Baseline. There are two drains either side of the existing alignment therefore this drainage may be required as part of the scheme for the baseline.

Site WQ West of Whaddon Road would not directly impact any watercourses but does cross a watercourse on the western extent (Tributary to Salden Crabtree Farm Drain 2) and have drains from the attenuation pond running adjacent to the existing railway on the north. Additionally, the Tributary of the River Ouzel 22 watercourse is adjacent the railway on the southern extent. It would not be within Flood Zones 2 or 3. There would be small sporadic areas of flood risk from surface water for Site WQ West of Whaddon Road. There would be some drainage under/through the railway from north to south however these produce less flow paths than those of the baseline. These can be mitigated/managed utilising culverts or drainage design.

Site WQ West of Whaddon Road is considered to be a major improvement compared to the Baseline for water resources and flooding due to having less watercourse conflict and not being in areas of flood zone.

Groundwater

The TMD would be unlikely to have a significant effect on groundwater flow due to having limited below ground features. The TMDs in both options may pose a risk of contamination from pollutants present on site infiltrating the ground or being carried off site in uncontrolled runoff which then infiltrates. There may be a small impact on local recharge associated with a change in land use within the site perimeter rendering the surface less permeable to rainfall.

The Baseline would be situated on top of unproductive Oxford Clay bedrock and alluvial superficial deposits. It would be situated over 1km away from the nearest WFD designated groundwater body. The Wendlebury Meads & Mansmoor Closes (SSSI), which is potentially groundwater dependent, would be ~600m southwest at its closest point, with a potential pathway for contaminants through the alluvial deposits.

Site WQ West of Whaddon Road would be situated on top of unproductive Oxford Clay bedrock, with glacial till superficial cover. There would be no identified groundwater receptors within 2km of this option, and therefore Site WQ West of Whaddon Road is considered to be a minor improvement over the Baseline.

Overall, considering both water resources and flooding & groundwater, Site WQ West of Whaddon Road is considered to be a major improvement compared to the Baseline for this consideration.

BREEAM Considerations and EWR Co's sustainability Strategic Objectives

The Baseline would be predominantly cropland (likely low distinctiveness habitat) with hedgerows, ponds and small area of woodland present, affecting 39% of agricultural holdings. There are high distinctiveness habitats which require both mitigation and re-provision for BNG if present or affected, however, as these are located on the opposite side of the track to the depot, minimal direct loss is anticipated. The Baseline is also adjacent to an area of priority habitat including 5,500m2 coastal and floodplain grazing marsh and 788.88m2 lowland meadow which may be partially impacted. Overall, as minimal direct loss is anticipated, the EWR Strategic Objective (SO) in relation to the natural environment is supported. The Baseline detracts from the historic environment and landscape SO as it is located adjacent to the Alchester Roman Site Schedule Monument and physical impacts may arise through changes to the water table, resulting in reduced preservation and loss of archaeological remains within the scheduled area. The Baseline is situated within an historic landscape characterised by agricultural enclosures, which may have minor physical impacts as a result of this option. The option is considered to detract from the circular economy SO due to taking a worst-case basis, it is assumed all fill material would be imported and no reuse of material has been considered yet. There is considered to be a neutral impact on the people and community SO for the

Baseline as there are limited community receptors within 250m and likely no effect to neighbourhoods. The Baseline option involves a considerable requirement for track earthworks fill and a large access road with a very small amount for excavation, resulting in 4,552 tonnes of CO2e. The trains using EWR will be electrically powered and may result in no emissions to air from the train fleet, which supports the climate resilience and carbon SO.

The Site WQ West of Whaddon Road would result in the loss of Priority Habitat and Local Wildlife Sites and associated bridge works in the immediate vicinity of irreplaceable Ancient Woodland. Site WQ West of Whaddon Road is considered to have a larger total land take of priority habitat, requiring 14,900m2 of priority habitat deciduous woodland, is adjacent to ancient woodlands, partially within the Whaddon Chase Biodiversity Opportunity Area. It should be noted that the degradation to watercourse habitats is lower than the baseline, and avoids loss of coastal and floodplain grazing marsh which is irreplaceable habitat, which supports the SO. Site WQ West of Whaddon Road supports the function of the water environment as there are limited watercourse conflicts, no identified groundwater receptors and it is not located within a flood zone area, therefore being a major improvement from the Baseline. Furthermore, Site WQ West of Whaddon Road is considered to be a minor improvement compared to the Baseline for agriculture as it only affects 31% of agricultural holdings. On this basis, the ecological impacts are considered to be greater for the baseline compared to Site WQ West of Whaddon Road as there would be a loss of coastal/floodplain grazing marsh which is irreplaceable habitat. Therefore the natural environment SO is supported by Site WQ West of Whaddon Road. Site WQ West of Whaddon Road is considered to support the historic environment and landscape SO compared to the Baseline due to there likely being a major improvement for buried archaeology as there is likely to be no harm caused to a Scheduled Monument, a minor improvement for built heritage as there are no designated assets within 250m of the option and neutral for the historic landscape compared to the Baseline. The option is considered to detract from the circular economy SO based on a worst-case basis whereby the net volume of excavated material would be higher compared to the Baseline. Site WQ West of Whaddon Road is considered to have a neutral effect on the people and community SO when compared to the Baseline due to the similar limited number of community receptors in the vicinity. Assuming the same duration of construction for both Site WQ West of Whaddon Road and the baseline, the magnitude of HGV is anticipated to be 2.2 times greater for Site WQ West of Whaddon Road. Additionally, the Site WQ West of Whaddon Road option has a similar size track access road and fill requirement as the Baseline, however, it requires a considerably larger requirement for excavation, amounting to 6,456 tonnes of CO2e.

Site WQ West of Whaddon Road is considered to be neutral for BREEAM and wider EWR sustainability strategic objectives, compared to the Baseline, and there are no major risks to the success of any SOs as a result of the Site WQ West of Whaddon Road option.

Assessment Factor 15: Consistency with Local Plans (adopted and emerging)

This factor considers impacts on and opportunities to support development allocations and consistency with the development plan.

Table 25: Assessment Factor 15 judgements

Factor	Baseline – Site WF2 East of M40	Site WQ West of Whaddon Road
Consistency with Local Plans (adopted and emerging) – Impacts on and opportunities to support the adopted Local Plans	Neutral	Neutral
Consistency with Local Plans (adopted and emerging) – Impacts on and opportunities to support the emerging Local Plans	N/A	N/A

The Site WF2 East of M40 baseline option site lies within the open countryside as defined in the adopted local plan where there is a general presumption against inappropriate development, albeit that it does not impact on any specific policy allocation or designation in that adopted local plan. There is, however, a potential direct conflict with settlement gap policy and a potential interface with a ring-road safeguarding proposal contained in the emerging local plan. As the baseline option it is scored as 'neutral'

The Site WQ West of Whaddon Road site also lies within the open countryside as defined in the adopted local plan. It lies adjacent to a strategic development allocation proposed in the adopted local plan. The southern part of the site lies within a minerals safeguarding area as set out in an adopted minerals and waste plan. This option is also scored as 'neutral'.

As both sites lie within the countryside this is not a differentiator between the site options. The AF15 judgement of these two sites boils down to a comparison of direct impacts on policy allocations in an emerging local plan (Site WF2 East of M40) with potential indirect impacts on an adjacent site allocated in an adopted local plan (Site WQ West of Whaddon Road).

While adopted development plan policy carries more weight in planning judgements than emerging policy, this has to be balanced against the fact that the adopted policy impacts are indirect whereas the emerging policy impacts are potentially direct impacts.

On balance, and it is a finely balanced matter of planning judgement, it is considered that the direct impacts in respect of emerging policy which affect the Site WF2 East of M40 baseline option are broadly equivalent to the indirect impacts in respect of adopted plan policy which affect the Site WQ West of Whaddon Road option. Accordingly, both options are scored as 'neutral'.

Support the adopted Local Plans

Baseline Option – Site WF2 East of M40

This assessment considers consistency with the adopted Cherwell Local Plan 2011-2031 Part 1 adopted in December 2013. There are no relevant policies in the adopted Oxfordshire Minerals and Waste Local Plan. There are no relevant 'made' Neighbourhood Plans.

The site is not subject to any specific designation on the adopted local plan policies map. However, lying in the countryside, the Council's spatial strategy seeks to strictly control development in the countryside. Policy ESD13'Local Landscape Protection and Enhancement' seeks to prevent development which would cause (inter alia) undue visual intrusion into the open countryside, undue harm to important natural landscape features and topography, harm the setting of settlements, buildings, structures or other landmark features or harm the historic value of the landscape. This AF only considers the principle of development in the countryside.

As the baseline option it is scored as 'neutral'.

Site WQ West of Whaddon Road

This assessment considers consistency with the adopted Vale of Aylesbury Local Plan 2013-2033 adopted in September 2021, the adopted Buckinghamshire Minerals and Waste Local Plan 2016-2036 (2019) the 'made' Mursley Neighbourhood Plan which was 'made' on 2nd May 2024 and the 'made' Newton Longville Neighbourhood Plan 2023-2033 Submission Version which was 'made' on the 6 March 2025.

The spatial vision and objectives of the adopted local plan seek to manage development in such a way as to retain areas of countryside in predominantly rural character where high quality landscapes, heritage, cultural and biodiversity assets are protected and, where possible enhanced. Policy S2 seeks to avoid new development in the countryside, especially where it would compromise the character of the countryside between settlements and would result in a negative impact on the identities of neighbouring settlements or lead to their coalescence.

The eastern boundary of the site at Whaddon Road lies adjacent to a site allocated under Policy D-NLV001 on land south of the A421 and east of Whaddon Road which is proposed for a mixed use sustainable urban extension to the south-west of Milton Keynes comprising up to

1,855 new dwellings, employment, neighbourhood centre, new schools and associated infrastructure. As there is no direct interface between this option and the strategic allocation, and since the illustrative concept plan for the allocation identifies new landscape planting along the Whaddon Road boundary it is considered that this proximity to allocated development is not a significant constraint to the development of this site in AF15 terms.

The western part of the site lies within the area covered by the 'made' Mursley Neighbourhood Plan (MNP). Policy MUR7: Green Infrastructure Network of the MNP identifies a green infrastructure network which comprises a number of sites identified for their ecological, biodiversity, landscape character or recreational importance. Assessment of any wildlife / ecological impacts are covered under AF14.5.

The southern part of the site is identified as a Minerals Safeguarding Area in the adopted Buckinghamshire Minerals and Waste Local Plan 2016-2036 adopted in July 2019. Policy 1 of that plan requires development in such areas to demonstrate that either prior extraction is feasible and viable, that the mineral is not of any value, the development is temporary in nature and can be restored in a manner which would not inhibit future extraction or that there is an overriding need for the development.

The Newton Longville Neighbourhood Plan 2023-2033 Submission Version (NLNP) was 'made' on the 6th March 2025. The 'making' of the Neighbourhood Plan post-dates the previous TMD Assessment Factor exercise at which time the Neighbourhood Plan was in draft form and so was unscored in that assessment.

The eastern half of the Site WQ West of Whaddon Road TMD site falls within the area covered by the NLNP.

The NLNP contains no specific policy allocations or designations which affect the Site WQ West of Whaddon Road TMD option. However, it does identify the VALP Strategic Allocation mixed use allocation referred to above, where it is referred to as "Salden Chase/Park". It also recognises the EWR project which will run through the plan area.

As any potential policy impacts arising out of this option are largely impacts on adjacent sites, this option is scored as 'neutral'

Support the emerging Local Plans

Baseline Option – Site WF2 East of M40

This assessment considers consistency with the emerging Cherwell Local Plan Review 2040 (Consultation Draft Regulation 19) which was published for consultation between 19th December 2024 and 25th February 2025. This is an update from the Regulation 18 draft local plan which was published for consultation between September and November 2023 and which formed the basis of the previous assessment of this option.

The Regulation 19 plan carries forward the adopted policy aspirations to resist inappropriate development in the countryside (Chapter 3 'Spatial Strategy') and to protect the landscape from intrusion (Policy COM10 'Protection and Enhancement of the Landscape'). This assessment only considers the former with the latter covered through AF14.

In addition, Policy COM13 'Settlement Gaps' identifies a settlement gap between Bicester and Wendlebury where the Council could seek to maintain the separate identity of settlements and prevent the coalescence of built-up areas. Development proposals could only be considered favourably in such areas where they would not diminish the physical or visual separation between settlements or lead to a loss of local identity. The northern half of the proposed TMD site lies within this proposed settlement gap.

However, perhaps the most significant difference between the Regulation 18 and Regulation 19 consultation draft plans is that Policy BIC3 'Safeguarding of Land for Strategic Transport Schemes in the Bicester Area' safeguards land for a proposed Bicester South East Perimeter Road (SEPR) north of Wendlebury which would interface directly with the proposed TMD site. The policy sets out that "Development could not be permitted should it prevent the use of land for the delivery and implementation of the identified schemes". It should be noted, however, that "The planned route for East-West Rail" is similarly safeguarded under the same policy.

The policies map identifies the safeguarded areas for both EWR and the SEPR and the latter would interface directly with the northern boundary of the area identified for the proposed location for the TMD.

This emerging policy situation presents something of a dichotomy in that, while the plan proposes to retain a visual separation between the settlements of Bicester and Wendlebury, it safeguards land for the SEPR which would arguably adversely impact on the physical and visual separation of the settlements by introducing a large physical built structure in that open gap. The plan also safeguards land for both the EWR and the SEPR despite there being a clear interface between the two, the routes of which cross each other perpendicularly.

The mere act of safeguarding both infrastructure projects, particularly the SEPR is, in and of itself, an implicit acknowledgement that there could be some degree of physical / visual impact from planned infrastructure development on the separation of the settlements.

It is also to be noted that, while the site boundary of the land proposed for the TMD in this vicinity would interface directly with the proposed SEPR, the design of the TMD has been revised to take this SEPR safeguarding into account by moving the physical built infrastructure associated with the TMD away from the SEPR safeguarding area. The area of the proposed TMD which interfaces directly with the safeguarded route of the SEPR is proposed to be used for environmental mitigation purposes rather than any significant built development. Accordingly, the development of the TMD would not necessarily prejudice any future implementation of the SEPR.

Furthermore, it has been confirmed through correspondence with the County Council (as Highway Authority) that no detailed design work has yet been undertaken on the SEPR, it does not yet have the necessary planning consent and there is no guaranteed source of funding; it is to be largely funded through developer contributions from growth and development in Bicester. While some contributions have been collected from past development in Bicester, it cannot be guaranteed that the funding gap could be addressed through future local plan growth.

There is no relevant emerging Minerals and Waste Local Plan and no emerging Neighbourhood Plans affecting this site option.

As the baseline option it is scored as 'neutral' in this assessment.

Site WQ West of Whaddon Road

There are no emerging local plans, minerals and waste local plans or neighbourhood plans relevant to the consideration of this option. Accordingly, it is unscored in this assessment.

6.3 Stage 2 – Outcome of the Re-Assessment Factor process

A summary of the judgements against the Assessment Factors is provided in the table below. Factors where the judgement is neutral for both options have been excluded for clarity.

Table 26: Summary of judgements (neutral judgements excluded)

Assessment Factor	Baseline Site WF2 East of M40	Site WQ West of Whaddon Road
Cost and affordability	Neutral	Minor Improvement
Performance – Infrastructure reliability	Neutral	Minor Improvement
Performance – Operational resilience of EWR	Neutral	Major Improvement
Alignment with wider strategy – Wider rail network strategy	Neutral	Minor Improvement
Alignment with wider strategy – Flexibility to adapt to future	Neutral	Minor Improvement

Assessment Factor	Baseline Site WF2 East of M40	Site WQ West of Whaddon Road
changes in passenger demand		
Alignment with wider strategy – Flexibility to adapt to future changes in freight demand	Neutral	Minor Improvement
Deliverability – Complexity of delivery	Neutral	Minor Worsening
Deliverability – Complexity of maintenance	Neutral	Minor Worsening
Deliverability – Safety risk (construction)	Neutral	Minor Worsening
Deliverability – Programme schedule	Neutral	Minor Improvement
Environmental Assessment	Neutral	Major Improvement

7. TMD Re-Assessment Factor Conclusion

Following the initial assessment factor process review and further development on the initially preferred location Site WF2 East of M40, a re-review of the two best performing locations in the west against the assessment factors was completed. These were:

- Site WF2 East of M40
- Site WQ West of Whaddon Road

Following the re-assessment factor process the Site WQ West of Whaddon Road has been identified as the preferred location for the EWR TMD.

The differing factors following the second assessment factor review include:

A reduction in maintenance costs for Site WQ West of Whaddon Road. This is due to the additional trackwork required for the Site WF2 East of M40 for the reception roads.

For Railway operations there are improvements for the majority of categories for Site WQ West of Whaddon Road. This is due to the constrained nature of the Site WF2 East of M40 site requiring additional reverse moves compared to Site WQ West of Whaddon Road which offers an improved operational layout. As the freight need across the project has developed this has shown a potential improvement for the use of Site WQ West of Whaddon Road in adapting to freight changes in the future.

There is an increased complexity of delivery for Site WQ West of Whaddon Road due to the extent of additional adjacent track work required for the reception road but an improvement in delivery programme due to the risk associated with third party utilities at Site WF2 East of M40 when compared to the habitat relocation required for Site WQ West of Whaddon Road.

There is an improvement for Environment assessment overall for Site WQ West of Whaddon Road due to the impact of Site WF2 East of M40 on the Scheduled Monument and flood risk, in comparison to Site WQ West of Whaddon Road's impact on the residential receptors as part of the future adjacent development.

This preferred location of the TMD in the West drives the need for an LMD in the east and so a further study may need to be completed to evaluate the potential LMD options and subject those locations to a further separate assessment factor process.