

East Midlands Gateway
Phase 2 (EMG2)

Document DCO 6.15C
ENVIRONMENTAL STATEMENT

Technical Appendices

Appendix 15C

Soil Resource Management Plan

~~October 2025~~ July 2026

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The East Midlands Gateway Phase 2
and Highway Order 202X and The East Midlands Gateway
Rail Freight and Highway (Amendment) Order 202X

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**The East Midlands Gateway Phase 2 and
Highway Order 202X and the East Midlands Gateway
Rail Freight and Highway (Amendment) Order 202X**

APPENDIX 15C – SOIL MANAGEMENT PLAN
(DOCUMENT DCO 6.15C/MCO 6.15C)

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**~~SOIL RESOURCE MANAGEMENT
PLAN-EMG2 MAIN SITE~~**

**SOIL RESOURCE MANAGEMENT PLAN
EMG 2 MAIN SITE**

Report 2098/~~27th August, 2025~~3

24th July 2026

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SOIL RESOURCES MANAGEMENT PLAN
EMG2 MAIN SITE

SOIL RESOURCES MANAGEMENT PLAN

EMG 2 MAIN SITE



Report 2098/²

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1.0 Introduction

- 1.1 This report provides information on soil management of land at Diseworth, Leicestershire. The land is proposed as the location of a logistics park. This report is based on a previous detailed soils and Agricultural Land Classification survey undertaken in December 2022 by Land Research Associates Limited (document reference 2098/1).

SITE ENVIRONMENT

SITE ENVIRONMENT

- 1.2 The total site area comprises 100.3 ha of land, mainly in arable use with grassland in the west. The site is bordered to the north by the A453, to the east by a service station and the A42, to the west by the settlement of Diseworth, and to the south by adjoining agricultural land site is intersected by Hyam's Lane.
- 1.3 The land has been investigated to determine soil types, to inform a site-specific soil management plan for logistic park construction and associated soft landscaping.
- 1.4 This management plan details measures and working practices to prevent damage to soil resources which may cause adverse effects to soil functions for landscaping. The report covers:
- Soil resource types
 - Machinery access timings (safe working conditions)
 - Soil handling methods and work practices
 - Landscaping

2.0 Soils

2.1 A detailed soils investigation was carried out in September 2023. It was based on observations at intersects of a 100-m grid, giving a survey density of one observation per hectare. During the survey, soils were examined by auger borings and hand-dug pits.

2.2 The survey found the soils to vary in drainage and composition, as described below. The distribution of soil types is shown by Map 4 in the Technical Baseline Report (2098/1).

COARSE LOAMY SOILS

2.3 These soils occur in a small area in the east of the site. They comprise sandy loam topsoil and upper subsoil that often overlies dense slowly permeable sandy clay or clay at depth. The subsoils are gleyed indicating the land experiences seasonal waterlogging. The soils are judged moderately-freely to imperfectly draining (Soil Wetness Class II/III).

LOAMY OVER SLOWLY PERMEABLE SOILS

2.4 These soils occur in the west of the site. They comprise mainly medium loamy topsoils over permeable upper subsoils. These overlie dense slowly permeable reddish clay. The subsoils are gleyed, indicating they suffer seasonal waterlogging. These soils are moderately freely to imperfectly draining (Soil Wetness Class II/III).

HEAVY SLOWLY PERMEABLE SOILS

2.5 These soils dominate across the site. They typically comprise a heavy clay loam or clay topsoil overlying dense slowly permeable reddish clay. In places mudstone is encountered within 1 m. The subsoils are gleyed, evidence the soils suffer seasonal waterlogging. These soils are mainly judged imperfectly to poorly-draining (Soil Wetness Class III to IV).

3.0 Timing of soil stripping

- 3.1. The local area has moderate annual rainfall (c. 650 mm average) and this means that the soils are at field capacity or above typically from late November to early April. The following soil-specific advice will ensure significant compaction does not occur:

~~COARSE LOAMY SOILS~~

COARSE LOAMY SOILS

- 3.2. These soils occur in a small area in the east of the site. They have a low clay content and are of relatively low susceptibility to damage by handling when wet. However, heavy machinery can still cause compaction when soils are very wet following rainfall. These soils can be safely handled at all times of year, as long as heavy machinery traffic is avoided during significant rainfall¹ and for the 24 hours following periods of heavy rainfall. Care should be taken to avoid erosion of these soils under stockpiling.

~~LOAMY OVER AND HEAVY SLOWLY PERMEABLE SOILS~~

LOAMY OVER AND HEAVY SLOWLY PERMEABLE SOILS

- 3.3. These soils occupy most of the site. The soils have moderately high topsoil clay content and impeded drainage. This means there are likely to be periods in winter and early spring when they are waterlogged and at risk of compaction damage, as well as during wet periods at other times of year. ~~Soil~~All soil handling ~~would~~work should be ~~best undertaken~~scheduled between May and October as far a practically possible² and not within 24-48 hours following significant rainfall at other times of year as far as possible.

¹ For the purposes of this management plan, significant rainfall is defined as more than 10 mm within a 24 hour period. This figure should be treated as a guide rather than prescriptive.

² Some essential works during the winter period, for example highways works with short access permissions, are likely to be unavoidable. In these circumstances the affected resources should be reassessed after handling by a qualified soil scientist (see paragraphs 4.15 to 4.15) before reuse in landscaping, and remediation applied as appropriate. No temporarily used land to be restored to agriculture should be handled during the May to October period.

⁺For the purposes of this management plan, significant rainfall is defined as more than 10 mm within a 24 hour period. This figure should be treated as a guide rather than prescriptive

- 3.4. Soils of land to be returned to agricultural use should only be handled between May and October, to minimise damage which could lead to lower agricultural capability.
- 3.5. The principals set out in paragraph 4.9 of this document should be used at all times to determine safe soil handling conditions.

4.0 General soil management principles

4.1 Careful soil management is critical to ensure that:

- Soil resources of different potential are preserved separately
- soils are not damaged by inappropriate construction activities and timing

4.2 All operations are to be undertaken in accordance with the methodology described within this document and the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, DEFRA (2009).

4.3 Soil quality can be impaired by incorrect handling, separation, storage and replacement. Particular problems arise from:

- Handling soils at inappropriate moisture content
- Inappropriate use of machinery
- Incorrect topsoil stripping depth resulting in dilution with underlying subsoil
- Poor storage separation resulting in mixing
- Excess stockpile height leading to compaction damage, runoff and erosion

4.4 The ease of soil handling is affected by soil type. The majority of the site has coarse loamy soils that are relatively resistant to structural damage.

~~SOIL STRIPPING~~

SOIL STRIPPING

4.5 All soil handling should be limited to dry conditions. Whether soils are at an appropriate moisture content for handling to be checked by a simple '**plasticity test**': this involves testing whether a 3 mm thick thread can be rolled in the palm of the hand. If it **cannot**, the material is suitable for handling. [Full details on the correct application of the field method are provided in the Institute of Quarry Good Practice Guide³.](#)

4.6 Stripping should take place using low impact machinery with wide tracks and the excavator and dumper method as described by Sheet ~~1A~~ in the ~~MAFF~~[Institute of Quarry Good Practice Guide for Handling Soils²-Guide².](#)

³ [Institute for Quarrying \(2021\). Good Practice Guide for Handling Soils in Mineral Workings \(www.quarrying.org/soils-guidance\)](#)

4.0 — Topsoil and subsoil resources should be stripped and stored separately in low bunds (no more than 3 m high for topsoil and 5 m for subsoil), avoiding over-compaction and anaerobic conditions.

² ~~MAFF Good Practice Guide for Handling Soils, (www.defra.gov.uk/farm/environment/land-use/soilguid/)~~

- 4.7 Stockpiles covered with geotextile or vegetation to prevent erosion. Stockpile locations will be marked on a map and labelled. Proposed locations are provided in Appendix B of the Silt Management Plan which has further details on stockpile protection.
- 4.8 Topsoil should be stripped carefully to avoid dilution with subsoil, the average topsoil depth at the site is 300 mm. In most places there is a distinct colour difference between topsoil and subsoil that should aid accurate stripping. Topsoils resources should be stripped and stockpiled separately as detailed in the Technical Baseline Report (2098/1).
- 4.9 The following stages should be followed to ensure that suitable conditions exist and that damage to soils is minimised:
- **Machinery operation:** a tracked hydraulic excavator should be used to load topsoil and subsoil. The soils should be stripped, stockpiled, removed from storage (Sheet ~~3C~~ in the ~~MAFF~~[Institute of Quarry](#) Good Practice ~~Guide~~[Guide](#)²) and replaced by tracked hydraulic excavator using the loose tipping technique (Sheet ~~4D~~ in ~~MAFF~~[the Institute of Quarry](#) Good Practice ~~Guide~~[Guide](#)²) with only gentle firming by tracked vehicles.
 - **Rainfall during operations:** during rainfall and soon after it ceases there will be surplus of water in the surface layers of soil. If earthmoving continues the surface layer could become compacted, ruts could be formed and any further rain will lie on the surface and tend to drain away far more slowly than previously. Conditions will then tend to deteriorate further during earthmoving with consequential damage to soils. Consequently, soil stripping should be suspended during significant/heavy rainfall. After rainfall, the wetness of the soil should be checked using the plasticity test (by the earthworks contractor) before recommencing mechanised soil handling.

~~SOIL EMPLACEMENT~~

SOIL EMPLACEMENT

- 4.10 The soils will be removed from storage (Sheet ~~3C~~ in the MAFF Good Practice Guide) and replaced by excavator using the loose tipping technique (Sheet ~~4D~~ in MAFF Good Practice Guide), which avoids traffic on the restored surfaces.
- 4.11 The subsoils are susceptible to traffic compaction, which can limit rooting depth and affect drainage. Upper subsoils on stripped areas will be loosened before topsoil is replaced. De-compaction would be best performed with a tined ripper pulled by an earth-mover or excavator, undertaken when soils are sufficiently dry to be friable and not plastic (this can be judged by whether a 3 mm thick thread can be rolled under current site conditions).
- ~~4.1 The topsoils should then be removed from storage (Sheet 3 in the MAFF Good Practice Guide) and replaced by excavator using the loose tipping technique (Sheet 4 in MAFF Good Practice Guide), which avoids traffic on the restored surfaces.~~

4.2 ~~Example soil profiles are provided in the technical baseline report for specific landscaping end uses.~~

CONSTRUCTION TRAFFIC MANAGEMENT

CONSTRUCTION TRAFFIC MANAGEMENT

- 4.12 Temporary and permanent access roads/compounds will be created for. Topsoil will be stripped from access roads as necessary to prevent their damage during plant movement/work. Full details of construction traffic management are provided in the CEMP.
- 4.13 The movement of heavy equipment should be restricted to designated access routes to protect undisturbed soil. The timing of construction traffic/works carried out elsewhere within the site will only take place under dry conditions (assessed by the plasticity test).

MONITORING

- 4.14 A qualified soil scientist will meet with the groundworks team (and other relevant parties) to discuss the Soil Management Plan. A key contact will be identified whose role will be to provide updates to the soil scientist at key stages of the soil handling (i.e. during stripping, storage, handling, amelioration and replacement). The key contact will inform/consult with the soil scientist on any issues that may arise during soil handling.
- 4.15 The fitness for purpose of the soils for landscaping will be assessed/signed off by the soil scientist once the groundworks are complete and a brief monitoring report sent to the local planning authority.

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5.0 Remediative measures

INTRODUCTION

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- 5.1 Remediation should not be necessary if the management plan detail is adhered to. However, should surface water problems be identified, it is important that the causes are correctly identified.

SOIL COMPACTION

SOIL COMPACTION

- 5.2 Compaction damage following soil reinstatement may be evidenced by standing water at the land surface, or by poor grass growth, resulting either from soil waterlogging or drought stress due to inhibited rooting depth.
- 5.3 Existence of over-compacted layers should be initially assessed by inspection of shallow pits. This is particularly important in establishing cause with reference to damage to drainage systems as described below.
- 5.4 Topsoil compaction can be removed relatively easily by cultivation and reseedling. This should be done under dry conditions in spring or early autumn.
- 5.5 Where compacted subsoil layers are observed, they should be loosened/ripped using commercial subsoiling equipment. Grassland subsoilers (which minimise vegetation disturbance) are also commercially available.

6.0—Landscaping

6.0 Temporary use of agricultural land

6.1 It is likely that temporary use will be made of agricultural land during construction. Any land used in this manner will be carefully managed to ensure it retains the same agricultural capability (ALC land grade) as the baseline. This includes areas such as field scale ecological mitigation areas and borrow pits where reinstatement to the physical characteristics of BMV quality may also be required. To ensure this is the case, the following principals should be adhered to:

- i. No soils to be returned to agricultural use should be handled during the period between November and April
- ii. Identified soil layers should be sequentially stripped and stockpiled under appropriate working conditions, according to the principles set out in section 4.0
- iii. Soils should be removed and reinstated according to the principals set out in section 4.0. To reduce the incidence of anaerobic conditions developing below the normal cultivation depth, no replaced topsoils should be more than 40 cm deep
- iv. The effectiveness of the restoration should be checked by a qualified soil scientist, with expert remediation advice where appropriate. This may include subsoiling and cultivation techniques, as well as use of temporary grass cover to aid the restoration of natural soils processes.
- v. Where land temporary land use is likely to involve the disturbance of agricultural piped drainage systems, the advice of a specialist drainage contractor should be sought.

7.0 Landscape design/construction layout

7.1 The suitability of the soils for different landscaping uses has been summarised in the Technical Baseline report (2098/1). This information has been used to inform the landscaping and potential for habitat creation. ~~A soil balance using~~

7.2 ~~Once the estimated yields of each soil resource type final design has been prepared in approve the Landscape and Ecology~~ construction site layout will be finalised. At this point a detailed Soil Management Plan ~~will be provided. This document will include:~~

- ~~i. A soil budget including schedules of volumes for each soil type in situ; the volumes to be stored; the volumes to be reinstated and a soil surplus or deficit identified.~~
- ~~ii. The location of stockpiles and details of the destination and use of each soil resource (topsoil, subsoil, imported soils).~~
- ~~iii. Information on erosion and runoff control (silt fencing, buffer zones); Pollution prevention measures.~~
- ~~iv. Site inspection regime (before, during and after soil operations). Record keeping: dates, conditions, volumes, deviation notes. Compliance with planning conditions (e.g., biodiversity net gain, tree protection).~~
- ~~v. A soil aftercare programme should be secured for all retained and reinstated areas, with defined monitoring (e.g. quarterly in year one and biannually thereafter for a minimum of five years) to assess settlement, compaction, drainage and vegetation establishment. Maintenance should include aeration or subsoiling, organic matter incorporation, reseedling and trafficking control. Clear remedial triggers will be set, with measures such as regrading, decompaction, soil amelioration and replacement planting implemented as necessary to ensure soils achieve a stable condition appropriate to their intended use.~~

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