Technical design note

Project name	Land Adjacent Haldens Parkway, Thrapston, Northamptonshire		
Design note title	Environmental Risk Assessment to support a Deposit for Recovery Permit Application		
Document reference	Report Reference 23880-HYD-XX-XX-RP-GE-5003-S2-P01		
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Revision	02		
Date	8 August 2023	Approved	✓

1. Introduction

1.1 Context

This environmental risk assessment has been prepared to support a bespoke Deposit for Recovery (DfR) permit application and MPP Deployment by Mick George Limited as earthworks contractor for a 75ha development located to the north of the A14. More specifically it is presented in response to Questions 6 of form B2 and 3.3b of Application Form B4.

The project comprises the development of a logistical warehousing facility on a site that includes the Rectory Farm Landfill, which was a sand gravel quarry restored to agriculture by landfilling with inert waste.

The project will include creating development plateau along with landscaped screening bunds, all in accordance with planning conditions imposed by the Local Planning Authority (LPA).

It is the re-use of the waste materials from the landfill to construct the landscape bunds that constitutes Deposit for Recovery aspects of the proposed earthworks.

2. Scope of Relevant Works

As noted, the project will include the construction of landscaped bunds, mainly using site-won material recovered from the inert waste Rectory Farm landfill. The waste materials will be excavated, screened and treated under a Mobile Plant Permit prior to placement in the bund. Material not suitable for re-use will be disposed of to landfill.

The material will be assessed for suitability either treated or untreated e.g., with the addition of lime or as it is. To construct the bunds, the recovered waste will be placed in layers and engineered to form a homogenous material to construct the core of the bund. The construction derived materials (CDM) will be mixed with non-construction derived material (NCDM) material and placed in accordance with the Earthworks Specification and the Geotechnical Design Report.

3. Supporting Information

The following reports have been submitted to support this DfR application and are relevant to this Environmental Risk Assessment:

1. Hydrock Report reference 18443-HYD-XX-XX-RP-GE-3004-S2-P01; Land adjacent Halden's Parkway, Thrapston. Detailed Quantitative Risk Assessment for Impact of Recovered Waste on Controlled Waters.

2. Hydrock Technical Design Note reference 23880-HYD-XX-RP-GE-5004. Pollution Emissions Plan.
3. Hydrock Technical Design Note reference 23880-HYD-XX-RP-GE-5005. Odour Management Plan.
4. Hydrock Technical Design Note reference 23880-HYD-XX-RP-GE-5007. Monitoring Plan

4. Risk Assessment Methodology

4.1 Approach

The general approach to preparing this risk assessment is compliance with the Environment Agency's H1 Environmental Risk Assessment methodology and supporting Annexes. Th core of this guidance is the adoption of the source-pathway-receptor principle.

4.2 Step 1: Hazard Identification

The following hazards have been identified as arising from the proposed works;

- Noise (incorporating vibration) from plant and machinery;
- Dust raised by plant and vehicle movements;
- Traffic attending the site (road congestion, mud);
- Odour from waste excavation, sorting and treatment etc.;
- Pests attracted to the waste;
- Polluting emissions to the water environment;
- Accidents, including:
  - Fire and its effects (smoke, heat, runoff water);
  - Spills and leaks of potentially polluting substances (fuel, oil, grease);
  - Road traffic accidents; and
  - The effects of vandalism, malicious damage

4.3 Step 2: Potential Receptors

Potential receptors are shown on Drawing 23880-HYD-XX-ZZ-DR-GE-1026 at Appendix A. The relationship between hazards and receptors is summarised in Table 3.1 below:

Table 4.1: Hazards and receptors

Receptors	Hazards								
	Noise	Dust	Odour	Traffic	Pests	Leaks	Soil Contam	Fire	RTCs
Users of Residential Properties	√	√	√	√	√			√	√
Users of Commercial Premises	√	√	√	√	√			√	√
Site personnel	√	√	√	√	√			√	√
Surface water						√	√	√	
Groundwater						√	√	√	
Soils						√		√	

4.4 Potential Pathways

The following pathways are considered to apply:

- Noise, dust, odour, smoke: transmission by air;
- Pests: direct contact;
- Traffic/RTC: physical presence;
- Leakages:
  - Direct contact;
  - Surface runoff;
  - Leaching and downward transmission

4.5 Impact Assessment

Summarised in Table 4.2.

4.6 Mitigation

Summarised in Table 4.2.

4.7 Post-Mitigation Impact Assessment

Summarised in Table 4.2.

Table 4.2: Risk Assessment

Hazard	Receptor	Pathway	Likelihood	Severity of consequence	Impact	Mitigation	Residual impact
Noise	Residential Properties	Air	Moderate	Low to moderate	Low	» Site generated noise not significantly different from that generated by Halden's Parkway and A14; » Background monitoring pre-commencement; » Incident response; » Well-maintained plant that will only operate when necessary	Very Low
	Commercial Properties	Air	Moderate	Low to moderate	Low		Very Low
	Site Personnel	Air	Moderate	Low to moderate	Moderate	» Use of PPE (ear-defenders) where identified by risk assessment	Very Low
Dust	Residential Properties	Air	Moderate	Low to moderate	Moderate	» Daily inspections and dust monitoring; » Dust suppression » Incident response	Very Low
	Commercial Properties	Air	Moderate	Low to moderate	Moderate		
	Site Personnel	Air	Moderate	Low to moderate	Moderate	» Use of PPE (dust masks) where identified by risk assessment	Very Low
Odour	Residential Properties	Air	Moderate	Low	Low	» Inert wastes unlikely to generate significant odour; » Daily inspections and monitoring; » Minimise the size of the active restoration area; » Incident response (suppression measures)	Very Low
	Commercial Properties	Air	Moderate	Low	Low		
	Site Personnel	Air	Moderate	Low	Low	» Use of PPE where identified by risk assessment	Very Low
Traffic/RTCs	Residential Properties	Physical presence	Low	Low	Low	» Established commercial activity in the area with HGV movements » Well maintained and managed, security controlled, access road	Very Low
	Commercial Properties						
	Site Personnel						
Leaks/spillages	Ground	Direct Contact	Moderate	Low	Low	» Limited storage of hazardous materials; » Storage in designated bunded areas » Spill procedure, absorbent spill materials, use of drip trays, careful refuelling etc.	Very Low
	Groundwater	Seepage	Moderate	Low	Low		
	Surface Water	Run off	Moderate	Low	Low		
Soil Contamination	End users	Direct Contact	Moderate	Low	Low	» Inherently low risk materials; » Clean cover system	Very Low
	Site Personnel	Direct Contact	Moderate	Low	Low	» PPE where identified by risk assessment	Very Low
	Groundwater	leaching	Moderate	Low	Low	» Limited capacity for infiltration through bund; » Adherence to re-use criteria established from DQRA	Very Low
	Surface Water	Run off	Moderate	Low	Low	» Inherently low risk materials; » Drainage layer in bund prevents contact with recovered waste	Very Low

Hazard	Receptor	Pathway	Likelihood	Severity of consequence	Impact	Mitigation	Residual impact
Fire	All relevant receptors	Direct Contact	Low	Low	Low	» Materials have no/very-low potential for ignition » No fires or smoking permitted on site	Very Low
Vandalism/intruders	Site equipment and facilities	Direct Contact	Low	Low	Low	» All equipment kept on site will be secured when not in use » Use of security during out of hours period » Regular inspection of infrastructure.	Very Low
Pests	All relevant receptors	Direct Contact	Low	Low	Low	» Little or no material on site that will attract pests; » Incident response	Very Low
Mud/dust on highway	All relevant receptors	Wind, traffic	Moderate	Moderate	Moderate	» Deployment of wheel wash facilities and road-sweeper	Very Low

5. Findings

5.1 General

It is generally the case that significant impacts are not anticipated and that the application of standard/routine operational procedures expected of a professional, capable, and experienced contractor will render all impacts very low.

This report should be read with reference to the Construction Environmental Management Plan Framework (CEMPF) document attached to this submission.

5.2 Noise

There are few receptors and anticipated significant background (Halden's Parkway, A14) will be subject to background monitoring. Operating hours will be restricted to normal working hours and days and vehicles, plant, and equipment will be properly maintained. Any complaints will be recorded, investigated, and resolved.

Residual risk: very low.

5.3 Dust and other airborne particles

Dust generation is possible in dry, windy weather, conditions which are relatively rare. Dust monitoring will be undertaken and suppression measures taken as necessary.

Residual risk: very low.

5.4 Traffic/RTCs

Site works are not expected to generate significant traffic over and above that using the access to Halden's Parkway and the increase in risk of RTCs. Nevertheless, the access road will be well-maintained and access/egress managed as necessary.

Residual risk: very low.

5.5 Odour

For detail, please refer to Hydrock Technical Design Note reference 23880-HYD-XX-RP-GE-5005. Odour Management Plan.

Residual risk: very low.

5.6 Pests

There is little or no material on site that will attract pests but any incidents will be attended to.

Residual risk: very low.

5.7 Risk to Controlled Waters

For detail see Hydrock Report reference 18443-HYD-XX-XX-RP-GE-3004-S2-P01; Land adjacent Halden's Parkway, Thrapston. Detailed Quantitative Risk Assessment for Impact of Recovered Waste on Controlled Waters.

Residual risk: very low.

5.8 Accidents and Emergencies

5.8.1 Fire

The materials have no/very-low potential for ignition but measures such as no smoking and the issue of a fire prevention plan will further reduce the risk.

Residual risk: very low.

5.8.2 Spillages and Leaks

There will be limited storage of hazardous materials but all storage will be held in secure bunded areas. Use of drip trays, careful refuelling etc will be mandatory procedures

Spill procedures, absorbent spill materials, will be in place.

Residual risk: very low.

5.8.3 Intruders and Vandalism

All equipment kept on site will be secured when not in use and security will be deployed during out of hours period

Residual risk: very low.

6. Summary

All significant environmental risks pertaining to the project have been identified and with the application of standard mitigation measures they will be rendered very low.

Appendix A Receptors Plan

Polpolit Brook and tributaries (typically flowing)

Point X

Polpolit Brook and tributaries (typically dry)

Haldens Parkway

A14

COMMERCIAL UNITS

RECTORY FARMHOUSE

Castle Manor Farm

Stone Pits

KEY

- Site Boundary (approximate)
- Bund Location (Deposit for Recovery)
- Water course (typically flowing)
- Watercourse (typically dry)

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.
3. This drawing has been based on the following drawings and information:
   Stafaru Drawing. 'Huntingdon Road, Thrapston. Topographic Survey'. Ref: 11521a-0, dated 10/03/21
4. The Castle Manor Farmhouse and the bungalow to the west of the site are being demolished as part of the development and are therefore not considered to be receptors with respect to the Environmental Risk Assessment.

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Hydrock

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PROJECT: THRAPSTON LANDFILL PERMIT SURRENDER

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