

Preliminary Risk Assessment

Newall Plant Limited

Heron Farm,
Besthorpe,
Attleborough,
Norfolk
NR17 2LN



PROVIDING SOLUTIONS, ENSURING COMPLIANCE

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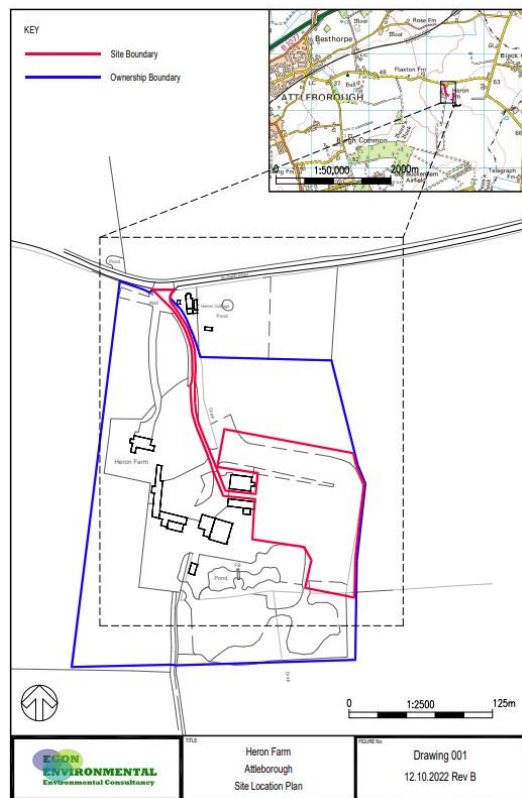
Proposed Site Layout Plan Drawing No. 19/004e 002 V3



1. Introduction

- 1.1. Westbury Environmental Limited have been instructed by Newall Plant Limited to produce this Preliminary Risk Assessment to satisfy Environment Agency concerns regarding planning application reference: AC/2023/131600/01-L01.
- 1.2. The scope of this Preliminary Risk Assessment is to assess the risk posed by both the potential historic contamination at the Site and the potential contamination arising from the construction and demolition recycling facility at Heron Farm. This risk assessment has been completed to establish whether there are any potentially unacceptable risks associated with either historical contamination or arising from operations on the Site.
- 1.3. Newall Plant Limited is located at Heron Farm, Bunwell Road, Besthorpe, NR17 2LN (Site). National Grid reference: TM083952.
- 1.4. Figure 2.1 shows the location and boundary of the Site.

Figure 1.1 Site Boundary Plan



- 1.5. The planning application is for an aggregate and soil recovery facility at Heron Farm, Besthorpe near Wymondham. The 2019 permissions allow the storage of plant, materials and aggregates, this application seeks to incorporate the treatment of unprocessed materials into the activities of the Site.
- 1.6. Mobile crushing and screening machinery will be used to process construction and demolition waste to produce soil, soil substitutes and recycled aggregates.
- 1.7. The information used within this risk assessment is based on a desk study and information provided by the landowner.



2. Site Context

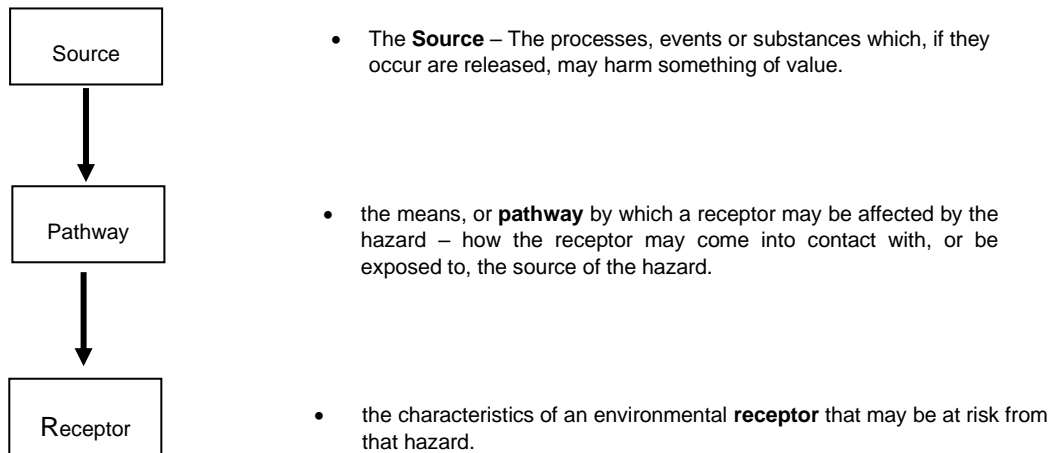
- 2.1. The land was formerly used as agricultural land, predominantly for arable purposes.
- 2.2. Based on the historic land use being for agriculture, it is unlikely that the land has been subject to any historic contamination.
- 2.3. Activities associated with agricultural use include land spreading, application of fertilizers and pesticides and livestock activity. The impact of these activities is generally short lived and is unlikely to have caused any significant long-term contamination.
- 2.4. The absence of historical contamination at the Site is supported by a Site Condition Report completed in August 2020 as part the Environmental Management System, a requirement of the Environmental Permit held by Newall Plant Limited. Within the Site Reconnaissance Report there is no evidence of discoloured soil or surface water. There were also no odours reported from the Site itself or the materials on site.
- 2.5. The Site is bounded by trees and shrubs on the northern boundary and hedges on the western boundary. No obvious signs of distress or absence of vegetation was reported in the Site Condition Report.
- 2.6. A standard rules permit (SR 2010 No.12) was granted to Newall Civil Engineering Limited in December 2014. The permit was transferred to Newall Plant Limited in May 2019. This permit authorises the treatment of inert non-hazardous waste to produce soil, soil substitutes and aggregates. The quantity of waste to be stored and subsequently treated shall be no more than 75,000 tonnes per year.
- 2.7. Old Buckenham Airfield, a World War 2 airfield, is located approximately 1.5km southwest of the Site. Airfields are attributed with causing long term contamination of the soil. Potential sources of contamination from a WW2 airfield include petroleum hydrocarbons from the storage of fuel and fuelling operations, polychlorinated biphenyls from electricity transformers, halogenated hydrocarbons such as Trichloroethylene used as degreasers, and asbestos materials from buildings and pipework.



3. Conceptual Site Model

- 3.1. A conceptual site model has been produced to assess any potential risks arising from contamination at the site.
- 3.2. The source, pathway, receptor model has been used to assess risk. Figure 3.1 – The source, pathway, receptor approach to risk assessment outlines this process.

Figure 3.1 The source, pathway, receptor approach to risk assessment



Potential Sources of Contamination

- 3.3. The following potential sources of contamination have been identified.
 - Historic land use as agricultural land.
 - Dust produced from tipping of waste, waste storage and the movement of the plant, vehicles, and machinery.
 - Surface water runoff from rainwater draining through waste stockpiles.
 - Organics and other potentially toxic elements released from plant / equipment failure.
 - Odour produced by stockpiled waste.
 - Litter from waste stockpiles and waste transport.

Potential Pathways

- 3.4. The following potential pathways for the Site have been identified. The risk posed by the operations at the Site has been assessed based on the risk of any possible contamination or pollution reaching nearby receptors via these pathways.
 - Geology – The bedrock geology is chalk; the superficial deposits consist of Lowestoft Formation Diamicton.
 - Hydrology –The Site is located within a flood zone 1. Land found within a flood zone 1 has a low probability of flooding from rivers and the sea. The closest river, the River Thet, is located approximately 2km to the north of the site.
 - Atmospheric – The predominant wind direction is towards the northeast. The Site is bounded by trees and shrubs on the northern boundary and hedges on the western boundary which act as natural screening.



- Man made structures – There are ditches surrounding the Site to the north, east and south. These ditches have limited connectivity to the wider area.

Potential Sensitive Receptors

- There is a pond approximately 10m south of the Site boundary on land owned by the Operator.
- Heron farm agricultural buildings with associated agricultural land 10m to the Northwest.
- Agricultural land surrounds the Site.
- Heron Cottage is a residential dwelling 100m northwest.
- There are residential properties off Besthorpe road 455m northeast of the site.
- Bunwell Road is a public highway connected to the access track approximately 170m north of the Site.
- The Site lies within a groundwater protection zone, Zone 3 Total catchment and lies on a principal aquifer.

Site layout

- 3.5. Drawing No. 19004e 002 V3 shows the layout plan for the site. The waste processing activities occur in the north / northwestern sections of the site.
- 3.6. The Site Layout Plan shows the proposed locations of the stockpiled materials and processing area in relation to the location of the surrounding ditches and the nearby ponds.

Risk Assessment

- 3.7. Table 3.1 shows the risk assessment for the waste treatment activities carried out at Heron Farm.

Table 3.1 Source, pathway, receptor assessment for Heron Farm

Hazard	Source	Pathway	Receptor	risk rating
Dust Nuisance.	Waste operations on Site.	Atmospheric dispersion.	Bunwell Road, Heron cottage, the residential property approximately 100m northwest, residential properties to the northeast, surrounding agricultural land.	Low – medium. There is a high potential for dust generation, but mitigation procedures are in place to limit this.
Contaminated surface water runoff.	Rain falling on waste stockpiles.	Direct runoff from site across ground surface. Ditches surrounding site. Geology under the Site.	Groundwater. Surrounding agricultural land. The pond 10m south of the Site boundary.	Low. All waste types stored are non-hazardous.



<p>Potentially polluting liquids, fuel, organics.</p>	<p>Plant/equipment failure Fuel leaks from mobile fuel tank.</p>	<p>Direct runoff from site across ground surface. Ditches surrounding site. Geology under the Site.</p>	<p>Groundwater. Surrounding agricultural land. The pond 10m south of the Site boundary.</p>	<p>Low due to a low probability of plant/equipment failure occurring and procedures being in place for if it happens.</p>
<p>Odour.</p>	<p>Stored waste.</p>	<p>Atmospheric dispersion.</p>	<p>Heron cottage. Residential properties to the northeast off Besthorpe road surrounding agricultural buildings and land.</p>	<p>Low due to the waste being stored being construction and demolition waste which is typically not odorous.</p>
<p>Litter.</p>	<p>Stored waste Incoming waste on lorries</p>	<p>Atmospheric dispersion through wind. Dispersion through pests.</p>	<p>Bunwell Road, Surrounding agricultural land, Heron Cottage</p>	<p>Low. Permitted waste types have a low potential to cause litter.</p>



4. Conclusion

- 4.1. Historic land use was analysed. The Site was previously used for agricultural purposes, with no evidence of historic contamination. There are therefore no potentially unacceptable risks associated with previous uses.
- 4.2. The source, pathway, receptor analysis detailed in table 3.1 identifies potential hazards associated with the operations at Heron Farm and their pathway to nearby sensitive receptors. This analysis found all associated hazards to be low risk. There are therefore no unacceptable risks associated with the proposed aggregate and soil recovery facility at the Site,



Drawings

19/004e 002 V3

Proposed Site Layout Plan



Heron Farm

56m

Drain

Drain

Drain

Drain

Track

Key	
	Planning Boundary
	Processing Area
	Stockpiled Materials
	Bunds
	Mains Water Supply



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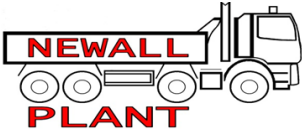
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Heron Farm

Client	Newall Plant Limited	Title	Site Layout Plan
	Drawing No.	19/004e 002 v3	
	Site	Heron Farm, Besthorpe, NR17 2LN	
	Scale	1:2,500	
	Date	16/04/2020	