
Island Road, Reading

Environmental Impact Assessment Screening Report

January 2017



Commitment to
Excellence in EIA

Island Road, Reading

Environmental Impact Assessment Screening Report

Prepared on behalf of Roxhill Developments Ltd

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1 INTRODUCTION

- 1.1 This report has been prepared by Barton Willmore, Institute of Environmental Management and Assessment (IEMA) qualified assessors and Environmental Impact Assessment (EIA) Quality Mark registrants, on behalf of Roxhill Developments Ltd. The report accompanies a request to Reading Borough Council (RBC) to adopt a screening opinion to determine whether the proposed development of Class B1c/B2/B8 (business, general industrial and storage and distribution) uses, associated landscaping, parking and servicing areas and improvements to the vehicular access to the site from Island Road and the A33, constitutes EIA development.
- 1.2 This report reflects the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011¹ (the "EIA Regulations") and in accordance with Regulation 5 of the EIA Regulations, this report contains:
- A plan sufficient to identify the land;
 - A brief description of the nature and purpose of the development and of its possible effects on the environment; and
 - Other information the applicant wishes to provide.

Requirement for EIA

- 1.3 In order to determine whether the proposed development is 'EIA development', regard must be had for the EIA Regulations and supporting Planning Practice Guidance (PPG)².
- 1.4 EIA development is defined by the EIA Regulations as development:

"likely to have significant effects on the environment by virtue of factors such as its nature, size or location".

- 1.5 EIA development falls into two Schedules of the EIA Regulations. EIA is mandatory for developments listed within Schedule 1. Schedule 2 developments require EIA if they would lead to likely significant effects on the environment.
- 1.6 In deciding whether a Schedule 2 development is EIA development, Regulation 4(6) states:

"Where a local planning authority ... has to decide under these Regulations

¹ SI 2011/1824 as amended by the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015 (No. 660)

² DCLG, 2015, online access: <http://planningguidance.planningportal.gov.uk/blog/guidance/environmental-impact-assessment/>

whether Schedule 2 development is EIA development ... the authority ... shall take into account in making that decision such of the selection criteria set out in Schedule 3 as are relevant to the development."

- 1.7 In order to allow RBC to determine the need for EIA this report provides a description of the site and proposed development, a review of the EIA Screening Criteria based on the EIA Regulations and the PPG, a completed EIA Screening Checklist, and a site location plan at Appendix 1.

Planning Context

- 1.8 RBC's Core Strategy³ identifies the site as 'undeveloped land' and according to Policy CS10 (Location of Employment Development) major employment uses, including industrial and storage and distribution should be located in the A33 corridor, within which the site is located. The A33 corridor is recognised as being a relatively successful industrial and warehousing area and an appropriate location for further development of employment uses.

³ RBC, Reading Borough Local Development Framework: Core Strategy, January 2008.

2 SITE AND PROPOSED DEVELOPMENT

Site Context

- 2.1 The site (see site location plan at Appendix 1) is located to the south of Reading, approximately 3.6km to the east of Calcot and 4.6km to the west of Earley. The site is located in an existing commercial setting with office space situated within Green Park located to the south of the site, Kennet Island located to the east of the A33 and further warehouse development located to the south on the A33 corridor including a Tesco regional distribution centre.
- 2.2 Island Road forms the northern boundary of the Site with undeveloped fields located beyond as well as the Kennet and Avon Canal and Fobney Pumping Station located to the north east. Further north lies the residential area of Southcote. Immediately to the east of the site lies the RE3 recycling centre and a sewage works operated by Thames Water. Beyond this lies the A33, the Kennet Island development and residential dwellings to the south of Reading. A tree belt forms the southern boundary of the site with Green Park. The Madejski Stadium, a regional distribution centre for Tesco, the under-construction Green Park Village and the M4 motorway located further south. Junction 11 of the M4 is located approximately 2km to the south west of the site. A restored former landfill site is located immediately to the west of the site, beyond which lies the route of the Reading to Basingstoke railway line, pylons and large areas of standing water and tree planting before Burghfield Road further west.

Site Description

- 2.3 The site extends to approximately 30 hectares (ha) and forms an undeveloped piece of land which has been restored following its use as a landfill site for household waste during the 1990s. Prior to this the site was used as a quarry.

Proposed Development

- 2.4 The proposed development is for the erection of up to 99,627sqm of commercial floorspace comprising use classes B1c/B2/B8 (business, general industrial and storage and distribution) associated landscaping, parking and servicing areas and improvements to the vehicular access to the site from Island Road and the A33.
- 2.5 The proposed development would have a maximum height of 64.6m Above Ordnance Datum (AOD). This is based on the assumption of a finished floor level of 46.1mAOD and a maximum building height to ridge of 18.5m above finished floor level.

- 2.6 An area would be reserved in the north east corner of the site in order to accommodate a plant area for use by Cemex.

3 SCREENING ASSESSMENT

Introduction

- 3.1 In determining whether the proposed development constitutes EIA development, consideration should be had to the following:
- If the proposed development is of a type listed in Schedule 1;
 - If not, whether it is listed in Schedule 2;
 - Is it located within a sensitive area;
 - It meets any of the relevant thresholds and criteria set out in Schedule 2; and/or
 - Would it lead to likely significant effects on the environment.
- 3.2 These points are explored further in this section with reference to the EIA Regulations and supporting PPG.

Schedule 1 Projects

- 3.3 EIA is mandatory for projects listed in Schedule 1 of the EIA Regulations. Schedule 1 developments are large scale projects for which significant effects would be expected and comprise developments such as new airports and power stations. The proposed development is not of a type listed in Schedule 1.

Schedule 2 Projects

- 3.4 EIA is discretionary for projects listed in Schedule 2. If the development proposed is of a type listed in Schedule 2 then it may be classified as EIA development depending on the location of the development (i.e. if it is within a sensitive area) and/or whether it meets any of the relevant thresholds or criteria in Column 2.
- 3.5 Sensitive areas are defined in the EIA Regulations as:
- Sites of Special Scientific Interest and European Sites;
 - National Parks, the Broads, and Areas of Outstanding Natural Beauty;
 - World Heritage Sites and Scheduled Monuments.
- 3.6 The site is not located within a sensitive area. In certain cases, local designations which are not included in the definition of sensitive areas, but which are nonetheless environmentally sensitive, may also be relevant in determining whether an assessment is required.

Furthermore, in considering the sensitivity of a particular location, regard should also be had to whether any national or internationally agreed environmental standards (e.g. air quality) are already being approached or exceeded.

- 3.7 The proposed development falls within category 10 of Schedule 2, 'Infrastructure Projects', sub-section (a) 'Industrial Estate Development Projects'. The site is not located in a sensitive area and therefore the thresholds should be applied. The thresholds for infrastructure projects as set out in Schedule 2 relate to developments that "*exceed 5 hectares*". At 30ha the proposed development exceeds 5ha and accordingly this screening assessment has been prepared to determine whether the proposed development would be likely to result in significant environmental effects. In order to achieve this Schedule 3 of the EIA Regulations and the PPG need to be taken into account. Information on these is set out below.

Schedule 3

- 3.8 Schedule 3 of the EIA Regulations sets out selection criteria which relate to specific matters including: the characteristics of the development; the location of the development; and the characteristics of the potential impact. These factors should be taken into account as part of the screening process and are set out below:

Characteristics:

- The size of the development;
- The cumulation with other development;
- The use of natural resources;
- The production of waste;
- Pollution and nuisances; and
- The risk of accidents, having regard in particular to substances or technologies used.

Location:

- The existing land use;
- The relative abundance, quality and regenerative capacity of natural resources in the area; and
- The absorption capacity of the natural environment.

Potential Impact:

- The extent of the impact (geographical area and size of the affected population);

- The transfrontier nature of the impact;
- The magnitude and complexity of the impact;
- The probability of the impact; and
- The duration, frequency and reversibility of the impact.

Consideration of Cumulative Effects

- 3.9 Schedule 4 of the EIA Regulations requires consideration of a proposed development cumulatively with other development. Guidance on the consideration of cumulative effects in the EIA screening process is set out in the PPG:

"each application (or request for a screening opinion) should be considered on its own merits. There are occasions where other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development. The local planning authorities should always have regard to the possible cumulative effects arising from any existing or approved development."

- 3.10 Table 1 includes the committed developments which have been identified under the consideration of cumulative effects.

Table 1: Committed Developments

Scheme	Description	Distance from the Site	Status
Land to the north of Island Road (RBC ref: 141789)	Outline planning application for development comprising up to 24,200sqm (GIA) of B2 (General Industrial) and/or B8 (Storage or Distribution), parking and service yards, access, landscaping and associated works.	Approximately 325m to the north east of the site.	Outline planning permission granted on 11th March 2015 and reserved matters approval granted on 14th October 2015. The development is currently under construction.
Green Park Village, Longwater Avenue (RBC ref: 102172 and 151761)	Housing (up to 737 units), offices (up to 16,000sqm), a one form entry primary school, health surgery, nursery, sports pitches and children's play facilities; and Reconfiguration of lake, access, parking, services, infrastructure and landscaping.	Immediately adjacent to the south of the site	Hybrid planning permission granted on 16th May 2011 and reserved matters approval granted on 19th January 2016. The development is currently under construction.

Scheme	Description	Distance from the Site	Status
Land west of Longwater Avenue (RBC ref: 150254)	Construction of a new railway station including 5-car platforms and associated works.	Approximately 460m to the south west of the site.	Planning permission granted on 6th May 2015. The implementation of the development has yet to be commenced.
Land at Madejski Stadium, Shooters Way (RBC ref: 160199)	Outline proposal for housing (up to 430 units) and detailed proposal for housing (203 units), convention centre, ice rink, 246-bedroom hotel, 102 serviced apartments and ancillary retail space; and associated access, parking, transport interchange, landscaping and public open space.	Approximately 530m to the south east of the site.	The planning application was submitted on 3rd February 2016 but has yet to be determined.

Planning Practice Guidance

- 3.11 Paragraphs 057 and 058 of PPG provide guidance to help determine whether significant effects are likely. In general, the more environmentally sensitive the location, the lower the threshold will be at which significant effects are likely. Table 2 below sets out indicative criteria and thresholds identified in the PPG along with some of the issues that are most likely to need to be considered in determining the whether a development is likely to be EIA development.

Table 2: Planning Practice Guidance Indicative Screening Criteria

Development type	Indicative criteria and threshold	Key issues to consider
(a) Industrial Estate development projects	Site area of the new development is more than 20ha.	Potential increase in traffic emissions and noise.

- 3.12 Table 3 sets out a review of all off the above criteria and requirements and specifically addresses the proposed development at the site.

Table 3: Screening Assessment for Development on Island Road, Reading.

SCREENING CRITERIA	PROPOSED DEVELOPMENT
1. CHARACTERISTICS OF THE DEVELOPMENT	
(a) Size of the development	
Will the development be out of scale with the existing environment?	The site is an undeveloped, unused site located on restored landfill land to the south of Reading. The proposed development would provide up to 99,627sqm of employment space (business, general industrial and storage and distribution), associated

SCREENING CRITERIA	PROPOSED DEVELOPMENT
	landscaping, parking and servicing areas and improvements to the vehicular access to the Site from Island Road and the A33. Existing industrial and commercial uses are located in close proximity to the site. In light of this context the development would not be out of context with existing development.
Will it lead to further consequential development or works?	No. The proposed development is a discrete proposal and includes all necessary works, including access.
(b) Accumulation with other development	
Are there potential cumulative impacts with other existing development or development not yet begun but for which planning permission exists?	The following committed developments have been identified: • Land north of Island Road (RBC ref: 141789); • Green Park Village, Longwater Avenue (RBC ref: 102172); • Green Park Station, Longwater Avenue (RBC ref: 150254); and • Land at Madejski Stadium, Shooters Way (RBC ref: 160199).
Should the application for this development be regarded as an integral part of a more substantial project? If so, can related developments which are subject to separate applications proceed independently?	No. The proposed development is a discrete project and could proceed independently.
(c) Use of natural resources	
Will construction or operation of the development use natural resources such as land, water, material or energy, especially any resources which are non-renewable or in short supply?	The proposed construction and operational phases of the development will use resources in terms of land, water and energy as would be expected for a commercial development.
(d) Production of waste	
Will the development produce wastes during construction or operation or decommissioning?	Construction waste would be reused and recycled where possible. Operational waste would be disposed of in line with RBC requirements and managed in accordance with all applicable legislation.
(e) Pollution and nuisances	
Will the development release any pollutants or any hazardous, toxic or noxious substances to air?	During the construction phase of the proposed development, dust would be generated. Dust generation would be managed in accordance with standard best practice measures, enforced through a construction environmental management plan (CEMP) and is not anticipated to generate significant adverse effects. There would be emissions associated with plant and vehicles during the construction phase and from vehicles during the operation of the proposed development. The number of vehicles travelling to and from the site during the operational phase would be associated with up to 99,627sqm of commercial floorspace. The proposed development is for employment use which is not associated with hazardous substances or toxic emissions to air. There is not anticipated to be a requirement to store large volumes of hazardous materials. Any such materials would be stored and handled in accordance with relevant legislation.
Is there a potential risk from leachates or escape of wastes of other products/by-	The site was previously used as landfill over a period of 10 years, starting in the late 1980s, in a former

SCREENING CRITERIA	PROPOSED DEVELOPMENT
products that may constitute a contaminant in the environment?	sand quarry. The maximum thickness of waste is approximately 12m and below that is a variable thickness of Reading Formation (2.5 – 11m thick below the site), followed by Seaford Chalk (Upper Chalk). Whilst the site is a former landfill it has been restored and is appropriate for redevelopment. A technical note has been prepared which assesses the development of commercial uses on the site. This note is included at Appendix 2 and concludes that ongoing monitoring of the historic landfill site indicates no leachate escape and no evidence of off-site gas migration. The Reading Formation acts as a confining layer to groundwater in the Chalk and suggests that downward leakage of leachate from the landfill to the Chalk is prevented. A Phase 1 Land Contamination Report would be submitted in support of the planning application. Appropriate measures, in accordance with all relevant legislation, would be used to prevent accidental spillages of contaminants during the construction or operational phases of the proposed development. The land uses proposed are not highly contaminative and it is not expected that there is a high risk of contaminants being released into the environment.
Will the development cause noise and vibration or release of light, heat, energy or electromagnetic radiation?	The potential exists for noise effects to result from the construction processes associated with the proposed development. These effects will be managed in accordance with best practice measures, implemented through the CEMP and are not anticipated to generate significant adverse effects. Lighting would be designed carefully in accordance with relevant British Standards and Institute of Lighting Professionals (ILP) (2011) Guidance Notes for the Reduction of Obtrusive Light. No electromagnetic radiation, heat or energy releases are expected other than those associated with normal commercial development.
Will the development lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	Hydrocarbons will be used as part of the construction phases of the development. This would involve plant and vehicle fuel and lubricants. Surface water run-off and foul water drainage will be managed on-site during the construction and operational phases. Sustainable drainage would be considered and appropriate drainage design would be included within the planning application documents including the Flood Risk Assessment (FRA).
(f) Risk of accidents, having regard in particular to substances or technologies used	
Will there be a risk of accidents during construction or operation of the development which would have effects on people or the environment?	During the construction phase, the contractor(s) would implement measures in accordance with Health and Safety legislation/requirements, and best practice to minimise the risks of accidents that would have effects on people or the environment. All such measures would form part of the CEMP. There are no anticipated significant risks of accidents during operation as the proposed development does not involve users dealing with hazardous substances.
Will the development involve use, storage, transport, handling or production of substances or materials which could be	During the construction phase, certain materials may be present on the site which may be harmful to the environment. However, it is considered that through

SCREENING CRITERIA	PROPOSED DEVELOPMENT
harmful to people or the environment (flora, fauna, water supplies)?	the implementation of appropriate environmental control measures in line with the relevant legislation there will be no significant environmental effects. The operational development is not expected to involve the use, transport or production of substances or materials which could be harmful to the environment.
Other characteristics	
Potential physical changes (topography, land use, changes in water bodies etc) from construction, operation or decommissioning of the development?	The principal land use will change from undeveloped, unused land to land used for commercial and employment purposes. There would be changes to the site during the construction phase. There will be no change to water bodies or topography.
2. LOCATION OF THE DEVELOPMENT	
(a) Existing land use	
Are there existing land uses on or around the location which could be affected by the development, e.g. residential, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying?	The site is currently undeveloped and not in use. There is existing industrial and commercial development in close proximity to the site, including at Green Park, Island Road, a regional distribution centre for Tesco and Madejski Stadium. The proposed development is not considered likely to affect the surrounding areas as these comprise similar land uses.
Is the development located in a previously undeveloped area where there will be loss of greenfield land?	The site is currently undeveloped but has previously been used as a landfill site for household waste in the 1990s. The site has now been restored and is currently unused.
(b) Relative abundance, quality and regenerative capacity of natural resources in the area*	
Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the development? • groundwater resources • surface waters • forestry • agriculture • fisheries • tourism • minerals	The site is not currently in use and comprises an undeveloped field. According to the Environment Agency website, the northern part of the site is located within Flood Zone 1 (and is at a low risk of flooding). Areas to the south of the site are either located within Flood Zone 2 and 3 and are at a medium or high risk of flooding. The site is not located within a groundwater Source Protection Zone (SPZ). There are no groundwater source protection zones on or adjacent to the site. None of the other features are present in or adjacent to the site.
(c) Absorption capacity of the natural environment**	
Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the development?	There are no statutory designations within or adjacent to the site. i.e. there are no Scheduled Monuments, Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest, National Parks, Registered Battlefields, Registered Historic Parks and Gardens, Special Areas of Conservation, Special Protection Areas, or Ramsar Sites. The Chilterns AONB is located almost 5km to the north of the site (north of Reading) and would not be affected directly or indirectly by the proposed development. The nearest protected feature to the site is a Grade II listed building, Kirtons Farmhouse, located approximately 800m from the south western boundary of the site. Two scheduled monuments are located within 5km of the site. These are High Bridge and Reading Abbey (a Cluniac and Benedictine monastery and civil war earthwork) which are located approximately 2.8km and 3.2km to the north east of

SCREENING CRITERIA	PROPOSED DEVELOPMENT
	the site, respectively. The site is not located within a conservation area. There are eight local nature reserves (LNR) located within 5km of the site. These are not anticipated to be affected directly or indirectly by the proposed development. Four Registered Parks and Gardens are located over 2km to the north of the site. These are not anticipated to be affected by the proposed development.
Are there any other areas on or around the location which are important or sensitive for reasons of: • wetlands; • coastal zones • mountains and forest areas; • nature reserves and parks; • Special Protection Areas and Special Areas of Conservation; • Areas in which environmental quality standards laid down in EU legislation have already been exceeded • Densely populated areas • Landscapes of historical, cultural or archaeological significance.	None identified, see row above.
Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected?	The site is not located within or adjacent to any ecologically sensitive areas. As restored land previously used for household waste landfill, the biodiversity of the site is expected to be low with the exception of hedgerows and trees around the site. A Phase 1 Ecological Survey will be undertaken and submitted with the planning application.
Are there any inland, coastal, marine or underground waters on or around the location which could be affected?	According to the Environment Agency website, the northern part of the site is located within Flood Zone 1 (and is at a low risk of flooding). Areas to the south of the site are either located within Flood Zone 2 and 3 and are at a medium or high risk of flooding. A Flood Risk Assessment would be submitted in support of the planning application. The site is not located within or close to a groundwater source protection zone. No other water bodies would be expected to be significantly affected by the proposed development.
Are there any groundwater source protection zones or areas that contribute to the recharge of groundwater resources?	The site is not located within or adjacent to a groundwater source protection zone.
Are there any areas or features of high landscape or scenic value on or around the location which could be affected?	The site is not located within an AONB and is almost 5km to the south of the Chilterns AONB. The development would not directly affect the AONB and views of the development from the AONB are completely curtailed by the intervening urban area of Reading. There are no other known features of landscape importance on or adjacent to the site. The landscape character of the site reflects the local landscape context with the urban fringe.
Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected?	Island Road forms the northern boundary of the site. The A33 is located to the east of the site which connects the centre of Reading to the M4 in the south. The M4 is located approximately 1km to the south of

SCREENING CRITERIA	PROPOSED DEVELOPMENT
	the site, with the nearest junction being junction 11. A public right of way is located to the east of the site and runs in between the RE3 recycling centre and the sewage works.
Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected?	The construction phases of the proposed development would involve changes to traffic movements (e.g. use of HGVs). There is likely to be an increased number of vehicles using the local road network once the proposed development is operational. A Transport Assessment would be submitted in support of the planning application.
Is the development in a location where it is likely to be highly visible to many people?	The potential for local views of the site exists from adjacent and nearby roads and public rights of way. A landscape assessment will be submitted with the planning application which will address local and, where appropriate, long distance views.
Are there any areas or features of historic or cultural importance on or around the location which could be affected?	The nearest protected feature to the site is a Grade II listed building, Kirtons Farmhouse, located approximately 800m from the south western boundary of the site. Two scheduled monuments are located within 5km of the site. These are High Bridge and Reading Abbey (a Cluniac and Benedictine monastery and civil war earthwork) which are located approximately 2.8km and 3.2km to the north east of the site, respectively. The site is not located within a conservation area.
Are there any areas on or around the location which are densely populated or built up, which could be affected?	The site is located on the southern extent of Reading town, a large town on the Thames and Kennet river. Noise from the development is likely to arise during the construction stage from construction plant however this would be managed in accordance with standard procedures. On completion of the development the main source of noise would be from traffic from users of the development, however, where necessary, this will be addressed at the detailed design stage to mitigate any potential effects.
Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected?	The site is not located within an Air Quality Management Area (AQMA).
Is the location of the development susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the development to present environmental problems?	According to the Environment Agency website, the northern part of the site is located within Flood Zone 1 (and is at a low risk of flooding). Areas to the south of the site are either located within Flood Zone 2 and 3 and are at a medium or high risk of flooding. The site is not located within a groundwater SPZ. The site is not located within an AQMA. The site is not considered susceptible to any other hazards.
CHARACTERISTICS OF THE POTENTIAL IMPACT	
(a) Extent of the impact	
Will the effect extend over a large area?	No. This is confined to the site (approximately 30ha) and the land immediately adjacent.
Will many people be affected?	Existing residents are located to the north and east of the site.
(b) Transboundary nature of the impact	

SCREENING CRITERIA	PROPOSED DEVELOPMENT
Will there be any potential for transboundary impact? (N.B. Development which has a significant effect on the environment in another Member State is likely to be very rare. It is for the Secretary of State to check Environmental Statements to decide whether there is likely to be such an effect in each case).	No.
(c) Magnitude and complexity of the impact	
Will there be a large change in environmental conditions?	No.
Will the effect be unusual in the area or particularly complex?	No.
Will many receptors other than people (fauna and flora, businesses, facilities) be affected?	This is considered to be unlikely. A Phase 1 Ecology Survey will be submitted in support of the planning application.
Will valuable or scarce features or resources be affected?	No.
Is there a risk that environmental standards will be breached?	No.
Is there a risk that protected sites, areas, and features will be affected?	No.
d) Probability of the impact	
Is there a high probability of the effect occurring?	The effects of the proposed development can be clearly established and the probability of any effects determined with reasonably confidence.
Is there a low probability of a potentially highly significant effect?	As above.
(e) Duration, frequency and reversibility of the impact	
Will the effect continue for a long time?	Construction effects would be short term in duration and the operational effects would be long term.
Will the effect be permanent rather than temporary?	Construction effects would be temporary and the operational effects would be permanent.
Will the impact be continuous rather than intermittent?	Construction – intermittent Operation – continuous
If intermittent, will it be frequent rather than rare?	Frequent.
Will the impact be irreversible?	Construction – Yes Operation – No
Will it be difficult to avoid or reduce or repair or compensate for the effect?	No.

4 CONCLUSION

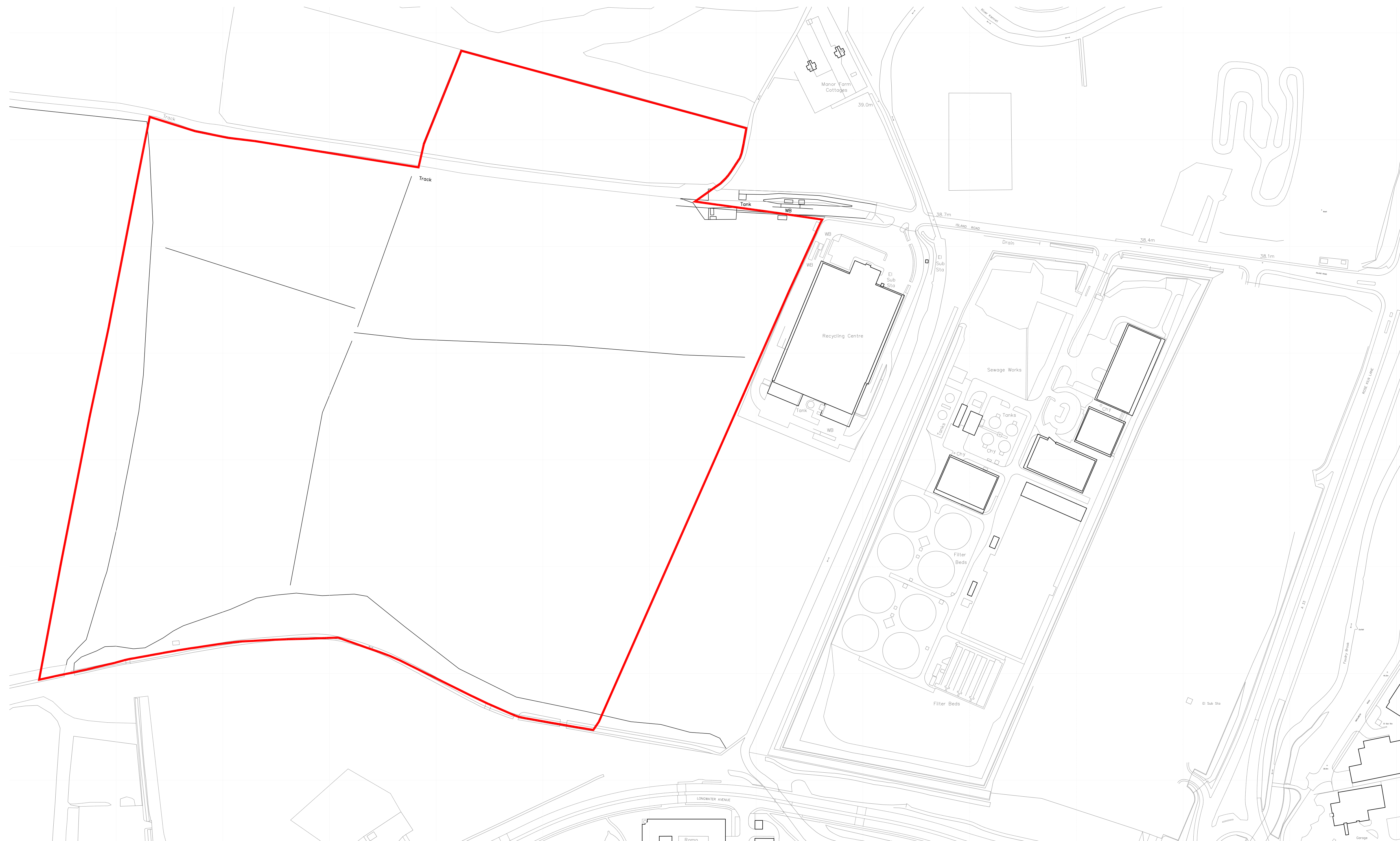
- 4.1 The screening assessment has considered whether the proposed development of Class B1c/B2/B8 (business, general industrial and storage and distribution) employment space, associated landscaping, parking and servicing areas and improvements to the vehicular access to the site from Island Road and the A33, is likely to give rise to significant effects on the environment.
- 4.2 The proposed development falls within Schedule 2, 10 (a) of the EIA Regulations, as an industrial estate project. The site is not located within a sensitive area as defined by the EIA Regulations. It falls above the indicative criteria and screening thresholds at more than 5ha in area. The proposed development's potential cumulation with committed developments has also been considered (Table 1).
- 4.3 With regard to the indicative criteria and thresholds identified in the PPG (set out in Table 2 above), it is considered that the proposals would be in keeping with the current nature and scale of the surrounding development. Although the proposals exceed the indicative criteria and screening thresholds, the site is not located within a sensitive area as defined by the EIA Regulations. The site has previously been used as a quarry and as a landfill site for the household waste during the 1990s. However, since this the site has been restored and therefore it is not anticipated to be heavily contaminated (see Appendix 2 for further information). It is considered that the principal environmental effects will relate to construction and operational increases in traffic movements and associated noise and air quality emissions, although as set out in Table 3 above, these effects could be managed in accordance with standard methods.
- 4.4 The screening assessment has identified that significant effects on the environment are not considered likely either alone or in combination with other development and that the proposals could also be managed in accordance with standard methods.

APPENDIX 1

SITE LOCATION PLAN

BASED ON OS MAP REPRODUCED BY PERMISSION OF
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APPENDIX 2

GROUND CONDITIONS TECHNICAL NOTE

Document ref: R/13293/002

HYDROCK TECHNICAL NOTE

Proposed Commercial Development Smallmead Farm Landfill, Island Road Reading Proposal for Preliminary Intrusive Investigations

1.0 BACKGROUND

It is proposed to re-develop the Smallmead Farm Landfill for logistical warehousing. As the site is a former domestic waste landfill with an active Environmental Permit it will be necessary to ensure that the development does not result in any form of environmental impairment. It is also a requirement that the conditions of the Environmental Permit, especially landfill gas extraction and monitoring, can continue to be complied with. To meet these objectives it is necessary to understand the ground conditions at the site.

In September 2013 Hydrock issued Report Reference R/13293/001: Proposed Commercial Development at Island Road, Reading; Preliminary Conceptual Model. This report provided a conceptual interpretation of ground conditions and made recommendations for a non-intrusive geophysical survey to be followed by preliminary intrusive investigations to establish conditions in more detail.

This 2013 Hydrock report was issued to the Environment Agency and was the subject of a letter from the Agency dated 07 November 2013 (Agency reference WA/3013/115841/01-L01) and, later, a meeting with Agency Officers on 09 December 2013. The outcome was general approval of the Hydrock approach and an agreement that the Agency would be consulted again when the geophysics results were available to provide the basis for the preliminary investigations.

The geophysics is the subject of Reynolds International Report J16371.278 dated 22 April 2016. This Hydrock Technical Note describes the scope of the preliminary site investigation proposals.

2.0 OBJECTIVE

The objective of this Technical Note is to describe proposals for preliminary investigations for review by the Environment Agency.

The objectives of the investigations are to:

- Provide information that will help to 'ground truth' the current geophysical interpretation and resolve anomalies;
- Provide information concerning the landfill in its current state, including its relationship with the surrounding ground;
- To allow preliminary assessments to be made of foundation solutions that will meet all development requirements without any adverse environmental impact.

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It is accepted that the preliminary investigations may need to be followed by further investigations to resolve residual uncertainties.

3.0 REFERENCE DOCUMENTS

Links to the following documents have been supplied separately:

Hydrock, September 2013. Report Reference R/13293/001: Proposed Commercial Development at Island Road, Reading; Preliminary Conceptual Model.

Reynolds International, December 2015. Report Reference J15369.276. Geophysical Investigations at Smallmead Farm Landfill Site Reading.

Reynolds International, April 2016. Report Reference J15369.278. Phase 2 Geophysical Investigations at Smallmead Farm Landfill Site Reading.

4.0 SUMMARY OF CONDITIONS

This section provides a brief description of site conditions to put the proposed investigations into context. More detailed descriptions of the landfill are provided in Hydrock and Reynold's International reports referenced above.

The waste was tipped over a period of 10 years starting in late 1980s in a former sand quarry. The maximum thickness of waste is approximately 12m. Below that is a variable thickness of Reading Formation (2.5m -11m thick below the site) followed by Seaford Chalk (Upper Chalk). The waste was tipped in linear cells separated by bunds and brought up to ground level. The bunds are thought to be composed of inert cohesive material including overburden.

In the later stages of tipping, permission was later granted to deposit additional waste above ground level to form a dome shape. The bunds were extended to accommodate this additional tipping but their location may not be entirely coincident with the originals. There is no engineered lining or cap. Gas is extracted from this landfill and the adjacent (more modern) Burghfield landfill and used at a generating station with the option of flaring. It is likely that Smallmead Farm currently contributes significantly less gas than Burghfield.

Ongoing monitoring indicates no leachate escape from the landfill and no evidence of off-site gas migration. Off-site Chalk borehole monitoring data indicate that the Reading Formation acts as a confining layer to groundwater in the Chalk, which is artesian in the site area. This relationship suggests that downward leakage of leachate from the landfill to the Chalk is prevented.

5.0 PROPOSED SITE INVESTIGATION LOCATIONS

The scope of works described in Section 6 below makes reference to borehole locations and trial pits etc. the location of which is shown on Hydrock Drawing 13293/D007 attached.

6.0 PRELIMINARY INVESTIGATION PROPOSED SCOPE OF WORK

A proposed scope of work is summarised in Table 6.1 below:

Table 6.1: Proposed Scope of Work

Reference	Activity	Purpose	Comment
1	5 slit trenches	To confirm bund location at each of 5 proposed shell & auger borehole locations (Ref 2 and 3 below)	To top of waste only
2	4 shell & auger boreholes sited on bunds to be drilled through into the Chalk	- Bund characteristics - Lithology and geotechnical properties of Reading Beds - Groundwater quality in the underlying Chalk (pre-development baseline condition)	- drilled at 3 diameters, reducing from 300 mm diameter (bund) >200mm (Reading Formation) >100mm (Chalk) - Case off at base of bund and drill through a grout plug - Same again at Reading Formation/Chalk junction (to prevent pollution of Chalk) - Slotted standpipe in Chalk to measure groundwater levels and quality - Geotechnical testing (in situ and lab)
3	1 shell and auger borehole sited on bund to be drilled through into the Chalk	Investigation of a deep EM anomaly identified by the geophysics	- Sited on a bund - Construction sequence as above
4	20 WSH with standpipes in waste and gas taps	- Confirm leachate levels in waste (single hydraulic unit or separate between cells?) - Gas concentrations and flows - Leachate conductivity	- Circa 6m deep max - In areas where there are no leachate wells - Include water level in bunds to assess tightness of cells
5	15 trial pits	Confirming bund locations elsewhere on site where there is uncertainty in the geophysics	Excavated and backfilled
6	4 trial pits in waste with density measurements	- To investigate EM anomalies - To obtain density values of waste	Excavated and backfilled
7	6-8 trial pits	To explain the linear EM anomalies	Excavated and backfilled
8	Sampling and testing	Contamination of near-surface soils and deeper leachate and groundwater	

7.0 CONSTRUCTION METHODS

There will be a focus on providing valuable information whilst making sure that no environmental impairment occurs. In particular:

- All works will be undertaken with the permission of the Permit Holder (Cemex);
- Shell & auger drilling will be preceded by slit trench investigations to confirm that the holes are sited on a bund and not waste;
- Shell & auger drilling (See Figure 1 attached) will stop 1m into the Reading Formation at which point a permanent casing will be installed and cemented in. A 2m bentonite plug will then be placed at the base of the hole. Drilling will then continue through the plug at a reduced diameter to 1m into the Chalk and again, a casing will be set and a 2m cement-bentonite plug will be placed at the base of the hole. The drilling diameter will

again be reduced and drilling will continue until approximately 5m of competent Chalk has been penetrated. A standpipe will then be installed with a gravel surround and grouting to the surface. These proposals are designed to establish baseline groundwater quality in the Chalk without the risk of downward migration of leachate into the underlying Reading Beds or Chalk.

- Window sample holes will stop several metres above the base of the waste.
- Trial pits will be not penetrate the waste to any significant extent and will be fully reinstated on completion;
- Care will be taken not to damage or otherwise interfere with the existing gas extraction network (as indicated on plans and proven by the geophysics); and
- All works will be allocated to qualified and experienced contractors and will be subject to full-time supervision by competent professionals.

8.0 CLOSING REMARKS

The site investigation proposals presented herein are designed to provide essential information about the proposed development site with minimal risk. Alongside the geophysical investigations they represent an essential first step in planning the safe development of the site with the approval of the regulatory authorities.

On behalf of Hydrock Consultants Limited



Eric Cooper FGS C. Geol. SiLC



Notes:

Drawing based on CH Surveys May 2015 Topo Plan, reference BUR27116, dated July 2015

Gas seep location from Terradat survey points

Geophysical Findings

- Bund - high confidence
- Bund - moderate confidence
- Bund - low confidence
- Bund - inferred
- Linear EM Anomaly

Existing Infrastructure

- Existing leachate wells
- Gas Extraction Network (35mm)
- Gas Extraction Network (unknown Ø)
- Landfill cell dimensions according to historic plans

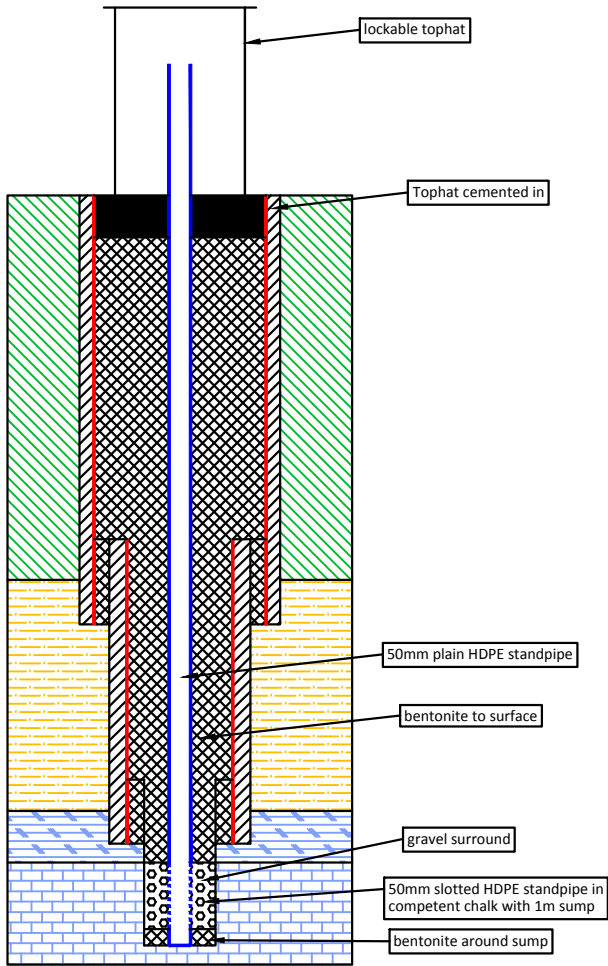
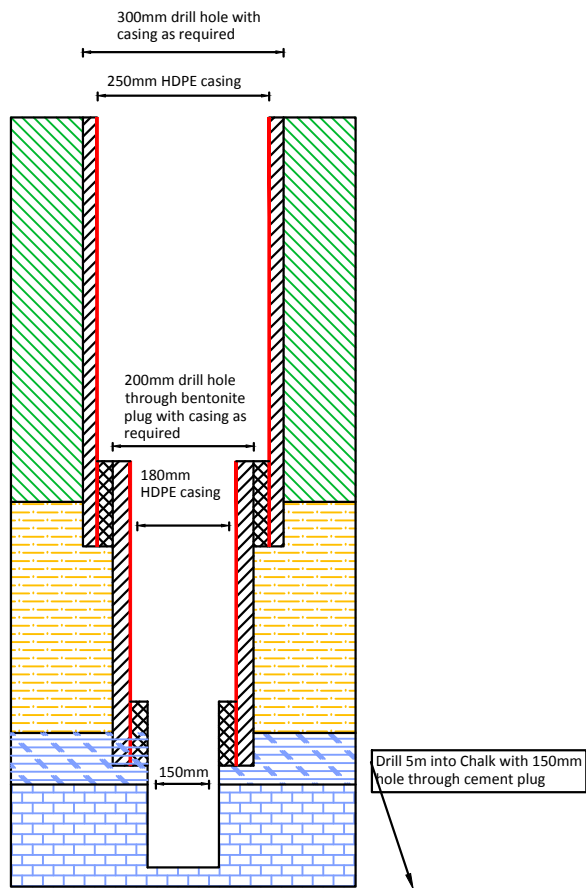
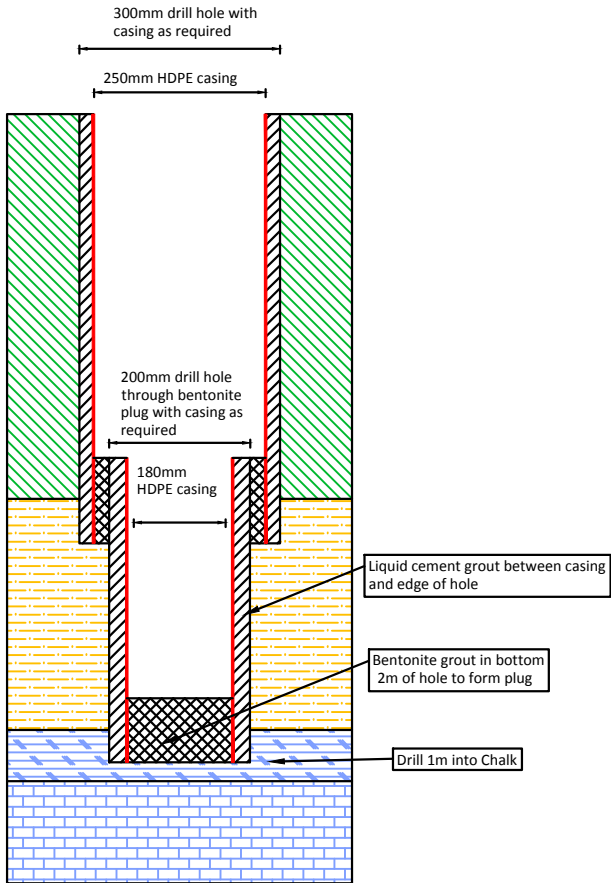
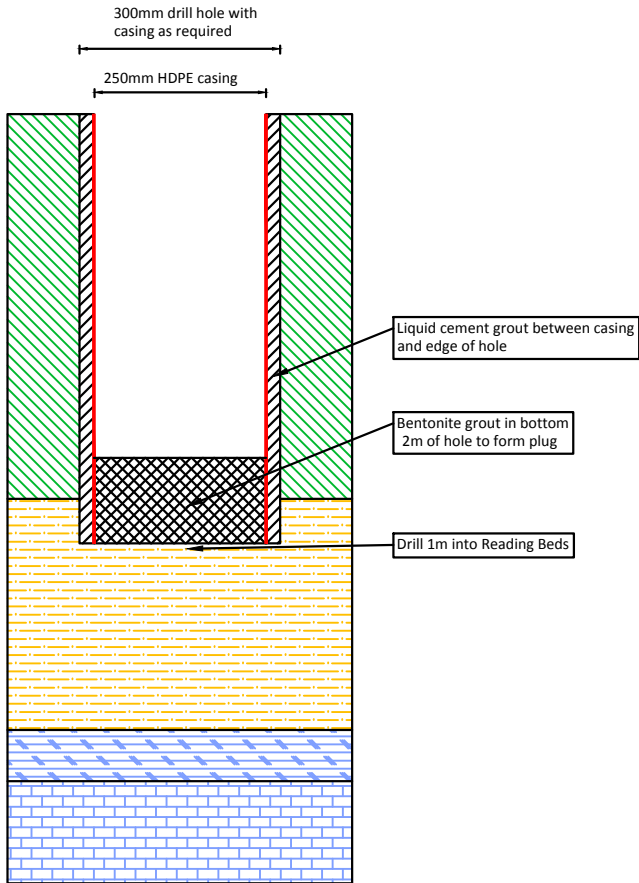
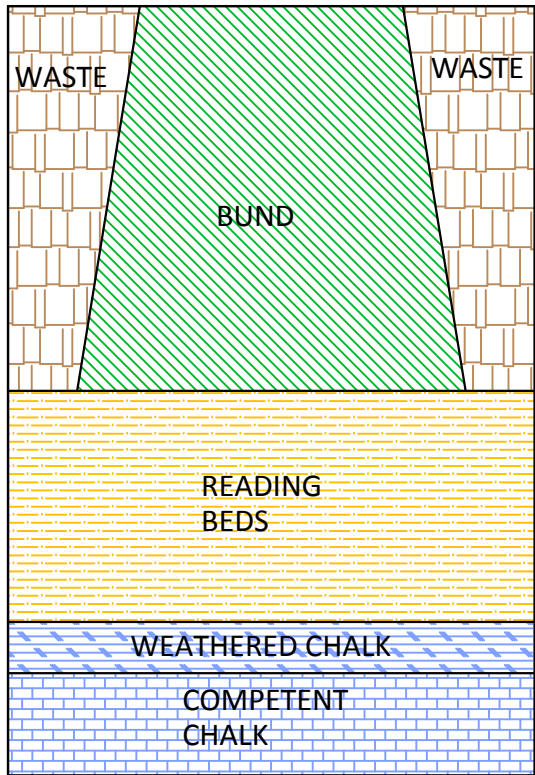
Proposed Investigation

- 5 x Cable Percussion to circa 30m bgl. Triple cased in the Bund, Reading Based and Upper Chalk. Installation into the Upper Chalk.
- 5 X Slit trench in all locations prior to borehole to prove bund location and width (TT01-05)
- 20 x Window Sample boreholes to circa 5m bgl with gas and groundwater installations.
 - 5 located adjacent to CP holes (WS01-05);
 - 14 located around the landfill (WS06-19); and
 - 1 located adjacent to the gas seep (WS20)
- 28 Trialpits:
 - 16 trial pits to circa 1.5m bgl to confirm bund locations (TP01-16);
 - 4 trial pits to circa 4m bgl to investigate EM anomalies and perform in-situ density resting (TP17-20);
 - 6-8 trial pits to circa 2m bgl to investigate linear EM anomalies (TP21-28),

Rev	Date	Description	By	Ckd
Architect:				
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Client:				
Project Title:				
ISLAND ROAD, READING				
Drawing Title:				
Proposed Ground Investigation Plan				
Drawing Status:				
DRAFT				
Hydrock Job No:				
C/13293				
Drawn	Checked	Scale @ A1	Date	Issue Date
LW	EC	1:1,250	06/05/16	xx/05/16
Drawing Number:				Revision:
13293/D007				-



Notes:



Rev	Date	Description	By	Ckd
Architect :				
Hydrock Hydrock Consultants Ltd 4 Lakeside Festival Park Stoke-on-Trent ST1 5RY T +44 (0)1782 261919 stoke@hydrock.com www.hydrock.com				
Client :				
ROXHILL				
Project Title:				
ISLAND ROAD, READING				
Drawing Title:				
Proposed Deep Borehole Schematic				
Drawing Status:				
FINAL				
Hydrock Job No:				
C/13293				
Drawn	Checked	Scale @ A3	Date	Issue Date
LW	EC	NTA	11/05/16	11/05/16
Drawing Number:				Revision:
Figure 1				-