



Downend Aggregates and Restoration Limited

Downend Chalkpit Landfill

Environmental Permit Variation Application

Environmental Risk Assessment

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1.0 Introduction

1.1 Report Scope

- 1.1.1 This report has been prepared by WYG on behalf of the Operator Downend Aggregates and Restoration Limited and forms part of an application for an Environmental Permit for the permanent deposit of inert waste to land at Downend Chalk Pit in Arreton, Newport, Isle of Wight.
- 1.1.2 This Environmental Risk Assessment (ERA) has been prepared to satisfy the requirements of Part C2 of the Environment Agency's application form, and specifically provides a qualitative assessment of the environmental risk that may arise from the activity proposed in the application.
- 1.1.3 The aim of this report is to assess the risks to the environment and human health of the proposed activity. This report will identify any significant risks and demonstrate that the risk of pollution will be acceptable by taking the appropriate measures to manage the risks.



2.0 Environmental Risk Assessment

2.1 Methodology

2.1.1 This report has been prepared following Environment Agency guidance Risk Assessment guidance. It specifically relates to the potential risks associated with the following risk types:-

- Odour;
- Noise and vibration;
- Fugitive emissions; and
- Accidents and incidents.

2.1.2 This risk assessment addresses the above, and is based on the following methodology:-

- Identification of potential sources of risk;
- Identification of all potential receptors to risk; and
- Risk assessment of each risk type.

2.1.3 The ERA is a tool used to identify the pollutant linkage i.e. source – pathway – receptor. For most risks, the atmosphere is the main pathway and will always exist. Therefore, the ERA deals primarily with the sources and receptors. The ERA is provided in Appendix A and is summarised below.

2.1.4 A Nature and Heritage Conservation Screen (Reference Number EPR/FB3000XU/A001) was requested from the Environment Agency. This screen determines the presence of any sites of nature and heritage conservation, or protected species or habitats that may be impacted by the proposal.

2.1.5 The results of the screen (Appendix C) identified that Arreton Down SSSI borders the northern, eastern and southern site boundaries. Arreton Down North LWS is located approximately 30m to the north of the site and there are also areas of Deciduous Woodland, Ancient Woodland and Lowland Calcareous Grassland within 785m of the site.



2.2 Sources

2.2.1 The potential sources of risks have been considered for each risk type, as shown in Appendix A. The sources of risk for this application have been identified as:-

Noise

- Plant and machinery.
- Vehicle movements to/from the site.
- Vehicle movements within the site.
- Excavation of old wastes.
- Engineering works.

Fugitive emissions

- Odour.
- Particulate matter (dust).
- Mud and litter.
- Scavenging birds, pests and vermin.

Accidents

- Leaks/spillages.
- Fire or failure to contain firewater.
- Flooding.
- Vandalism.

2.3 Pathways

2.3.1 The pathways have been identified for each risk type as shown below in Table 1:

**Table 1: Potential Pathways**

Risk Type	Pathway
Odour	Atmosphere
Noise	Atmosphere
Fugitive emissions	Atmosphere
Accidents	Atmosphere
	Surface water run-off
	Infiltration
	Percolation

2.4 Receptors

2.4.1 Receptors within 1km of the proposed application boundary, including those identified in the Nature and Heritage Screen, have been listed in Table 2 and are shown on Drawing No. A101856/REC/01. The main pathway for the identified sources will be the atmosphere and as such, atmospheric conditions can affect dispersion rates and hence potential risk. As a result, the location of each receptor in relation to the site may influence the potential impact of the risk, as summarised in Table 2.

Table 2: Location of potential receptors in relation to the proposal

ID	Receptor	Direction from Operational Area	Minimum Distance from Proposed Waste Treatment Boundary (approx.) (m)
Designated ecological habitats/sites of geological importance e.g. Ramsar, SAC, SPA, SSSI, LNR, NNR, LWS			
1	Arreton Down Site of Special Scientific Interest	N, E, S	<10
2	Arreton Down North Local Wildlife Site	N	30
Domestic Dwellings			
3	Dwellings on A3056	S	700
4	Arreton House	SW	330
5	Rose Cottage and other dwellings in East Standen	W	860
6	Pitt Cottage	NW	150
7	Farmhouse north of Long Lane/ Briddlesford Road roundabout	NW	410
8	Downend Cottage	NW	675
Commercial and Industrial Premises			
9	Sewage works	S	670
10	Landfill	N	825
Schools / Hospitals / Shops			
11	St George's Church	S	485



12	The White Lion	S	580
13	Arreton St George's Church of England School	S	610
14	Cemetery	SW	1000
15	Rifle Club	W	<10
Public Rights of Way			
16	Footpath 90	N	35
17	Footpath 17	E	370
18	Footpath 11 & 12	S	<10
19	Footpath 25	W	700
Recreation/Open Spaces			
20	Robin Hill Adventure Park and Gardens	N	175
Highways or Minor Roads			
21	Downend Road	N	20
22	The Downs Road	W	135
23	A3056	S	600
Priority Habitat (closest ancient woodland in each direction)			
24	Lowland Calcareous Grassland	N, E, S	<10
25	Deciduous Woodland	N	280
26	Ancient Woodland	W	785
Historic buildings / Listed buildings / Archaeological sites			
	Scheduled Monuments;		
27	Bowl Barrow & Highway Commission Barrier	N	<10
28	Downend Romano-British villa	N	370
29	Bowl Barrow on Arreton Down	E	<10
	Grade II Listed Buildings;		
30	Combley Farmhouse	NE	785
31	22 grade II listed buildings in vicinity of Arreton Manor & St George's Church	S	390
32	Great East Standen	SW	985
33	Little East Standen	W	695
34	Barn at Little East Standen	W	730
35	Hare and Hounds Public House	NW	180
Sensitive land uses e.g. farmland, allotments, commercial fish farms			
36	Agricultural Land	Surrounding	<10
Surface Water e.g. rivers and streams			
37	Lakes/ ponds in Robin Hill Woodland	N	270
38	Ponds close to Arreton Manor	S	360
Groundwater (sensitivity)			
	According to the Environment Agency, the site is located within Total Catchment (Zone 3) Groundwater Source Protection Zone. The site lies within an area which has a principal bedrock designated aquifer.		
Coastal / Estuarine areas		N/A	N/A

2.4.2 This table summarises the significant features and developments near to the site. The site is also within an Area of Outstanding Natural Beauty (AONB), as are extensive areas of the Isle of Wight. Aside from being located within the AONB, the Arreton Down SSSI and the North Downs LWS are the only statutory designations within 1,000m of the site.



2.4.3 For the purposes of this risk assessment, all receptors further than 1km from the boundary are considered to be at less risk than those receptors identified within 1km of the facility and are therefore not included in Table 2 or Drawing No. A101856/REC/01 as they are unlikely to be impacted by the activities.

2.5 Risk Assessment

2.5.1 The ERA (Appendix A) looks at each specific hazard identified and assesses the likelihood of those hazards impacting on the receptors. This is achieved by fulfilling the following objectives:-

- Identify the location and nature of each hazard;
- Identify the specific receptors potentially at risk and assess the sensitivity of each receptor;
- Provide a qualitative assessment of the risk posed to each sensitive receptor;
- Identify management and monitoring techniques; and
- Provide recommendations for more detailed assessments where necessary.

2.6 Summary of ERA

2.6.1 The Environmental Risk Assessment (Appendix A) indicates that the proposed inert landfill will have no significant impacts in terms of odour, noise and vibration, and fugitive emissions, and the likelihood of accidents is minimal.



Appendices



Appendix A – Amenity and Accident Risk Assessment



Table A1 – Odour Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Inert Waste.	Occupiers of domestic dwellings listed in Table 2 above. Workers and users of the rifle club. Workers at the site. Workers in nearby waste plants. Staff and pupils of nearby schools. Users of nearby footpaths, recreational space and ecological habitats.	Atmosphere	The proposed permitted wastes types are inert and are not considered likely to produce odour emissions. There will be strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted. Any particularly odorous wastes will be rejected by the weighbridge operator. All site operatives will be vigilant with regard to identifying non-compliant wastes and any non-conformances or odour issues will be reported to the Site Manager. Waste will be accepted at manageable volumes to avoid a backlog of wastes pending disposal.	Very unlikely	Nuisance to local residents, members of the public and other receptors listed in Table 2.	Not significant.
Excavation and placement of old Inert	Occupiers of domestic dwellings listed in Table 2	Atmosphere	The old wastes types tipped at the site are inert and therefore are not considered likely to produce odour emissions.	Very unlikely	Nuisance to local residents, members of the	Not significant.



Waste.	<p>above.</p> <p>Workers and users of the rifle club.</p> <p>Workers at the site.</p> <p>Workers in nearby waste plants.</p> <p>Staff and pupils of nearby schools.</p> <p>Users of nearby footpaths, recreational space and ecological habitats.</p>		<p>All site operatives will be vigilant with regard to identifying non-compliant wastes found on site during excavations and any non-conformances or odour issues will be reported to the Site Manager.</p> <p>Waste will be excavated in manageable volumes to avoid a backlog of wastes pending re-disposal.</p>		public and other receptors listed in Table 2.	
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Table A2 – Noise and Vibration Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Vehicle movements on site.	Occupiers of domestic dwellings listed in Table 2 above.	Atmosphere	<p>General site practices will be implemented, including switching off all vehicles when not in regular use.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from noise.</p>	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant if managed correctly.

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	<p>Workers and users of the rifle club</p> <p>Workers at the site</p> <p>Workers in nearby waste plants</p> <p>Staff and pupils of nearby schools</p> <p>Users of nearby footpaths, recreational space and ecological habitats</p>		<p>Deliveries will only be received from 7 am to 6 pm weekdays and on Saturdays and from 7 am to 1 pm. There will be no deliveries outside of this time.</p> <p>All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.</p> <p>Vehicle drivers will adhere to the designated speed limits for the site and the site access roads.</p> <p>Low level reverse alarms will be used wherever possible.</p> <p>The planning application for the site includes the provision of a bund, which would be positioned in order to screen Downend Cottage.</p>			
Excavation and placement of old Inert Waste.	<p>Occupiers of domestic dwellings listed in Table 2 above.</p> <p>Workers and users of the rifle club</p> <p>Workers at the site</p> <p>Workers in nearby waste plants</p> <p>Staff and pupils of nearby schools</p> <p>Users of nearby</p>	Atmosphere	<p>Downend Road and the Downs Road contribute to background noise levels and are located approximately 135m and 20m of the site respectively.</p> <p>Any excavation of old wastes will be undertaken during normal working hours and will not contribute any additional noise nuisance.</p> <p>General site practices will be implemented, including switching off all vehicles when not in regular use.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from noise.</p> <p>All noise and vibration generating activity will be monitored closely and site operatives will be vigilant</p>	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant if managed correctly.

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	footpaths, recreational space and ecological habitats		<p>and report any excessive noise or vibration issues to the Site Manager.</p> <p>Vehicle drivers will adhere to the designated speed limits for the site and the site access roads.</p> <p>Low level reverse alarms will be used wherever possible.</p> <p>The planning application for the site includes the provision of a bund, which would be positioned in order to screen Downend Cottage.</p>			
Noise and vibration from engineering works.	<p>Occupiers of domestic dwellings listed in Table 2 above.</p> <p>Workers and users of the rifle club.</p> <p>Workers at the site.</p> <p>Workers in nearby waste plants.</p> <p>Staff and pupils of nearby schools.</p> <p>Users of nearby footpaths, recreational space and ecological habitats.</p>	Air	<p>Downend Road and the Downs Road contribute to background noise levels and are located approximately 135m and 20m of the site respectively.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from noise.</p> <p>All plant and machinery will have effective silencers where possible.</p> <p>The infilling of the quarry will be undertaken during the hours of 7 am to 6 pm weekdays and on Saturdays from 7 am to 1 pm. There will be no site works outside of this time.</p> <p>Routine maintenance of plant will be undertaken in accordance with the manufacturer's guidance.</p> <p>Good working practices will be implemented, including switching off all equipment when not in regular use.</p>	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant if managed correctly.



			<p>The Site Manager will be responsible for ensuring the above measures are implemented.</p> <p>The planning application for the site includes the provision of a bund, which would be positioned in order to screen Downend Cottage.</p>			
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Table A3 – Fugitive Emissions Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
To Air						
Dust from haul roads.	<p>Occupiers of domestic dwellings listed in Table 2 above.</p> <p>Workers and users of the rifle club.</p> <p>Workers at the site.</p> <p>Workers in nearby waste plants.</p> <p>Staff and pupils of</p>	Atmosphere	<p>Any waste vehicles or haul roads that gather significant amounts of dust will be dampened or washed as and when necessary. The site will benefit from the use of a wheel wash facility that is located next to the site gate and will be utilised for all outgoing vehicles.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from dust.</p> <p>Wastes being delivered will be covered or sheeted to prevent the emission of dust.</p> <p>All vehicle drivers will comply with the speed limits</p>	Dust could potentially reach the nearby dwellings when a strong wind blows in their direction. Management actions should prevent this happening.	<p>Smothering.</p> <p>Nutrient enrichment.</p> <p>Nuisance – dust on cars, clothing, vegetation, etc.</p>	Not significant.

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	<p>nearby schools.</p> <p>Users of nearby footpaths, recreational space and ecological habitats.</p>		<p>within the site and on the access roads.</p> <p>The Site Manager will undertake a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.</p> <p>The site will also be subject to the use of a water bowser which will be implemented as necessary to suppress any dust left on the hardstanding due to vehicle movements.</p>			
<p>Dust emissions generated during excavation and re-disposal of old inert wastes.</p>	<p>Occupiers of domestic dwellings listed in Table 2 above.</p> <p>Workers and users of the rifle club.</p> <p>Sensitive land uses Detailed in Table 2.</p> <p>Workers at the site.</p> <p>Workers in nearby waste plants.</p> <p>Staff and pupils of nearby schools.</p> <p>Users of nearby footpaths, recreational space and ecological habitats.</p>		<p>Any waste vehicles or haul roads that gather significant amounts of dust will be dampened or washed as and when necessary.</p> <p>If it is deemed necessary the old waste excavation workings may be dampened to minimise excessive dust generation.</p> <p>A water bowser will be used to dampen site roads and stockpiles if deemed necessary.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from dust.</p> <p>Extra care will be taken with the deposit of waste during periods of prolonged dry weather or high winds.</p> <p>The planning application for the site includes the provision of a bund, which would be positioned in order to screen Downend Cottage.</p>	<p>Dust could potentially reach the nearby dwellings when a strong wind blows in their direction. Management actions should prevent this happening.</p>	<p>Smothering.</p> <p>Nutrient enrichment.</p> <p>Nuisance – dust on cars, clothing, vegetation, etc.</p>	<p>Not significant.</p>

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<p>Dust emissions generated during unloading inert waste from tipping lorries.</p>	<p>Occupiers of domestic dwellings listed in Table 2 above.</p> <p>Workers and users of the rifle club.</p> <p>Sensitive land uses Detailed in Table 2.</p> <p>Workers at the site.</p> <p>Workers in nearby waste plants.</p> <p>Staff and pupils of nearby schools.</p> <p>Users of nearby footpaths, recreational space and ecological habitats.</p>		<p>A water bowser will be used to dampen site roads and stockpiles if deemed necessary.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from dust.</p> <p>Extra care will be taken with the deposit of waste during periods of prolonged dry weather or high winds.</p> <p>The planning application for the site includes the provision of a bund, which would be positioned in order to screen Downend Cottage.</p>	<p>Dust could potentially reach the nearby dwellings when a strong wind blows in their direction. Management actions should prevent this happening.</p>	<p>Smothering.</p> <p>Nutrient enrichment.</p> <p>Nuisance – dust on cars, clothing, vegetation, etc.</p>	<p>Not significant.</p>
To Water						
<p>Contaminated rainwater run-off.</p>	<p>Groundwater & Surface water</p> <p>Occupiers of domestic dwellings listed in Table 2.</p>	<p>Direct surface water run-off from site.</p> <p>Infiltration.</p> <p>Percolation.</p>	<p>The proposed waste types are inert and as such, any runoff that is generated on site will not be contaminated.</p> <p>The old wastes to be excavated and re-emplaced into the void are all inert and will not contribute to any contamination of any ground or surface waters.</p> <p>There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-</p>	<p>Unlikely due to measures in place.</p>	<p>Contamination of surface water bodies and groundwater.</p>	<p>Not significant due to the inert nature of the waste type.</p>

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			conforming waste types.			
Pests/Scavenging birds						
Birds and Pests.	Occupiers of domestic dwellings listed in Table 2 above. Workers in surrounding industrial area.	Air. Ground.	<p>The proposed waste types are not putrescible and will not attract pests, vermin and/or scavenging birds.</p> <p>The old wastes to be excavated and re-emplaced into the void are all inert and therefore will not encourage any pests or birds.</p> <p>Waste acceptance procedures will be in place to ensure only permitted waste types are accepted.</p> <p>The Site Manager will undertake regular reviews of pests and scavenging birds at the site. All site operatives will be vigilant and report any problems to the Site Manager.</p>	Very unlikely.	Nuisance to local residents. Health risk to site workers.	Not significant due to the inert nature of the waste type and the management of the facility.
Mud/Litter						
Mud arising from vehicles movements	Highways identified in Table 2.	Tracked by vehicles.	<p>The site will be maintained to a high standard of cleanliness. A wheel wash will be positioned by the entrance to the site.</p> <p>If necessary a road sweeper will be used to clean site haul roads.</p> <p>Regular inspections of vehicles, including checking for mud on wheels, will be undertaken.</p> <p>The Site Manager will inspect the site and access road for cleanliness and implement any cleaning as required.</p> <p>The excavation of old wastes will not contribute any</p>	Unlikely due to measures in place.	Mud on roads is unsightly and can increase the risk of road traffic incidents.	Not significant.

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			additional mud or litter as the mechanism above will be adequate to minimise all mud nuisance.			
Litter arising from vehicle movements and high winds.	All receptors identified in Table 2.	Air. Tracked by vehicles.	<p>Due to the nature of the proposed inert waste types, litter will not be generated at the site. The proposed waste types are not considered to represent a significant risk with regards to litter.</p> <p>The old wastes to be excavated and re-emplaced into the void are all inert and therefore are not considered to represent a significant risk with regards to litter.</p> <p>A vigilant watch for litter will be undertaken by site operatives. In the unlikely event that litter is generated by the activity, the Site Manager will implement a litter collection as necessary.</p> <p>The site will be maintained to a high standard of cleanliness; if necessary a road sweeper will be used to clean site haul roads.</p> <p>Regular inspections of vehicles, including checking for litter on wheels, will be undertaken.</p> <p>The Site Manager will inspect the site and access road for cleanliness and implement any litter picking as required.</p>	Very unlikely due to measures in place.	Nuisance to local residents	Not significant due to nature of waste received and management techniques employed.



Table A4 – Accident Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Fire or failure to contain firewater.	Groundwater. Surface water bodies identified in Table 2.	Infiltration. Contaminated rainwater runoff.	<p>The risk of fire is considered to be low as the proposed waste types are not flammable.</p> <p>The Operator will undertake routine maintenance of all equipment in accordance with the manufacturer’s guidance.</p> <p>Site notices and training will be undertaken regarding fire hazards.</p> <p>The Site Manager will be responsible for actions undertaken in the event of a fire.</p> <p>The site will have a designated smoking area which will be situated by the sites buildings the location of which are yet to be determined.</p> <p>Routine maintenance of equipment will be undertaken in accordance with manufacturers guide.</p>	Very unlikely.	Contamination of local groundwater and/or surface water.	Not significant as long as management procedures adhered to.
Leaks/spillages of	Groundwater.	Surface run-	The site will store diesel, oil, petrol and	Unlikely.	Contamination of	Not significant.



<p>fuel/oil.</p>	<p>Surface waters identified in Table 2.</p>	<p>off. Infiltration. Percolation.</p>	<p>waste oil for machinery requirements only. The refuelling of plant and vehicles will be carried out on impermeable surfacing within an area with sealed drainage (the area where the waste transfer station is sited). Therefore any spillages of fuel or oil will be contained within the site's sealed drainage system.</p> <p>This part of the site will be concreted, with sealed drainage and suitable bunding. The concrete will be edged (or sloped) so that no oil, fuel or other leaks run off of the concreted area and infiltrates underlying chalk aquifer, which is a designated GSPZ.</p> <p>All plant and machinery will be maintained and regularly inspected.</p> <p>All staff will be provided with appropriate spill training and there will be a spill procedure in place as part of the site's Environmental Management System.</p> <p>Spill kits will be available on site at all times. The kits will include absorbent materials which can be used to clear up small to medium spillages. These materials will then be transferred off-site to a suitably authorised facility for disposal. Any large spills will be contained using booms contained within the spill kits; if this is not possible then the spill will be contained within the sealed drainage system. Any contaminated water would then be pumped out.</p>		<p>land and watercourses.</p>	
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			<p>The cause of any leaks and spillages will be investigated and any necessary amendments will be made to site procedures.</p> <p>The Site Manager will be responsible for ensuring any remedial works required will be implemented following a leak or spillage.</p>			
<p>Flooding.</p> <p>With reference to the Environment Agency website, the proposed site does not lie within a flood risk zone.</p>	<p>Groundwater.</p> <p>Surface water bodies identified in Table 2.</p>	<p>Infiltration.</p> <p>Contaminated surface water runoff.</p>	<p>The site is not in a flood risk zone.</p> <p>In the unlikely event of significant flooding, operations may temporarily cease.</p> <p>Site Manager will be responsible for ensuring effective remediation and documenting the incident.</p>	Unlikely.	<p>Disruption to works on site.</p> <p>Contamination of local groundwater and/or surface water.</p> <p>Contamination of local agricultural land.</p>	Not significant.
<p>Vandalism.</p>	<p>Site infrastructure.</p> <p>Site workers.</p>	<p>Unauthorised entry to the site.</p>	<p>The site is not open to members of the public. Site access is through a locked gate which will be kept closed and locked when the site is not in use.</p> <p>A site identification board will be placed at the site entrance that will state:-</p> <ul style="list-style-type: none"> • Site Operator and Address; • Operating Hours; • An emergency out of hours contact name and number; • The telephone number of the Environment Agency (Incident Line 	Unlikely.	<p>Damage to site infrastructure.</p> <p>Disruption to works on site.</p>	Not significant.



			<p>& Customer Contact Centre); and</p> <ul style="list-style-type: none"> • Site Permit Number <p>The following security measures are also in place:-</p> <ul style="list-style-type: none"> • CCTV at site entrance. <p>The site also benefits from having pedestrian and vehicle gates at the entrance point on Downend Road.</p>			
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Appendix B – Habitats Risk Assessment



Habitats Risk Assessment

Introduction

Downend Aggregates and Restoration Limited are proposing the permanent deposit of inert waste to land at Downend Chalk Pit in Arreton, Newport, The Isle of Wight.

An indicative site layout is shown in detail on Drawing No. A101856/EPB/01.

As part of the Environmental Risk Assessment prepared for the site, 2 Statutory Designated Sites were identified within the statutory screening distances of the site boundary as detailed in the Nature and Heritage Screen (Appendix C). These are as follows:-

- Arreton Down Site of Special Scientific Interest (SSSI); and
- Arreton Down North Local Wildlife Site (LWS).

The Screen also identified areas of Deciduous Woodland and Lowland Calcareous Grassland within the Statutory Screening Distances of the site.

The designation of these statutory sites is provided in further detail below in addition to a detailed risk assessment and mitigation strategy.



Statutory Designations

Arreton Down SSSI

Natural England's citation for Arreton Down SSSI has been reviewed as part of this risk assessment. The justification for the designation and a general description of the statutory site is detailed below.

Arreton Down is the largest remaining area of chalk grassland on the central chalk ridge of the Isle of Wight. It is a grazed, south-facing slope with a species-rich sward and important populations of several locally distributed chalk downland butterflies.

Over the majority of the down the grassland is well grazed by cattle and horses and dominated by fine grasses such as red fescue and sheep's fescue in association with a great variety of plant species adapted to the chalk grassland environment. These include horseshoe vetch, rock rose, wild thyme, carline thistle, pyramidal orchid, harebell and small scabious. The rare bastard toadflax, a species restricted to long established chalk grassland in southern England, is also particularly common.

Arreton Down supports a rich butterfly fauna including large populations of several rare and uncommon species such as brown argus, small blue and common blue butterflies as well as very large numbers of the chalkhill blue butterfly. The Orthoptera include populations of four species of crickets, one of which, the great green bush cricket, is localised in distribution.

The diversity of habitat on Arreton Down is increased by a series of old chalk pits which punctuate the base of the down and by areas of scattered and dense scrub also along the foot of the down. The grassland in the chalk pits is often tall and generally ungrazed, being dominated by slender false-brome and upright brome. The disturbed ground and exposed chalk in the pits supports plants such as bee orchids and kidney vetch. The areas of scattered scrub are dominated by hawthorn while the dense scrub, formed from an overgrown hedge, is rich in species such as hazel, ash, dogwood and wayfaring tree.

The mix of scrub types provides valuable nesting sites for birds such as linnets, yellowhammer, whitethroat and, at the base of the scrub, partridge.

Arreton Down North LWS

The Arreton Down webpage on the Hampshire and Isle of Wight Wildlife Trust website has been reviewed as part of this risk assessment and a description of the site has been provided below.



This is the largest area of unimproved chalk downland on the central chalk ridge of the Isle of Wight. There is an abundance of chalk grassland plants, which in turn support many butterflies, such as Brown Argus and Chalkhill Blue. The rare Field Cricket has been released here as part of the national Species Recovery Programme. There are extensive views across the Island from the higher parts of the down.

Arreton holds a great variety of wildflowers, the best areas have around 30 species per square metre and the scrub edge forms a band of shelter creating warm areas which benefit the many butterflies present. The Arreton is also dotted with Barrows and Holloways.

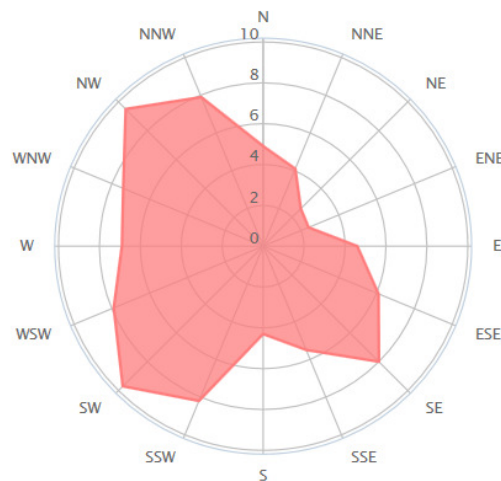
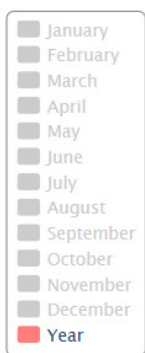
There are wonderful views, from the higher parts of the down, of the East Yar valley, the Wroxall and Ventnor Downs, St Catherine's Down, Culver Down, Newport, Chillerton, West Highdown and the Needles.



Risk Assessment

The specific risk assessments completed for Odour, Noise and Dust Fugitive Emissions are detailed in the tables below. In many cases there is an interrelationship between these specific risk assessments and meteorological conditions, where relevant this has been identified. The pathway is determined by the location of the receptor relative to the site, the distance from the site boundary (m) and the frequency (likelihood) the prevailing wind will blow in the direction of the receptor as determined by historical windrose data available for Sandown weather station (www.windfinder.net), which is located approximately 6km south east of Downend Chalk Pit.

Wind direction distribution in (%)
Year



© windfinder.com

The risk assessment tables represent the risk of exposure to a hazard before mitigating controls are put in place. The probability of exposure is therefore not necessarily a reflection of the severity of the impact on the receptor, which may not be sensitive to the hazard. The severity of the unmitigated consequence presumes the receptor has been exposed to the hazard. However, if the receptor is unlikely to be exposed, then the overall unmitigated risk is low and vice versa. The mitigated risk is the residual risk presented by the hazard after control measures have been instigated. This is the most realistic representation of the risk as effective controls will be maintained under the requirements of the environmental permit and Downend Aggregates and Restoration Limited (EMS).



Table B1 – Odour

What do you do that can harm and what could be harmed?					Managing the risk	Assessing the risk			
Hazard	Receptor				Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	Receptor Name	Distance	Direction	Predominant Wind direction	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Odour from the inert waste materials either already on site or to be imported on to site.	Arreton Down SSSI	<10	N,E & S	W (SSW - NNW)	Atmosphere	The proposed permitted wastes types are inert and are not considered likely to produce significant odour emissions. Given the wind direction in the area is predominantly to the west (SSW – NNW), inert waste will be used to fill the quarry and there will be site management procedures in place it is considered very unlikely that receptors would be affected by odour produced at the site. A vigilant check for odorous wastes will be made at the weighbridge	Very unlikely. Distance of receptors from site and low odour potential of waste.	Disturbance Habitat Loss Toxic Contamination	Not significant.
	Arreton Down North LWS	30	N	W (SSW - NNW)					
	Lowland Calcareous Grassland	<10	N,E & S	W (SSW - NNW)					

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	Deciduous Woodland	280	N	W (SSW - NNW)	<p>and any particularly odorous wastes will be rejected by the weighbridge operator. Waste will be accepted at manageable volumes to avoid a backlog of wastes pending landfilling.</p> <p>While excavating old wastes a check for any odorous wastes will be made. If it is deemed necessary these wastes will be removed from site. However as the old waste are known to be inert this is extremely unlikely.</p>			
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Table B2 – Noise

What do you do that can harm and what could be harmed?					Managing the risk	Assessing the risk			
Hazard	Receptor				Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	Receptor Name	Distance	Direction	Predominant wind direction	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
Noise and vibration from engineering works.	Arreton Down SSSI	<10	N,E & S	W (SSW - NNW)	Atmosphere.	The site is a deep quarry, which will naturally screen the surrounding area from noise. Given the wind direction in the area is predominantly to the west (SSW – NNW), the existing background noise and the site management procedures in place it is considered very unlikely that receptors would be affected by noise produced at the site. Noise bunds will be placed at the site boundary to mitigate any noise from onsite activities. Routine maintenance of plant will be undertaken in accordance with the	Unlikely. Unlikely. Distance from site and container terminal are mitigating factors.	Disturbance Habitat Loss	Not significant.
	Arreton Down North LWS	30	N	W (SSW - NNW)					
	Lowland Calcareous Grassland	<10	N,E & S	W (SSW - NNW)					
	Deciduous Woodland	280	N	W (SSW - NNW)					



						<p>manufacturer's guidance.</p> <p>Good working practices will be implemented, including switching off all equipment when not in regular use.</p> <p>The Site Manager will be responsible for ensuring the above measures are implemented.</p>			
Noise and vibration of vehicle movements on the site including excavation of old wastes.	Arreton Down SSSI	<10	N,E & S	W (SSW - NNW)	Atmosphere.	<p>The site is a deep quarry, which will naturally screen the surrounding area from noise.</p> <p>There is an existing high level of background noise caused by Downend Road (A3056) and the Downs Road.</p> <p>Given the wind direction in the area is predominantly to the west (SSW – NNW), the existing background noise and the site management procedures in place it is considered very unlikely that receptors would be affected by noise produced at the site.</p> <p>Any excavation of old wastes will be</p>	Unlikely. Distance from site and container terminal are mitigating factors.	Disturbance Habitat Loss	Not significant.
	Arreton Down North LWS	30	N	W (SSW - NNW)					

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	Lowland Calcareous Grassland	<10	N,E & S	W (SSW - NNW)		<p>undertaken during normal working hours and will not contribute any additional noise nuisance.</p> <p>General site practices will be implemented, including switching off all vehicles when not in regular use.</p> <p>Deliveries will only be received during normal working hours.</p> <p>Vehicle drivers will adhere to the designated speed limits for the site and the site access roads.</p> <p>Low level reverse alarms will be used wherever possible.</p> <p>The Site Manager will be responsible for ensuring the above measures are implemented.</p>			
	Deciduous Woodland	280	N	W (SSW - NNW)					



Table B3 – Fugitive Emissions

What do you do that can harm and what could be harmed?					Managing the risk	Assessing the risk			
Hazard	Receptor				Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk?
What has the potential to cause harm?	Receptor Name	Distance	Direction	Predominant wind	How can the hazard get to the receptor?	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence.
To Air									
Dust from the delivery of waste.	Arreton Down SSSI	<10	N,E & S	W (SS W-NN W)	Atmosphere.	<p>Given that the wind direction in the area is predominantly to the west (SSW – NNW) and the dust prevention measures in place it is considered very unlikely that receptors would be affected by dust produced at the site.</p> <p>The site is a deep quarry, which will naturally screen the surrounding area from dust.</p> <p>Any lorries or roads that gather significant amounts of dust will be dampened using water sprinklers as and when necessary.</p> <p>Wastes being delivered will be covered or sheeted to prevent the emission of dust.</p>	Unlikely due to distance of receptors from site.	Smothering Habitat Loss Toxic Contamination	Not significant.
	Arreton Down North LWS	30	N	W (SS W-NN W)					
	Lowland Calcareous Grassland	<10	N,E & S	W (SS W-NN W)					
	Deciduous Woodland	280	N	W (SS W-NN W)					



						<p>All vehicle drivers will comply with the speed limits within the site and on the access roads.</p> <p>The Site Manager undertakes a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager.</p> <p>The site will benefit from the use of a wheel wash facility that is located next to the site gate and will be utilised for all outgoing vehicles.</p> <p>The site will also be subject to the use of a water bowser which will be implemented as necessary to suppress any dust left on the hardstanding due to vehicle movements.</p>			
Dust from engineering works at the site including excavation and re-disposal of old wastes	Arreton Down SSSI	<10	N,E & S	W (SS W- NN W)	Atmosphere.	<p>Given the wind direction in the area is predominantly to the west (SSW – NNW) and the dust prevention measures in place it is considered very unlikely that receptors would be affected by dust produced at the site.</p> <p>The site is a deep quarry and the waste materials will largely</p>	Unlikely due to distance of receptors from site.	Smothering Toxic Contamination.	Not significant.

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	Arreton Down North LWS	30	N	W (SS W-NN W)		<p>comprise clay, which is non dusty.</p> <p>If it is deemed necessary the old waste excavation workings may be dampened to minimise excessive dust generation.</p> <p>Regular housekeeping will be undertaken to prevent build up of dust. This will include the sweeping of all site surfaces and access roads.</p> <p>A road sweeper will be utilised as necessary.</p>			
	Deciduous Woodland	280	N	W (SS W-NN W)					
	Lowland Calcareous Grassland	<10	N,E & S	W (SS W-NN W)					
To Water									
Contaminated rainwater runoff to surface and groundwater.	Arreton Down SSSI	<10	N,E & S	W (SSW - NNW)	Direct surface water run-off from site.	The proposed waste types are inert and as such, any runoff that is generated on site or comes into contact with the waste mass will not be contaminated.	Unlikely due to measures in place.	Siltation Habitat Loss Toxic Contamination	Not significant.
	Arreton Down North LWS	30	N	W (SSW - NNW)	Infiltration. Percolation.				

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	Deciduous Woodland	280	N	W (SSW - NNW)		acceptance of non-conforming waste types. All the old excavated wastes will be inert and therefore there will be no contamination risk.			
	Lowland Calcareous Grassland	<10	N,E & S	W (SSW - NNW)					
Pests, vermin, and scavenging birds									
Pests and birds attracted by wastes including old wastes to be excavated.	Arreton Down SSSI	<10	N,E & S	W (SSW - NNW)	Land. Atmosphere.	The proposed waste types are unlikely to be attractive to pests vermin and/or scavenging birds as they are not putrescible. Waste acceptance procedures will be in place to ensure only permitted waste types are accepted. All the old excavated wastes will be inert and therefore will no attract any pests.	Unlikely due to distance of receptors from site.	Predation Habitat Loss	Not significant.
	Arreton Down North LWS	30	N	W (SSW - NNW)					
	Lowland Calcareous Grassland	<10	N,E & S	W (SSW - NNW)					
	Deciduous Woodland	280	N	W (SSW - NNW)					



Conclusion

The proposed inert landfill to be operated by Downend Aggregates and Restoration Limited is bordered by Arreton Down SSSI to the north, east and south. Arreton Down North LWS is located approximately 30m to the north of the site. The proposed site is also within 500m of areas of Deciduous Woodland and Lowland Calcareous Grassland. This Habitats Risk Assessment has been prepared to assess the impact of the facility on these Statutory Habitats.

The landfill would be filled with inert material, which is not putrescible and it is considered that the landfill would not produce odour.

The Designated sites and Protected Habitats are located to the north, east and south and the predominant wind direction is to the west.

The inert waste materials will largely comprise clay, which is not dusty.

The site is a deep quarry, which will naturally screen the surrounding area from noise and dust.

Mitigation measures such as noise bunds and dust prevention techniques such as wheel cleaning facilities and water bowsers would be installed at the site. Site Management procedures will also be in place to further minimise any risk.

The risk assessment concludes that with the use of appropriate mitigating controls where necessary, the inert landfill will not present a significant risk to the statutory sites.



Appendix C – Nature and Heritage Screen