Environmental Risk Assessment

Clays Site

Document for:
Golf Course Investment Limited
Clays Golf Club
Bryn Estyn road
Llan-y-Pwll
Wrexham
LL13 9UB

Document Reference: GCI-CLA-MAN-RSK-0001 A01

Date of Issue: 18th October 2018

Revision: A01

Approval & Document revision history &

Revision	Date	Author	Checker	Approver	Comment
A01	10/09/18	RL	JL	Rhys Lewis	
					
		Director	Director	Director	

Clays Site - Environmental Risk Assessment

Generic risk assessment for standard rules set number SR2017 No1 v1. Applied to Clays Site - Permit EPR-XP3691EG Varied to a Bespoke Permit

This risk assessment (RA) is to support a bespoke permit, based on a variation of existing permit No. EPR-XP3691EG, from Environment Agency (EA)
The proposed changes to the permit detailed in Table 1 of Application Form 2C, Question 2b, of this application does not change the existing site waste activities, only to deposit more waste in line with the Waste Recovery Plan** (WRP).

Most of the existing activities under the proposed bespoke permit are covered by the existing EA permit. These risks have been reassessed against the current NRW standard rules SR 2017 No.01 Generic RA. below to demonstrate how the existing permit and Site Management Plan comply with the most current equivalent NRW RA for a similar permitted waste activity. Two additional columns are included under the heading "Clays Site - Application" that capture where the existing permit and Site Management Plan, (MRF-CLA-MAN-PLN-0001) addresses these risks, with extracts of text and document references.

The only aspect of activities or risks that are not covered by the NRW standard rules SR 2017 No.01 Generic RA are:

- Volume of waste to be deposited - This greater than the 100,000 tonnes limit of the existing EA permit applied for.
  Total quantity of waste to be deposited is limited to 101,789m3, that is 152,683 tonnes*. The additional 52,683 tonnes of waste is not deemed to pose additional risks to the environment / receptors at this site due to:
  - The waste activity "deposit for recovery operation" will not change from the previously permitted activity.
  - The waste types are limited, with a strict material acceptance system as part of the existing Site Management Plan and WRP**.
  - No additional environmental receptors have been identified

- Proximity of Clays site to Great Crested Newt sites in local area. - See updated Risk No.17

These are addressed in this document in red text as above or below.
Risk No.17 has been transferred to the Site Management Plan update as detailed in the Management Plan Summary (MRF-CLA-MAN-PLN-0002 A01) of Form 2C Question3d3

Bespoke Facility:	Use of waste in a deposit for recovery operation as per WRP** Maximum volumetric capacity of recovery operation 101,789m^3 (152,683 tonnes*)	*Volumes of waste permitted under permit EPR-XP3691EG = 100,000 tonnes + 52,683 tonnes of waste as derived from WRP)**
Location:	Applies to Clays Site - Wrexham - LL13 9UB	**Waste Recovery Plan Ref: MRF-CLA-MAN-PLN-0001 A02
Risk assessment carried out by:	Natural Resources Wales - Applicability to Clays Site reviewed by R.E.A.S.C. Ltd	***See Risk No.17
Date:	03-Sep-18	

The scope of the permit and associated rules is defined by the following risk criteria:

Parameter 1	Permitted activities - The storage and recovery of waste (R5, R10, R13)
Parameter 2	Permitted wastes - Inert wastes as listed in the table of wastes in application Form C4, Table 1b Doc Ref: GCI-CLA-MAN-FRM-0001 and Table 3.7.1 of WRP**
Parameter 3	Maximum quantity of waste shall be limited to 101,789 cubic metres (152,683 tonnes*)
Parameter 4	The activities shall not be carried out within 500m of a European Site (candidate or Special Area of Conservation, proposed or Special Protection Area or Ramsar site) or a Site of Special Scientific Interest (SSSI); 50 metres of a site that has species or habitats protected under the Biodiversity Action Plan that Natural Resources Wales considers at risk to this activity, 250m of the presence of the great crested newts where it is linked to the breeding ponds of the newts by good habitat*** or 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument.
Parameter 5	The activities must not be carried out within groundwater Source Protection Zones 1 and 2 or if a source protection zone has not been defined then not within 250 metres of any well, spring or borehole used for the supply of water for human consumption. This includes private water supplies.
Parameter 6	No point source discharges to controlled waters or groundwater
Parameter 7	The activities must not be carried out within 10 metres of any watercourse
Parameter 8	No waste may be deposited into a water body or sub-water table
Parameter 9	The activities shall not be carried out on historic, closed or operational landfills
Parameter 10	Activities must not be carried out in an air quality management area for PM10

Risk No.	Data and information				Judgement				Action (by permitting)		Clays Site - Application	
	Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk	Risk management	Residual risk
	What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).		
1	Local human population.	Releases of particulate matter (dust).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Medium	Medium	**Medium**	Permitted waste types are mainly inert and have a low potential to produce bioaerosols. The activities may produce dust from movement of vehicles and tipping operations especially in dry and also windy weather.	Activities are not permitted within a specified air quality management area (AQMA) for particulate matter of 10 microns or less (PM10). Activities shall be managed and operated in accordance with a management system that includes measures to prevent and reduce risk of dust being produced and where it is produced from leaving the site boundaries. Rules can be invoked to require a particulate management	Low	Clays Site Management Plan Section 2.8. Includes site procedure for "Control, Monitoring and Reporting of Aerial Emissions of Dusts, Fibre and Particulates." Including dust suppression method to be used when required.	Low
2	Local human population.	Releases of particulate matter (dust).	Nuisance - dust on cars, clothing etc.	Air transport then deposition.	Medium	Low	**Medium**	Permitted waste types are mainly inert. The activities may produce dust from movement of vehicles and tipping operations especially in dry and also windy weather.	Activities shall be managed and operated in accordance with a management system that includes measures to prevent and reduce risk of dust being produced and where it is produced from leaving the site boundaries. Rules can be invoked to require a particulate management plan.	Low	Clays Site Management Plan Section 2.8. Includes site procedure for "Control, Monitoring and Reporting of Aerial Emissions of Dusts, Fibre and Particulates." Including dust suppression method to be used when required.	Low
3	Local human population.	Litter.	Nuisance, loss of amenity and harm to animal health.	Air transport then deposition.	Low	Low	**Very low**	Waste types if compliant with the rules should have a low risk of litter from contraries in the waste.	There are rules in place to control waste acceptance. The management system should have procedures to remove and contain any litter to prevent it being deposited at the site or to leave the site boundaries. Rules can be invoked to require a litter management plan.	Very low	Clays Site Management Plan Section 2.8. Control of Litter The material acceptance and control procedures detail the control the generation and spread of litter. Clearing litter as it arises Light weight waste trailer on site. A litterbin to be provided, on site, for lorry drivers to use.	Very low
4	Local human population.	Mud and waste on road.	Nuisance, loss of amenity, road traffic accidents.	Tracked on tyres of vehicles entering and leaving the site and from loads which are not properly contained.	Medium	Medium	**Medium**	Waste types are typically ones that will produce mud especially during wet weather.	The management system should contain procedures to minimise the risk of mud and waste being tracked out onto the highway. This may include wheel-cleaning facilities where appropriate. All vehicles should have adequate containment such as sheeting to prevent waste spillage.	Low	Clays Site Management Plan Sections 2.3. & 2.8 Mobile wheel wash facility on site A litterbin provided, on site, for lorry drivers to use.	Low
5	Local human population .	Odour .	Nuisance, loss of amenity.	Air transport.	Very low	Very low	**Very low**	Permitted waste types are mainly inert and therefore should not be odorous.	The management system should contain procedures to prevent non-permitted wastes being deposited at site and to deal with rogue loads if they do occur. There is a dormant Rule that can be utilised if odour should be a problem.	Very Low	Clays Site Management Plan Sections 2.8.6 & 2.8.7 Limited waste types and acceptance procedures Odour emission action plan in event of rogue loads. Complaints procedure and form and staff briefed on its use.	Very Low
6	Local human population.	Noise and vibration.	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Medium	Medium	**Medium**	Local residents often sensitive to noise and vibration but there is usually low potential for exposure.	Noise and vibration shall be minimised and not cause nuisance. A noise and vibration management plan may be required.	Low	Clays Site Management Plan Sections 2.4 Hours of operation weekdays 07:00 18:00 Deposition and spreading of waste is periodic and not continuous activity. All machinery to be regularly serviced and maintained. All machinery to be switched off when not in use All machines comply with noise levels set out in the E.C. Directive 95-27-EC ISO 6395 / 6396. Complaints procedure and form and staff briefed on its use.	Low

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7	Local human population.	Scavenging animals and scavenging birds.	Harm to human health from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land.	Low	Low	**Very low**	Wastes are limited to mainly inert wastes that are not normally attractive to animals and birds.	Risk limited by permitted waste types and good onsite management practices detailed in management system of non-conforming wastes.	Very low	Clays Site Management Plan Sections 2.5, 2.12 & 2.8.9 Acceptance and Control Procedures prevents biodegradable waste entering the site that attracts animals Regular site security and maintenance checks of boundary security. Control of litter, waste trailer and litter bin used to collect any litter and other incidental waste as it arises.	Very low
8	Local human population and local environment.	Pests (e.g.) flies.	Harm to human health. Nuisance, loss of amenity.	Air transport and overland.	Low	Medium	**Medium**	Wastes are limited to mainly inert wastes that are not normally likely to encourage pest infestations.	Risk limited by permitted waste types and good onsite management practices detailed in management system of non-conforming wastes.	Low	Clays Site Management Plan Sections 2.5, 2.12 & 2.8.9 Acceptance and Control Procedures prevents biodegradable waste entering the site that attracts animals Regular site security and maintenance checks of boundary security. Control of litter, waste trailer and litter bin used to collect any litter and other incidental waste as it arises.	Low
9	Local human population and local environment.	Flooding of site.	If waste contaminated water is washed off site it may contaminate buildings, gardens, watercourses and natural habitats.	Flood waters .	Low	Medium	**Medium**	Permitted waste types are mainly inert so any waste washed off site will add to the volume of local post-flood clean up workload rather than the hazard. However they may cause increased siltation and need for dredging in water courses. Increased suspended solids.	Activities are not permitted within 10 metres of a watercourse or to be deposited sub-water table. The written management system should identify and minimise risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances.	Low	Site not in location of flooding risk as per flood risk maps. No Watercourses within 10m of the site. Site topography and local elevation is not venerable to flooding risk.	Low
10	Local human population and /or livestock gaining unauthorised access to the waste	All on-site hazards, wastes, machinery and vehicles.	Bodily injury.	Direct physical contact .	Low	High	**Medium**	Permitted waste types are inert therefore only a low risk from the actual waste. However there could be stockpiles that people could climb or void spaces that people could fall into and wastes have a higher risk in wet conditions where deep mud could form.	The written management system should identify and minimise risks from unauthorised access and site security measures identified to prevent such access.	Low	Clays Site Management Plan Sections 2.12 & 2.18 Site security CCTV and perimeter fence to prevent unauthorised access to the site and weekly site security checks undertaken	Low
11	Local human population and the environment.	Arson and/ or vandalism causing the release of polluting materials to air (smoke or fumes) and firewater or spillage of polluting liquids to water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/ vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from and via surface water drains and ditches.	Low	Medium	**Low**	Permitted waste types are inert so very low-risk of combustion. Site machinery and fuels and oils are more of a risk but quantities would typically be low.	The written management system should identify and minimise risks from unauthorised access and site security measures identified to prevent such access. The system should also describe how any polluting liquids or materials will be stored safely.	Very Low	Clays Site Management Plan Sections 2.12 & 2.18 Site security CCTV and perimeter fence to prevent unauthorised access to the site and daily site security checks undertaken.	Very Low

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12	Local human population and local environment.	Accidental fire causing release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from and via surface water drains and ditches.	Low	Medium	**Low**	Permitted waste types are mainly inert so very low-risk of combustion. Site machinery and fuels and oils are more of a risk but quantities would typically be low.	The written management system should identify and minimise risks. The system should describe how any polluting liquids or materials will be stored safely.	Very low	Clays Site Management Plan Sections 2.2, 2.12 Combustible waste materials not permitted on to the site Site security CCTV and 2.5m high perimeter fence to plant and fuel storage compound to prevent unauthorised access to the compound and fuel.	Very low
13	Local human population and local environment.	Build up and emissions of gas from old waste deposits on the permitted site	Respiratory irritation, illness and nuisance to local population. Risk of explosion and injury to staff and local population.	Gas migrating laterally through waste deposit and building up in certain areas.	Low	High	**Medium**	Old waste deposits may be disturbed by additional waste deposits. Trapping of gas, increased pressure may cause gas to build up. However distance criteria mean that the probability of exposure is low.	The distance criteria prohibits use on historic, closed or operational landfills.	Low	Clays site is not adjacent to or on historical, closed or operational landfill.	Low
14	All surface waters close to and downstream of site.	Spillage of liquids, including oil.	Acute effects: fish and invertebrate kill .	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Medium	**Medium**	Wastes are solid and mainly inert. Potential for spillage from any fuel and oil storage for machinery or directly from machinery operating on the site.	The Rules do not allow any point source discharges of contaminated water to controlled waters. Distance criteria of 10 metres from watercourse. All liquids shall be provided with secondary containment. The written management system should identify and minimise risks. The system should describe how any polluting liquids or materials will be stored safely and how machinery/plant will be maintained to prevent liquids from leaking.	Low	Clays Site Management Plan Sections 2.4 & 2.22. Bunded fuel tank, locked inside a storage container in compound. Spill Response Procedure with appropriate spill kits on site. No point source discharges of contaminated water to controlled water on site. Rainwater percolates through out the site where permitted waste is deposited for recovery activity. No site drains / ditches present on the site.	Low
15	All surface waters close to and downstream of site.	Leachate from waste and contaminated rainwater run-off from waste e.g. suspended solids.	If waste contaminated water is washed off site it may contaminate watercourses and natural habitats leading to chronic effects: and deterioration of water	Surface waters, leachate from infiltration through the waste	Medium	Medium	**Medium**	Permitted waste types are mainly inert so any waste washed off site will not be chemically hazardous however they may cause increased siltation and need for dredging in water courses. It will also reduce water quality and may smother fish breeding grounds and invertebrate populations. The waste will not produce liquid in itself but rainwater percolating through the waste will produce a waste leachate which should still be very low in contamination.	Activity not permitted within 10m of a watercourse. The Rules do not allow any point source discharges of contaminated water to controlled waters. Risk limited by waste acceptance rules and limits to permitted waste types. Good onsite management practices must be detailed in the management system for controlling and containing water and leachate generated on the site.	Low	Clays Site Management Plan Sections 2.5 Waste Acceptance Control System No other point source emissions to water. Rainwater percolates through out the site where permitted waste is deposited for recovery activity. No site drains / ditches present on the site.	Low

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16	Groundwater	Leachate from waste and contaminated rainwater run-off from waste e.g. Suspended solids.	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Medium	Medium	**Medium**	Permitted waste types are mainly inert with limited uses of road planings and organic wastes so any waste should not contain hazardous substances or non-hazardous pollutants in quantities that pose a risk to groundwater.	The rules do not allow deposit in a groundwater Source Protection Zones 1 or 2 or if a source protection zone has not been defined then not within 250 metres of any well, spring or borehole used for the supply of water for human consumption. This includes private water supplies. The waste must also not be deposited in any controlled or surface waters or sub-water table. A mandatory waste acceptance procedure rule has been imposed to make sure a minimum standard is set. Mandatory operating techniques limit the use of specified non-inert wastes to surface uses. The management system should set out any additional stringent waste acceptance procedures to ensure only waste listed in the Rules are deposited on site. The procedures must also set out how to deal with rogue or non-conforming loads.	Low	Requirements of Standard Rules SR2017 No.01 are satisfied. The site activities are outside groundwater Source protection zones 1 or 2. Clays Site Management Plan section 2.5: Waste Acceptance Control System Excavated wastes from potentially contaminated sites to be tested to demonstrate compliance to permitted waste types. Limited waste types Table 2.1 Procedure includes how to deal with rouge / non confirming loads to be rejected from the site. WRP specifies uses of topsoil.	Low
17	Protected nature conservation sites - European sites and SSSIs.	Dust, noise, contaminated run-off leachate etc.	Harm to protected sites through contamination, smothering, disturbance etc.	Any	Low	Medium	**Medium**	Emissions to air may cause harm to and deterioration of nature conservation sites. Vehicles moving on and around site causing disturbance through noise. Potential for run-off and siltation of habitats etc.	The rules do not allow activities to take place within 500 metres of a European Site or a Site of Special Scientific Interest (SSSI); or 250 metres within the presence of Great Crested Newts where it is linked to the breeding ponds of the newts by good habitat; 50 metres of a site that has species or habitats protected under the Biodiversity Action Plan that Natural Resources Wales considers at risk to this activity; and 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument.	Low	Requirements of Standard Rules SR2017 No.01 are satisfied. The recovery activity will not be carried out within 500mertres of a European Site or a Site of Special Scientific Interest (SSSI); The recovery activity will not be carried out within 250m of the presence of the great crested newts (GCN) where it is linked to the breeding ponds of the newts by good habitat. Clays Site Management Plan Section 2.8.10 A GCN Survey was undertaken in June 2018, with negative results from water bodies within 250m of the site boundary, concluding it is highly unlikely that GCNs would be present on or within 250m of Clays Site boundary. The recovery activities will not be carried out within 50 metres of a site that has species or habitats protected under the Biodiversity Action Plan that the Natural Recourses Wales considers at risk to this activity. The recovery activities will not be carried out within 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument.	Low

Notes: Red triangle indicates comment containing supporting information
Yellow columns contain drop down menus that allow automatic evaluation of risk in green column