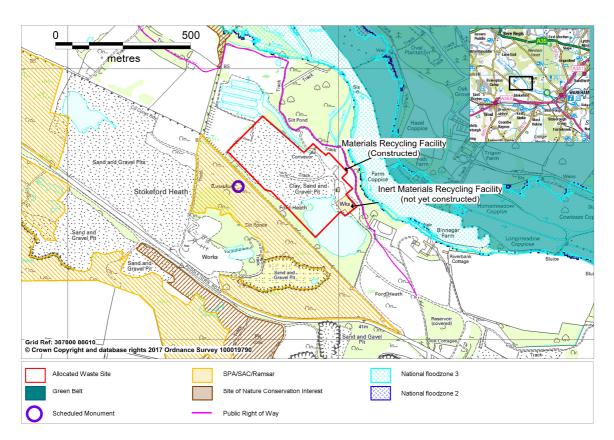
Bournemouth, Dorset and Poole Waste Plan Site Allocation – June 2018

Reference: Inset 10 **Site Name:** Binnegar Environmental Park



Site Information

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Site Location	Puddletown Road,	
Inc. administrative area	Purbeck District Council	
Parish/Town Council	East Stoke Parish	
Landowner/Agent	SUEZ	
Description of Site	The site of the Binnegar Environmental Park is within Binnegar sand and gravel Quarry. The Environmental Park lies to the north of the active quarry, on an area of previously worked land. It lies on the quarry floor at a lower level than the Puddletown Road, which runs along the south western border of the permitted mineral site.	
	The Binnegar Environmental Park was granted planning permission in March 2010. A Materials Recycling Facility has been constructed. It has been operational, but has now been mothballed. An open windrow composting facility, an in-vessel composting (IVC) facility and an inert recycling facility were also granted planning permission, but they have not been constructed. Planning permission to undertake wood recycling on a small scale has also been granted.	
	The proposals set out below would replace the existing consented IVC facility and inert recycling facility. There are not proposed to be any change in the maximum consented throughput of the Binnegar Environmental Park (110,000 tpa).	

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	The reason the IVC facility would not be developed, is that in SUEZ` view it is unlikely to be economic and is unlikely to attract sufficient quantities of waste.		
Site area	9.92 ha		
Range of facilities being	Three separate proposals are being considered for development on this site.		
considered	Only one proposal is likely to be developed, but a flexible site allocation will allow for the range of proposals to come forward during the Plan period, in response to market conditions.		
Proposal 1	Advanced Thermal Treatment facility (gasification) treating Refuse Derived Fuel (RDF) and some Solid Recovered Fuel (SRF)		
	60,000 – 100,000 tonnes per annum		
	This proposal would involve the existing Materials Recycling Facility (MRF) being converted internally into an SRF / RDF production facility to feed into a gasification plant.		
	If a 60,000tpa gasification plant were to be developed then the building would encompass RDF production. The existing Materials Recycling Facility (MRF) would remain as a standalone facility.		
	If a 100,000tpa gasification plant were to be developed then the building would contain only the gasifier and associated flue gas treatment. The existing MRF would be converted into an RDF / SRF production facility to directly supply (as a connecting building or via sealed conveyor) the gasifier with fuel.		
	<u>Description of Potential Development</u>		
	For both options – i.e. 100,000tpa gasification plant (with pre-treatment of waste within the existing MRF building) or a 60,000tpa gasification plant (with pre-treatment of waste integral within the gasification building), the facility would be a maximum of 140m by 65m with a maximum roof height of 18.5m		
	All operations with the exception of the air cooled condensers would be fully enclosed within the building		
	There would be no storage of waste outside the building. The only possible exception would be for pre-process and processed bottom ash, which could be stored in the open air.		
	Outputs from the process		

The principal output would be 11MW of electricity (for a 100,000tpa facility), which is enough to power around 25,000 homes, or 5MW of electricity (for a 60,000tpa facility) – to power around 10,000 houses.

Waste outputs arising from the proposal would be:

- Recycled bottom ash likely to be used within Dorset
- Air Pollution Control Residues (APCR) likely to be transported outside of the County to regional treatment / recycling facilities.
- Pre-treatment recyclates likely to be transported outside of the County, apart from recovered fines which are likely to be used within the County

For a 100,000tpa gasifier there would be 4,500 tpa APCR and 10,500 tpa bottom ash.

For a 60,000tpa gasifier there would be 2,750 tpa APCR and 6,350 tpa bottom ash.

Traffic Generation

100,000 tpa gasification plant: 45 HGVs per day or 90 movements in and out

60,000 tpa gasification plant: 28 HGVs per day or 56 movements in and out

This assumes that 50% of waste is delivered directly and 50% is bulked up and received from waste transfer stations, assuming 260 delivery days per year and a 10 hour delivery day.

Staff cars: A maximum of 30 cars - 60 movements, assuming 3 x 8 hour shifts for a total of 30 staff. As only the office staff are likely to access the site during normal peak traffic hours, there would be around 6 cars (12 movements in and out) during peak hours.

Proposal 2

Solid Recovered Fuel (SRF) facility

60,000 - 100,000tpa

This proposal would involve either the existing Materials Recycling Facility (MRF) being converted internally into a 60-100,000tpa SRF production facility, or the consented inert recycling building being constructed and converted internally into a 60-100,000tpa SRF facility.

Either option would manage primarily dry non-hazardous residual commercial and industrial wastes. Once processed and converted into SRF, this would be transported to thermal recovery facilities elsewhere inside or outside the County.

Description of Potential Development

A 60,000 - 100,000tpa facility within the existing MRF building which measures 56m by 41.2m with a maximum roof height of 11m.

Depending on storage requirements of the Environment Agency, there may be a need for a connected canopy structure to cover any external storage of baled and wrapped SRF.

If SUEZ decide to retain the existing MRF building for dry recyclables, then the 60,000-100,000tpa SRF facility would be built separately where there is permission for an inert recycling facility. This building measures the same as the existing MRF building. This latter option would enable SUEZ to either process and store up to 100,000 tpa of SRF, or process 60,000 tpa of SRF in one building and 50,000tpa of dry recyclables in the other building.

All processing operations would be fully enclosed within the building. Subject to Environment Agency controls, baled and wrapped SRF could be stored externally, ready for transfer off-site.

Outputs from the process

The principal output would be SRF, for use as a fuel elsewhere.

Of the waste received to the facility, approximately 5% of materials would be removed from the process as recyclable / non-combustible materials. Therefore for a 100,000tpa facility the output would be 95,000tpa SRF fuel and 5,000tpa recyclate and for a 60,000tpa facility the output would be 57,000tpa SRF fuel and 3,000tpa recyclate.

The SRF produced would be exported to recovery facilities either within or outside of Dorset / Poole / Bournemouth, depending on capacity and availability. By the time of development, SRF produced is unlikely to be shipped overseas.

Traffic Generation

100,000tpa SRF facility: 53 HGVs per day or 106 movements in and out

60,000tpa SRF facility: 32 HGVs per day or 64 movements in and out

This assumes that 50% of waste is delivered directly and 50% is bulked up and received from waste transfer stations, assuming 260 delivery days per year and a 10 hour delivery day.

Staff cars: A total of 10 staff and therefore a maximum of 10 cars, or 20 movements in and out.

Proposal 3

Refuse Derived Fuel (RDF) facility.

60,000tpa - 100,000tpa

This proposal would involve either the existing Materials Recycling Facility (MRF) being converted internally into a 60-100,000tpa RDF production

facility, or the consented inert recycling building being constructed and converted internally into a 60-100,000tpa RDF facility.

Either option would manage primarily dry non-hazardous residual municipal wastes with some commercial and industrial wastes. Once processed and converted into RDF, this would be transported to thermal recovery facilities elsewhere inside or outside the County.

Description of Potential Development

A 60,000 - 100,000tpa facility within the existing MRF building which measures 56m by 41.2m with a maximum roof height of 11m.

Depending on storage requirements of the Environment Agency, there may be a need for a connected canopy structure to cover any external storage of baled and wrapped RDF.

If SUEZ decide to retain the existing MRF building for dry recyclables, then the 60,000-100,000tpa RDF facility would be built separately where there is permission for an inert recycling facility. This building measures the same as the existing MRF building. This latter option would enable SUEZ to either process and store up to 100,000 tpa of SRF, or process 60,000 tpa of RDF in one building and 50,000tpa of dry recyclables in the other building.

All processing operations would be fully enclosed within the building. Subject to Environment Agency controls, baled and wrapped SRF could be stored externally, ready for transfer off-site.

Outputs from the process

The principal output would be RDF, for use as a fuel elsewhere.

Of the waste received to the facility, approximately 10% of materials would be removed from the process as recyclable / non-combustible materials. Therefore for a 100,000tpa facility the output would be 90,000tpa RDF fuel and 10,000tpa recyclate and for a 60,000tpa facility the output would be 55,000tpa RDF fuel and 5,000tpa recyclate.

The RDF produced would be exported to recovery facilities either within or outside of Dorset / Poole / Bournemouth, depending on capacity and availability. By the time of development, RDF produced is unlikely to be shipped overseas.

Traffic Generation

100,000tpa RDF facility: 53 HGVs per day or 106 movements in and out

60,000tpa RDF facility: 32 HGVs per day or 64 movements in and out

	This assumes that 50% of waste is delivered directly and 50% is bulked up and received from waste transfer stations, assuming 260 delivery days per year and a 10 hour delivery day.
	Staff cars: A total of 10 staff and therefore a maximum of 10 cars – 20 movements.
Need for the	SUEZ have explained that the proposals could directly replace the two local
development	landfills. Until recently, these two landfills attracted waste from across
	Dorset, particularly those wastes from west and north Dorset which would
	otherwise naturally travel across Dorset from west Dorset to Poole or
	Bournemouth.
	It is understood that there is a viable and feasible grid connection point on the western side of Wareham.
Waste proposed to be	Non-hazardous, residual local authority collected waste (waste from the
managed	householder), and/or commercial and industrial wastes
Traffic Generation	Proposal 1: Between 28 HGVs per day (or 56 movements in and out) and 45 HGVs per day (or 90 movements in and out)
	Proposals 2 and 3: Between 32 HGVs per day (or 64 movements in and out) and 53 HGVs per day (or 106 movements in and out)
	Details of existing permitted vehicle numbers for the site
	Currently, there are 60 HGVs a day for the quarry, which will continue for the next 10-15 years The Environmental Park has the followed permitted movements:
	 50 HGVs for the in-vessel composting facility
	70 HGVs for the inert recycling facility
	57 HGVs for the materials recycling facility.
	The 177 HGVs for the Environmental Park remain consented, therefore for all
	new proposals, HGV movements would remain consistent with or within the
	2010 consented levels.
Relevant Local Planning	The site lies outside of Purbeck District Council's settlement boundaries but
Policy	is on an existing permitted minerals and waste site.

Site Assessment

Part 1 – Sustainability Appraisal

Colours shown below have been attributed to each category to aid the assessment of the site, based on the level and/or nature of potential impact. For example, red highlights a significant/absolute constraint whilst green highlights where the issue is unlikely to be a constraint to development. Positive impacts may also be identified under this category. Further details on the assessment process can be seen in the Sustainability Appraisal Report.

Category	Assessment	Constraint	Opportunity
Site and adjacent land	This is an existing waste management site		
uses			
	A sand and gravel quarry lies to the south.		
	Woodland and agricultural land lies to the		
Impact on consitive	north.		
Impact on sensitive receptors	There are 11 residential properties within 250m		
receptors	of the site. The closest being North Binnegar		
	Farm and Riverbank Cottage to the east of the		
	site. In addition, Trigon Fisheries lies within		
	250m east of the site.		
Where is waste managed	A strategic facility is being considered for this		
at this facility likely to	site, therefore waste could arise from		
derive?	throughout the plan area.		
	Site is some distance from SE Dorset where the		
	largest quantities of waste are likely to derive. It		
	would be more sustainable for a facility in the		
	part of Dorset to manage waste from west and central parts of Dorset.		
Energy from Waste	Opportunities for combined heat and power are		
Opportunities	very limited on this site		
оррогошинос	,		
	It is understood that there is a viable and		
	feasible grid connection point on the western		
	side of Wareham.		
Traffic/Access	Local Highway Authority (DCC) (December		
	2016)		
	It is stated that the first 3 proposals would act		
	as a replacement to Beacon Hill & Trigon		
	landfills, therefore HGV no's and HGV routes in		
	the Dorset and Poole areas would remain the		
	same with just with a minor variation in		
	destination and onward transfer to recovery		
	facilities elsewhere. The 4th proposal for the		
	1		
	waste wood fuel processing facility results in a		
	very low increase in HGV's of approximately 2		
	per hour, and is therefore acceptable to the		
	County Highway Authority.		
	NB: the 4 th Proposal is not proposed for		
	allocation.		
	Highways England (January 2016)		
	Development here would need to be supported		
	by a robust transport evidence base to		

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Transport Planning	understand the extent of any impacts, particularly how the 2,000 annual one way HGV movements would be spread throughout the year. Considering the relatively limited trip movements and the distance from the SRN we do not have any major concerns, but need to understand the proposals further. In strategic transport planning terms, based	
Transport Flamming	upon the information provided in relation to	
	traffic generation, there is no objection to the	
	Binnegar site options, provided that suitable	
	HGV routes are used to access the destinations.	
Public Rights of Way	No public rights of way cross the site, however	
	bridleway, SE14/1 passes adjacent to site at a	
	couple of points on the eastern edge of the site.	
Protection of Water	Environment Agency	
Resources	Overall EA position: No objection in principle,	
(Hydrology/groundwater/ surface water and	provided any environmental assessments are	
flooding)	undertaken and demonstrate there would not	
	be a significant impact on issues relating to	
	groundwater, odour, litter, etc. These would	
	need to be assessed at the planning application	
	stage.	
	Our more specific comments are provided	
	below.	
	Groundwater Protection	
	This site option is not located within a source	
	protection zone, nor is it located over a	
	Principal Aquifer. However consideration of all	
	the surface water features, that include a	
	nearby fish farm, is needed. Additionally a	
	number of licensed abstractions are located	
	nearby. Whilst the site is not generally very	
	sensitive from the point of view of	
	groundwater, it is located within a	
	quarry. Quarries increase the risk of	
	contaminants entering groundwater due to the	
	loss of natural surficial layers which may	
	otherwise help attenuate contamination.	
	These factors do not preclude the further	
	development of this site for the proposed end	
	development of this site for the proposed ella	

use but they do warrant further consideration prior to selection and in terms of site development considerations. Note, it is the responsibility of the applicant to commission a full assessment of risk to controlled waters receptors, the above listed receptors do not represent an exhaustive list.

Flood Risk

No objection in relation to flood risk issues because the site lies within Flood Zone 1.

Surface water drainage is a matter for the Lead Local Flood Authority (LLFA) to cover and they should be consulted on the proposals. Given the size of the site, in accordance with the National Planning Policy Framework (NPPF), a Flood Risk Assessment (FRA) will be required in support of any future planning application.

Where there are 'ordinary' watercourses on site then there may be a requirement for Land Drainage Consent from the LLFA should any proposed works affect the flow of the watercourse(s).

Fisheries and biodiversity

The site is adjacent to a number of statutory designated sites (Dorset Healthlands SPA / Ramsar, Stokeford Heaths SSSI). Consultation with Natural England would be required to ensure there is no potential damage to these important sites.

The site is also within 150m of a secondary watercourse and approximately 300m from the River Piddle. The River Piddle is known to support native white clawed crayfish which are protected under Schedule 5 of the Wildlife and Countryside Act (1981) and Habitat and Conservation Regulations (2010). Details would need to be provided as part of any application for of any discharge, soakaways or effluents required as part of this development. Careful management of biosecurity issues would need to be considered to safeguard the River Piddle and its tributaries, particularly with regard to

waste being collected from around Dorset and brought onto the site via heavy vehicles. The site is also adjacent to a fish farm, any discharge or local effects on this may need to be considered. Any potential drainage or soakaways to the river and its tributaries will need to be assessed to ensure no damage to the protected habitats and species.

Lighting on the site, particularly at night should be minimised to avoid impacts on adjacent habitats and protected species. Noise impacts from the waste facility and number of HGVs should also be considered to ensure no local impact on protected habitats and species.

Are further studies recommended? Flood Risk Assessment

Surface water management

Lead Local Flood Authority (February 2017)

No grounds for objection, subject to detailed proposals / choice of preferred option: The site falls entirely within Flood Zone 1 (low risk fluvial flooding) according to the Environment Agency's relevant flood modelling, but is located adjacent to the indicative floodplain (Flood Zones 2 & 3) associated with the Main River Piddle. The site is shown to be at some theoretical risk of surface water flooding by mapping, during significant rainfall events (1:30/100/1000yr) and is likely to have high ground water levels. The (theoretical) surface water flooding is shown by relevant mapping to form isolated ponding. However it should be acknowledged that such mapping is simply derived using available topographical (Lidar) data. It will therefore pick out low spots or depressions created during earlier activity and mineral extraction at such sites. Surface water runoff will gravitate to the east / north-east to join the Main River valley system and tributary channels, which adjoin the eastern boundary.

Given the total area of the site (9.9 ha), subsequent proposals / options are likely to qualify as major development, for which a site specific strategy of surface water management is required. This should demonstrate that runoff rates are not increased, and therefore do not

	contribute to a cumulative impact or off site /	
	downstream worsening of flood risk. As such	
	future activity or development proposals should	
	comply with the recommendations of the NPPF.	
	Ground conditions i.e. mixed clay, sand & silt	
	deposits, may not support the use of infiltration	
	/ soakaways, whilst elevated ground water	
	levels and connectivity to the adjoining river	
	system are anticipated.	
Land Instability	No issues identified	
Visual Intrusion	Site is 800m north of Dorset Area of	
	Outstanding Natural Beauty (AONB)	
	Senior Landscape Officer (2017)	
	1. Context	
	Within the Bovington Affpuddle Heath Forest	
	Landscape Character Area. On the fringes of the	
	River Piddle valley and within the context and	
	setting of the industrial commercial uses in the	
	vicinity of the site.	
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	2. Key Characteristics	
	♦ Dominated by large scale and deep existing	
	sand/gravel extraction.	
	 Surrounded by heath, forest and scrub 	
	vegetation around site perimeter.	
	◆ Large scale wet and dry excavations, steep	
	cut slopes, varied earth workings and	
	infrastructure associated with mineral workings.	
	◆ On the fringe of the Piddle Valley to the east	
	and other old and restored working	
	towards the Puddletown road to the west.	
	◆ Associated with wider historic mineral	
	operations and working along the	
	Puddletown Road which detract from the	
	overall condition of the wider countryside	
	setting.	
	♦ Adjacent to important nature conservation	
	designations to the west.	
	3. Landscape Value	
	The site has low/medium landscape value due	
	to the lack of any significant features of	
	landscape or visual interest or merit and	
	because of its current condition as an open and	
	unrestored mineral site. There are some areas	
	of fringe vegetation which do have some value	
	as a screen. The existing substrate and site	

profiles do provide a basis for interesting restoration from a Landscape Ecology point of view.

4. Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement

The site has a low susceptibility to the development options in question due to the fact that most of the development would not be visible to the general public. Most development would sit in the base of the environment park and would not protrude over the lip of the existing site. In this way development would have a minimal impact of the surrounding landscape and the wider setting of the Dorset AONB.

However, any stack for example associated with Proposal 1 would, in the worst case scenario, have an impact as this would extend 29m above the existing ground level at the site entrance by the Puddletown Road. This would be visible from the nearby visual receptors along the Puddletown Road, the nearest properties, from the adjacent bridleway and further afield from the Dorset AONB 800m to the south.

The footpath/bridleway running along the east side of the site is the main significant visually sensitive receptor.

However the extent to which the stack would create 'significant adverse landscape and visual impacts' on these receptors would need to be assessed with the aid of suitable visualisations and montages.

The fact that the wider landscape associated with this part of the Heath Forest has historically been despoiled by mineral workings, roads, military use, forestry and other infrastructure development may reduce its susceptibility to further visual impacts.

If a comprehensive landscape and ecological mitigation and enhancement plan can be agreed there are some opportunities to mitigate and enhance the site if the development comes forward. If this ties in with other wider landscape scale restoration schemes for adjacent mineral sites this would greatly help. Building height, mass, overall design and any boundary treatment should all enhance and conserve landscape and visual amenity and reduce the developments overall impact. In particular the impact of any stack should be minimised by its design, formation level, colour, texture and overall height. 5. Conclusion Subject to a Landscape and Visual Impact Assessment of any scheme to determine the overall impacts of a proposal and in particular any stack, the site may be suitable to bring forward as the majority of the development options would have a minimal adverse impact on the surrounding landscape in an area historically and adversely impacted by development. Approving a comprehensive Landscape and Ecological Masterplan for the site, to include building and site layout considerations which address the above concerns, is essential. Are further studies recommended? Landscape and Visual Impact Assessment. **Nature Conservation** DCC County Ecologist (2017) The site is adjacent to Stokeford Heaths SSSI, within 2km of Morden Bog and Hyde Heath SSSI and is adjacent to Dorset Heathlands SPA and Ramsar and Dorset Heaths SAC. Buddens Farm SNCI lies just to the north. Proposal 1: This proposal would lead to increased emissions of NOx and ammonia from the combustion of waste on site, onto the adjacent designated heathland. These

emissions are likely to have a greater impact than normal as the stack height will be reduced by the plant being constructed in a 26m deep void. Although the stack height may be 55m or 49m high, this would be reduced to 29m or 23m above ground level in reality, leading to the emissions plume being much closer to the ground than is normally the case. The Fichtner study, commissioned by SUEZ, confirms this by stating that, even if the stack height was increased to 80m, critical level and load of these pollutants would still increase by more than 1%. Further assessment of this would be needed, alongside design modification of the proposed plant, to incorporate additional abatement of NOx and ammonia levels to an acceptable level, before this option could be realistically taken forward. All proposals: All four options may potentially lead to an increase in dust which could impact on the adjacent heathland and this will need to be assessed. There may also be impacts on local populations of rare breeding birds and reptiles and surveys will be needed to assess this. The impact of increased numbers of predators (foxes and rats) on ground nesting birds and reptiles (e.g. sand lizard, woodlark, nightjar) may also need assessment. NB: the 4th Proposal is not proposed for allocation. **Historic Environment** DCC Senior Archaeologist (14/12/16) Works within the former quarry should not have a direct archaeological impact. There is a barrow just to the south-west of the site that is protected as a Scheduled Monument (SM 28334), and so the impact of any works on the unquarried land on the south-west side of the site would need archaeological assessment and perhaps evaluation. In general, something hidden within the existing quarry should not be a major archaeological issue, but associated groundworks in unquarried areas could affect below-ground archaeological remains. Any visual impact on the setting of the Scheduled

	Monument would need consideration, and in	
	accordance with recent changes to the	
	definition of setting, other matters like noise	
	that could affect the appreciation of the site	
	would also need to be taken into account.	
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Airport Safety	N/A	
Air Quality Inc. Dust	No AQMA in the vicinity	

Sustainability Appraisal Summary	
This is an existing waste site with the potential for alternative waste management uses. Strategically – if managing waste from the whole authority - this site is in a poor location. However, if a smaller facility is developed managing waste from the local area the site could contribute to minimising waste movements.	AMBER
The site is in a remote location with few residential properties in the immediate vicinity. However, the site is close to environmental designations and there is the potential for waste treatment to adversely impact habitats	

Part 2 – Deliverability/Viability

Assessment	Constraint	Opportunity
The proposals are being promoted by SUEZ, therefore we have no reason to believe that the site could be deliverable in theory.		
This site is situated in the vicinity of European nature conservation sites. Addressing this issue may be costly and may impact on the range of uses suitable on site.		

Deliverability/Viability Conclusion	
No significant issues of deliverability have been identified, subject to mitigation	YELLOW
measures to protect European sites being addressed and deliverable.	

Development Considerations (Note: Modifications to the development considerations may be proposed through the examination process. See schedule of Proposed Modifications)

The Development Considerations for each site comprise specific requirements, issues and opportunities that should be addressed through a planning application. They are set out in the Waste

Plan and re-produced within this site assessment for completeness. It should be noted that the Development Considerations do not comprise an exhaustive list of matters to be considered.

- Appropriate assessment in accordance with the Conservation of Habitats and Species Regulations 2017.
- The site should be subject to a detailed landscape and visual impact assessment and preparation of a comprehensive Landscape and Ecological Masterplan for the site. This should demonstrate how impacts will be minimised, particularly from any stack by its design, formation level, colour, texture and overall height. This should also give regard to how lighting on the site will be minimised. Proposals should also incorporate appropriate screening to ensure protection of adjacent public right of way.
- Consideration of appropriate HGV routes should be built into any proposals.
- Consideration will need to be given to the impact of development on the setting of the Scheduled Monument situated south-west of the site. Archaeological assessment and evaluation to accompany and inform application.
- A site specific strategy of surface water management should demonstrate that runoff rates are not increased and therefore do not contribute to a cumulative impact or off site downstream worsening of flood risk.