

URS



RMC Site as Part of the British Gypsum
Robertsbridge Site

Level 1 Flood Risk Assessment

Final
October 2011

Prepared for
British Gypsum Ltd.

Revision Schedule

RMC Site Level 1 Flood Risk Assessment

October, 2011

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	Oct 2011	Final	Danielle Skilton Graduate Hydrologist	Emily Craven Flood Risk Consultant	Elizabeth Gent Principal Consultant

URS Scott Wilson
6-8 Greencoat Place
London
SW1P 1PL

Tel +44 (0) 20 7798 5000
Fax +44 (0) 20 7798 5001

www.urs-scottwilson.com

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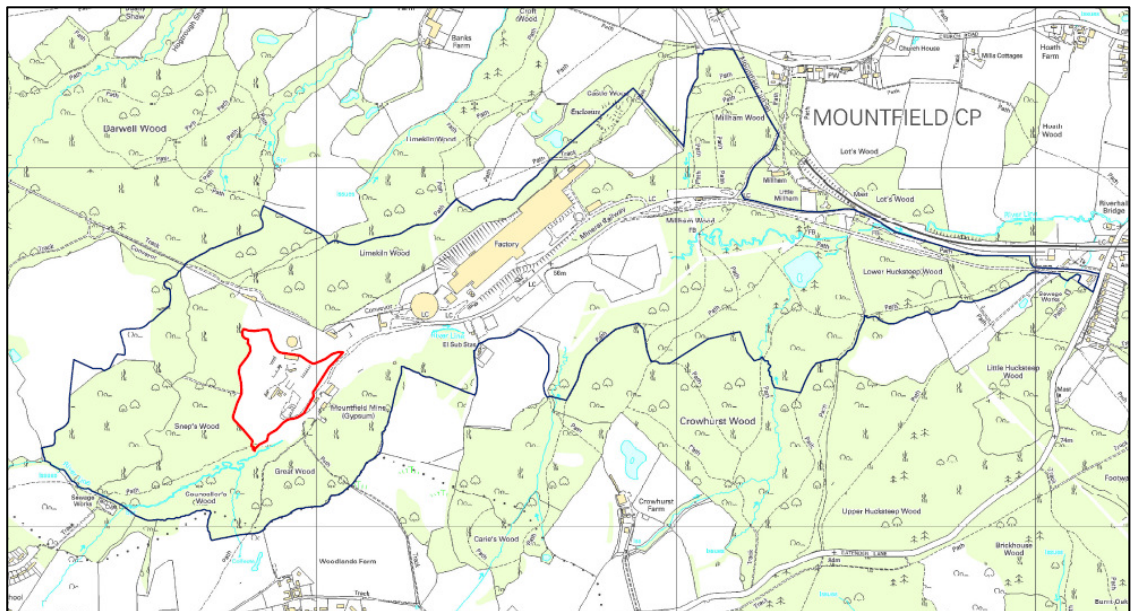
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1. Introduction

1.1 Project Background

- 1.1.1 URS Scott Wilson has been commissioned by British Gypsum to prepare a Level 1 Flood Risk Assessment (FRA) in support of two separate Planning Applications for the storage of desulphogypsum (DSG) and the restoration of the former Ready Mixed Concrete (RMC) site ('the RMC Site') at the British Gypsum Robertsbridge site, East Sussex. The location of the RMC site in relation to the British Gypsum Robertsbridge site is show in Figure 1.
- 1.1.2 A review of the Environment Agency (EA) Flood Zone Mapping, available online at <http://www.environment-agency.gov.uk>, shows that the site falls within Flood Zone 1. Flood Zone 1 is assessed as having less than a 0.1% (1 in 1000 year) Annual Exceedance Probability (AEP) of fluvial or tidal flooding in any year.
- 1.1.3 Although the RMC Site is within Flood Zone 1, Planning Policy Statement 25 (PPS25): Development and Flood Risk (2010), states that an FRA is required for all development proposals that are greater than 1 hectare (ha) in area.
- 1.1.4 This level 1 FRA has been prepared in accordance with current guidance and Planning Policy Statement 25: Development and Flood Risk (PPS25). The aim of this report is to identify any flooding or surface water management issues relating to either development proposal that may need further investigation.

Figure 1: RMC Site in Relation to the British Gypsum Robertsbridge Site



2. Planning Policy

2.1 PPS25: Flood Risk and Development

2.1.1 PPS25 and its accompanying Practice Guide, forms current flood risk planning policy. The aim of PPS25 is to steer development towards areas with the lowest possible risk of flooding and where development is necessary in areas at risk of flooding, to ensure that appropriate mitigation is provided

2.1.2 Table D3 of PPS25 outlines the compatibility of developments within each flood zone. This is shown in Table 1 below. It can be seen that developments of all vulnerabilities are suitable within Flood Zone 1.

Table 1: Flood Risk Vulnerability and Flood Zone 'Compatibility' (PPS25 Appendix D, Table D3)

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	1	✓	✓	✓	✓	✓
	2	✓	✓	Exception Test required	✓	✓
	3a	Exception Test required	✓	x	Exception Test required	✓
	3b	Exception Test required	✓	x	x	x

2.2 Waste and Mineral Development Frameworks Strategic Flood Risk Assessment

2.2.1 East Sussex County Council and Brighton & Hove City Council, Waste and Minerals Development Framework Strategic Flood Risk Assessment (Peter Brett Associates LLP, 2009) identifies the Robertsbridge Plasterboard Recycling Facility (Site reference A91) as not being vulnerable to fluvial flooding or other flooding sources. As a result, there are no recommended actions to be included within an FRA for this site.

3. Site Description and Flood Risk

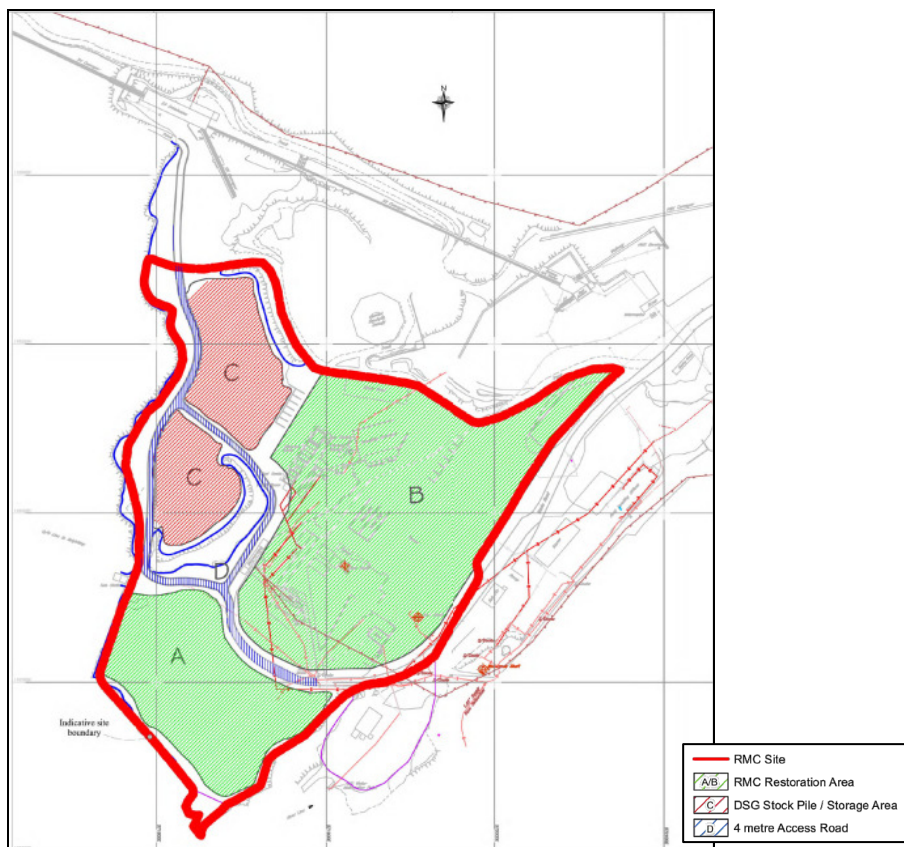
3.1 Site Overview

3.1.1 The former RMC Site will be used for two purposes:

- the north western section of the site will be used for the storage of DSG for a period of 10 years before being restored to natural habitat; and
- the larger southern and eastern portions of the site will be restored to woodland, low fertility grassland and heathland.

3.1.2 The restoration site has an area of 3.2ha and the DSG storage site has an area of 1.7ha. This gives a total site area of 4.9ha. In addition there is a 4m access road planned to run across the RMC site to the DSG storage area. The area designation is shown in Figure 2.

Figure 2: RMC Proposed Area Usage



3.2 Topography

3.2.1 The current RMC Site has been extensively landscaped as a result of the past operation as a coated roadstone plant and associated aggregates storage. The maximum elevation is at approximately 91.5m AOD in the north west of the site and the minimum is at approximately 73.0m AOD to the south east of the site.

3.3 Geology and Hydrogeology

- 3.3.1 The EA website shows the site to lie above a Secondary B Aquifer. These are predominantly low permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures. These are generally the water-bearing parts of former non-aquifers. Therefore the flood risk from groundwater is likely to be low.
- 3.3.2 The site is not in a Source Protection Zone and therefore poses little or no risk to groundwater aquifers.

3.4 Main River and Tidal Flooding

- 3.4.1 A review of the EA Flood Zone Mapping shows that the site falls within Flood Zone 1. This is assessed as having a less than a 0.1% (1 in 1000 year) Annual Exceedance Probability (AEP) of main river or tidal flooding in any year. As the site lies somewhat inland there is no tidal flood risk to the site.

3.5 Ordinary Watercourses

- 3.5.1 The River Line is an ordinary watercourse that flows along the southern extent of the RMC Site. The River Line is classified as being low, small and siliceous by the EA. The river runs from the woodlands to the west of the site, in an easterly direction, towards Whatlington. It is occasionally culverted for small sections as it passes along the southern boundary of the wider Robertsbridge site. The river is at a lower elevation to the RMC Site and therefore does not pose a flood risk to the proposed site area.
- 3.5.2 There are no other water courses or water bodies within proximity of the RMC Site itself.

3.6 Artificial Sources of Flooding

- 3.6.1 The Darwell Reservoir is located approximately 1km to the north of the RMC Site. The EA website shows that in the event of the reservoir failing, flood waters would flow in an easterly direction. Therefore the flood risk from artificial sources is considered to be negligible.
- 3.6.2 There are no other sources of artificial flooding within close proximity of the site.

3.7 Summary

The flood risk to the RMC Site has been summarised in Table 2.

Table 2: Summary of the Flood Risk to the Site

Flood Source	Estimated Flood Risk
Tidal	None
Fluvial	Low
Overland Flow	Low
Groundwater	Low
Artificial	Negligible

4. DSG Stockpile/Storage Area and Access Roads

4.1 Existing Site

4.1.1 The existing site comprises the remaining hardstanding land previously used for access to the Mountfield Mine and the former coated roadstone plant. The area of the RMC Site proposed for the DSG storage area and access road (Area C & D in Figure 2), presently comprises hardstanding.

4.2 Proposed Development

4.2.1 The north western section of the RMC site (Area C & D in Figure 2) is planned to be used for the storage of DSG for duration of 10 years. This will utilise an area of 1.7 ha. Planning permission was granted in 1994 for the storage of DSG on land within the Robertsbridge site (Ref: RR/94/1563/CM). This is covered by an Environmental Permit issued in 2010 (Ref: EAEPRPP3930KLV002).

4.2.2 The DSG storage will comprise of two strategic storage areas (stockpiles) with a maximum height of 15m, 40m long and 30m wide. These will be accessed by a 4m wide access road passing through the remainder of the RMC Site (Area D in Figure 2), to the south of the DSG storage area

4.2.3 Area C will be re-landscaped to form a levelled area at approximately 93m AOD for the stockpiles to be placed. The site will slope to the south east to a lower elevation of approximately 89m AOD.

4.2.4 As shown in the Site Drainage Plans 4858/003 & 4858/005 (R A Camis & Partners Ltd, 2011) attached to the Planning Application Supporting Statement, surface water will be drained from the site via a French Drain and a series of roadside ditches. The French drain is located along the 90m AOD contour and drains towards the south of the stockpile storage area. At this point, a drainage ditch with a fall of 1:100, flows adjacent to the access road towards the River Line. A silt trap at the southern edge of the site will be used to remove any suspended particulate from the surface water runoff before the surface water drains, by pipe into the existing drainage system for the remainder of the Robertsbridge site.

4.2.5 After the 10 year period used for the DSG storage, the site will be restored to the characteristic habitat of the surrounding area. The restoration of this site will involve the removal/breaking-up of the hardstanding surfaces and the placement of 1200mm-1500mm of subsoil and 300mm-400mm of topsoil (road imported).

4.3 Flood Risk to the Site

4.3.1 The general flood risk to the site is discussed in Section 3. Specifically, the risk of fluvial flooding to the DSG storage area is low as the site levels for the proposed storage area are approximately 20m above the elevation of the River Line.

4.3.2 The land to the north of the storage site is predominately covered by woodland. Therefore, the quantity of surface water runoff potentially draining towards the site is low.

4.3.3 In addition, the proposed development includes a drainage scheme, showing how surface water generated locally across the storage site will be managed to minimise the impact of surface water flooding on the site and the surrounding area.

4.4 Flood Risk from the Site

4.4.1 The hardstanding surface coverage of the site will not increase following the development of the DSG stockpile area. Therefore, the quantity of surface water runoff generated from the site will remain the same.

4.4.2 The development of the drainage system will help to ensure the controlled management of surface water runoff generated from the stockpiled areas.

4.4.3 The restoration of the site following the 10 year period of DSG storage will result in the creation of impermeable surfaces. This will reduce the surface water runoff generated from the site and the subsequent surface water flood risk to neighbouring areas.

5. RMC Restoration Area

5.1 Existing Site

5.1.1 The existing site (Areas A and B in Figure 2) was used historically for access to the Mountfield Mine before this was blocked and secured in the 1990s. The site is presently occupied by the remaining structures of the coated roadstone plant (foundations and hardstanding) and associated infrastructure. The remaining foundations will be removed (crushed) and utilised to restore the site.

5.2 Proposed Site

5.2.1 The RMC restoration area will be split into two sections (Areas A and B in Figure 2), with a total area of approximately 3.2ha. These are divided by an access road (area D in Figure 2) for the DSG storage area to the north/north west of Areas A and B.

5.2.2 Areas A and B will be resorted to create habitats characteristic of the surrounding area. This will initially require the removal/crushing of the remaining plant foundations, which will be utilised as inert fill. The restoration site will then be re-landscaped through the importation/addition of 1200mm-1500mm of subsoil and 300mm-400mm of topsoil. This is required in order to facilitate planting.

5.2.3 The topography of the Areas A and B will have the same general slope as the remainder of the RMC Site (from the north west to the south east). Site elevations will increase slightly from the existing site as a result of the addition of subsoils and topsoils. The site will slope from approximately 89m AOD to 73m AOD.

5.3 Flood Risk to the Site

5.3.1 The general flood risk to the site is discussed in Section 3. Specifically, the risk of fluvial flooding to the DSG storage area (Area C) is low as the RMC restoration area has a topography that increases to the north west away from the River Line.

5.3.2 The DSG storage area, uphill from the Areas A and B has the potential to generate surface water runoff. However, this is no greater than the existing flood risk and will be controlled through a network of French drains and roadside ditches.

5.4 Flood Risk from the Site

5.4.1 The risk of surface water flooding will be reduced as a result of the increase in permeable area. The restoration proposals will convert a large part of the site from hardstanding land to a restored habitat area that is typical of the surrounding land (woodland, low fertility grassland and heathland). This will allow greater infiltration of rainfall and prevent the generation of surface water runoff.

5.4.2 The flood storage capacity of the River Line is unlikely to be impacted upon by the proposed developments as the river channel runs to the south of the proposed development boundary.

6. Conclusion

- 6.1.1 This Level 1 FRA has been undertaken in accordance with PPS25 and has considered the flood risk posed to and potential flood risk generated by two separate planning applications at the RMC Site.
- 6.1.2 This FRA encompasses both the proposed DSG storage area and associated access routes (Areas C and D) and the proposed RMC restoration area (Areas A and B).
- 6.1.3 The flood risk to the RMC site can be summarised as follows:
- there is no flood risk from tidal sources;
 - the flood risk from fluvial sources is considered to be low;
 - the flood risk from surface water runoff is considered to be low;
 - the flood risk from groundwater is considered to be low, and
 - the flood risk from artificial sources is considered to be negligible.
- 6.1.4 This is further confirmed by the East Sussex and Brighton & Hove Waste and Minerals Development Framework Strategic Flood Risk Assessment, which lists and states that it is not vulnerable to other forms of flooding.
- 6.1.5 The DSG storage area and access roads will not have an impact on the existing flood risk as the hardstanding area will not increase from that of the existing land use. After 10 years this site will also be restored and will have a beneficial impact on the surface water runoff generated by the site.
- 6.1.6 The restoration area will have a beneficial impact on the flood risk from the site as it will become impermeable and so will reduce the surface water runoff risk to the surrounding area.
- 6.1.7 It is considered that there are no areas that require further investigation with regards the flood risk posed to or generated by the proposed developments.

7. References

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