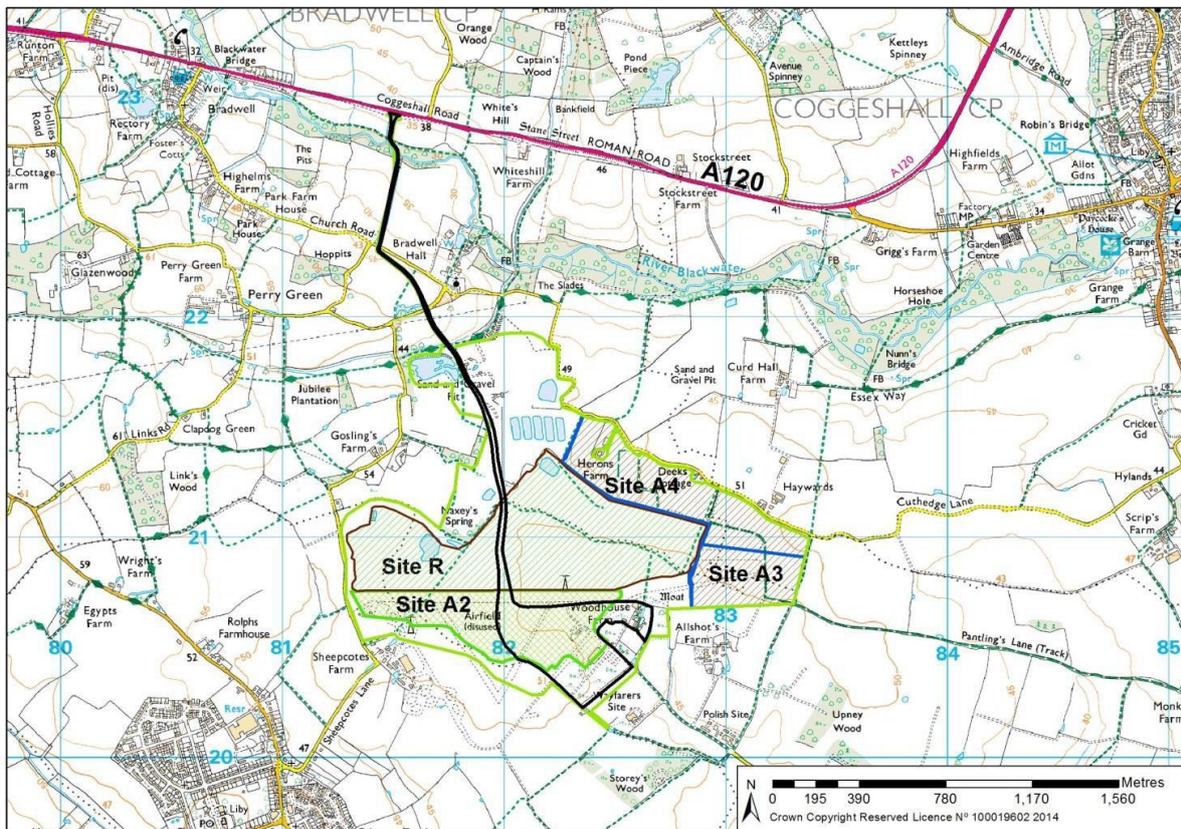


5.0 CHAPTER 5 LAND USE AND CONTAMINATED LAND

The site boundary and planning application area remain unchanged from that originally assessed and approved. Whilst quarrying operations have resulted in a change to the overall site setting, i.e. original ground levels have been changed across the footprint of the integrated waste management facility (IWMF), the impact of the proposals on Grade 3a agricultural land remains unchanged and unaltered. Furthermore, the quarrying operations carried out across the Site neither found nor identified any contaminated land associated with the removal of the existing runways and Hangar.

5.1 Changes to the Site Setting Associated with Quarrying Operations

The IWMF site lies within the permitted areas of the Bradwell Quarry where current sand and gravel extraction with low level restoration to agriculture/biodiversity/water and woodland is anticipated to be completed by 2018; however, further 'preferred' and 'reserved' sites are allocated in the adopted 2014 Minerals Local Plan that would extend the life of the quarry, subject to detailed submission and approval to Essex County Council.



Base Plan extracted from ECC Committee Report DR/07/15

The above location plan indicates the extent of previous and current mineral extraction areas: Site R permitted in 2001, Site A2 permitted in 2011 which included extraction in part of the site for the IWMF; and, Site A3 and A4 permitted in 2014. The most recent mineral planning application area for Site A3 and A4, indicated by the green boundary on the plan above, encompassed all previous extraction areas, namely Site R, Site A2, the IWMF site and the minerals processing area to the north.

Whilst the development of Site A2 has resulted in a localised change in ground levels in and around the vicinity of the IWMF site, in line with the Site Specific Issues to be Addressed – at

that time set out within Essex County Council's emerging Replacement Minerals Local Plan, it was noted that:

'Careful consideration must be given to the final low-level restoration contours to ensure the final landform blends with the surrounding topography and could blend with the levels and planting of the strategic waste management development (Ref ESS/37/08/BTE) if implemented.'

The Site A2 restoration scheme was therefore designed to deliver:

- A landform that would safeguard the potential implementation of the IWMF;
- Provide a restoration and after-use scheme for Site A2 with regard to the existing landscape character and the need to enhance biodiversity and geodiversity; and
- Establish a restored base line position, similar to that considered, assessed and previously permitted for the IWMF.

In developing the Environmental Impact Assessment for Site A2, consideration was given to the baseline conditions established by the permissions already obtained for the existing operations at Bradwell Quarry and, where relevant, other planning permissions (namely the IWMF) to minimise and mitigate impacts from Site A2 equal to or less than the conditions benchmarked and approved by the Planning Authority.

It was fully recognised that a valid unimplemented planning permission for the IWMF overlapped Site A2. Because this planning permission could be implemented during the life of the mineral proposals related to Site A2; the cumulative impacts of its implementation during the life of the mineral proposals were assessed and addressed within the Environmental Statements for Site A2.

Similarly, the Environmental Impact Assessment submitted with the Site A3 and A4 took into account the requirements of the emerging Replacement Minerals Local Plan (subsequently adopted July 2014) and considered the cumulative impacts associated with its development against Site A2 and the unimplemented IWMF planning permission.

5.2 IWMF Site Ownership and Planning Allocation

The joint Essex County Council and Southend-on-Sea Borough Council Waste Local Plan, adopted in 2001, is the current approved planning policy document that guides waste development and determines waste-related planning applications within Essex and Southend.

Following the introduction of the Planning and Compulsory Purchase Act 2004, Essex County Council is obliged to update its Local Plans. As work on the Replacement Waste Local Plan progresses, the content of the 2001 Waste Local Plan has been saved until the new plan is adopted.

Gent Fairhead & Co Limited is the landowner of Rivenhall Airfield including the site known as Preferred Site WM1 in the 2001 Waste Local Plan.

Public consultation on the Replacement Waste Local Plan – Revised Preferred Approach and Sustainability Appraisal took place in June to July 2015; within this emerging document the IWMF site is currently allocated as “Preferred Opportunity Site to provide additional waste management capacity further up the waste hierarchy”.

The principal of locating the IWMF at Rivenhall Airfield continues to be strengthened¹ by the emerging Replacement Waste Local Plan (RWLP); and in the event the IWMF is implemented,

¹ An up to date analysis of the local waste management market, waste types and volumes available was presented in GFC's section 73 application, as provided within the document "S1 - Statement in Support of s73 Variation Application" by GFC, notably sections "6. Changes in Waste Management Practices since 2009" and "7."

its site setting is supported by the adopted 2014 Minerals Local Plan (MLP). In terms of the extant policy document (Waste Local Plan 2001) Rivenhall is the only remaining available "Preferred Site" for major waste management facilities that has yet to be developed from the original six preferred sites; four others being no longer available (withdrawn). In the RWLP, the Rivenhall site continues to be safeguarded "to provide additional waste management capacity further up the waste hierarchy". Furthermore, in the event the IWMF is implemented, as quarrying operations progress across Bradwell Quarry into the 'preferred' sites [Site A3, A4 and A5] and the 'reserve' sites [Site A6 and A7] over the coming years, provision is made within the MLP to ensure that future restoration schemes "ensure the final landform blends with the surrounding topography and could blend with the levels and planting of the strategic waste management development".

5.3 Updated Land Use Baseline 2015

Across the footprint of the IWMF, quarrying and restoration operations within Site A2 has resulted in the loss of the former airfield runway(s), an aircraft Hangar, airfield buildings, and agricultural fields that were originally present at the site. However, the quarrying operations have retained the woodland(s) tree preservation order (TPO), although some individual and groups of TPO trees have been removed. Areas of Open Habitat have been established adjacent to Woodhouse Farm and a hedgerow relocated to Wayfarers Field i.e. compensatory and mitigation measures have already been implemented associated with the Site A2 quarrying operations that overlap the IWMF site.

Quarrying operations have ceased within Site A2 and are now focussed within Site A3 and A4 – to the north of the IWMF site. Across the footprint of the IWMF and Site A2, quarry restoration and stockpiling works are ongoing.

To date no contaminated land has been encountered during the quarrying operations that have been carried out across Site R, Site A2 and the commencement of Site A3 and A4. As can be seen clearly on the plan above, this represents the majority of the former airfield including most of the main runway, perimeter tracks and former operational areas.

There are no sites in the area that are known to be designated for their geological importance. There are also no statutory land designations such as Ramsar sites, Special Protected Areas, Site of Special Scientific Interest, National or Local Nature Reserve, or National Parks.

The Site lies within a Nitrate Vulnerable Zone (NVZ) in accordance with the EC Nitrates Directive in order to reduce nitrogen loss from agriculture to water. Farmers within NVZs are required to comply with measures in the Nitrates Action Programme.

There are no recorded landfills within 1 km of the Site. The nearest closed historic landfill recorded on the Environment Agency's web pages is at Temple Lane, which is approximately 2 km to the southwest of the Site at Silver End.

Twenty exploratory holes were carried out between 21 July 2014 and 22 August 2014 by CC Ground Investigation Limited in accordance with BS5930, Amendment 2 (2010). The location of the boreholes are indicated on Drawing 213033-150. This was submitted as part of the submission of details (for Condition 24) in July 2015 and is contained within this report as part of Chapter 6 Water Resources" within the inherent Appendix 6B (Doc. C24.5 "As-built Borehole Locations").

Whilst no evidence of contamination was noted during the investigation, to support an application to divert the existing water main and provide further supportive information to discharge planning Condition 25, environmental samples were taken at a depth of

Operational Processing Capacities". This document is submitted herein as part of the PINS submission as Appendix A1. Supplemented by the Rivenhall IWMF – Update on Need and Rivenhall IWMF – Business Development reports issued with the original extension of time application.

approximately 0.5 m below existing ground level in the general vicinity of boreholes BH 14, BH 18 and BH 19.

The following suite of tests was carried out on the recovered samples:

- Chemical works suite: VOCs + TICs, SVOCs + TICs, CLEA metals, TPHCWG, pH, total cyanide, free cyanide, sol SO₄, sol Cl;
- BTEX/MTBE by GC-MS (Benzene 2ug/kg, Toluene 2ug/kg, Ethyl Benzene 2ug/kg, m/p-Xylene 4ug/kg, o-Xylene 2ug/kg, MTBE 3ug/kg);
- Speciated phenols by HPLC - resorcinol, catechol, phenol, m/p-cresol, o-cresol, total cresols, total xylenols, 1-naphthol, 2,3,5-trimethyl phenol, 2-isopropylphenol;
- Short CLEA metals (excluding WSB, Cr III, Cr VI): As(0.5), Ba(10), Be(0.5), Cd(0.1), Cr(0.5), Cu(1), Hg(0.1), Ni(0.7), Pb(5), Se(1), V(1), Zn(5); and
- BRE SD1 2:1 soluble sulphate, pH, total sulphur, water soluble magnesium, ammoniacal nitrogen, soluble nitrate and chloride.

A Statement on Contaminated Land and the supportive results of the above Environmental Testing were presented as part of the submission of details for Condition 25 in July 2015. These documents are presented within Appendix 5A. This supporting information concludes that the Site is not contaminated.

In summary, the information provided within this section and the accompanying Appendix 5A and 5B represent the up to date environmental baseline information for contaminated land and soil classification.

5.4 Updated Land Use Impacts 2015

There will be no overall change in the land use impacts arising from the development of the IWMF site from those originally assessed in 2008.

Under the existing IWMF planning permission, Conditions 25 and 46 require the submission of details associated with an investigation to identify if the site is contaminated, and soil handling, soil storage and machine movements relating to the end use of the soils. All documentation as submitted in July 2015 is contained herein immediately following this section behind Appendix 5A Contaminated Land and Appendix 5B Soil Handling (includes the Statement followed by drawings of soil types and agricultural land classification).

Whilst there is no existing (or past found) evidence of ground contamination arising as a consequence of historical activities, the removal of the remaining remnants of the former airfield within the woodland TPO could lead to the disturbance of previously unidentified contamination. To address this potential issue, a 'watching brief' will be maintained during site clearance works to determine the presence of previously unidentified zones of soils or groundwater contamination. This is a continuation of Blackwater Aggregates' established working practices that are applied when commencing vegetation clearance and initial soil stripping associated with a new phase of their ongoing quarrying operations.

Potential impacts associated with the IWMF's development on agricultural land no longer apply across the site itself – quarrying operations across Site A2 have resulted in the loss of any pockets of agricultural land that were originally present within the IWMF footprint.

Apart from the on-going quarrying, restoration and agricultural activities within and around the IWMF site, there have been no significant changes to land uses on and around the site. There have been no relevant planning permissions or new facilities built that would change the findings of the original assessment of land use impacts.

5.5 Cumulative Land Use Impacts

There will be no overall change in the land use impacts arising from the development of the IWMF site. Cumulative impacts associated with the development of the IWMF alongside the former Site A2 and existing Site A3 and A4 quarrying operations were considered by the 'Site Specific Issues to be Addressed' set out within Essex County Council's emerging Replacement Minerals Local Plan and adopted 2014 Minerals Local Plan, namely:

'Careful consideration must be given to the final low-level restoration contours to ensure the final landform blends with the surrounding topography and could blend with the levels and planting of the strategic waste management development (Ref ESS/37/08/BTE) if implemented.'

Similarly the future extension of quarrying operations across Bradwell Quarry into Site A5 (as a 'preferred' site) and Site's A6 and A7 (as 'reserve' sites) must provide a landform and site setting that blends into the surrounding topography and landscape mitigation proposals around the IWMF.

The potential temporary stockpiling of overburden materials from within the footprint of the IWMF across New Field (explained in Section 4 of this report above) would provide materials that could be used to meet a predicted shortfall in restoration soils. It is understood that Blackwater Aggregates intends to make a planning application for such a modification during January 2016.

The integrated use and retention of the overburden and restoration soils within Bradwell Quarry will require the temporary stockpiling of the materials across New Field and the creation of a temporary lagoon within the footprint of the existing Site A2 quarry. On a short term basis, the creation of the 'New Field Stockpile' and the formation of the temporary 'Sheepcotes Lagoon' would be integrated within the overall restoration scheme. The stockpile and temporary lagoon would be located within areas of the existing quarry that are awaiting or undergoing restoration, i.e. located on bare ground. The subsequent use of the stockpiled materials within the quarry restoration scheme would result in agricultural after uses and a patchwork of ecological biodiversity enhancement proposals within the landscape, and deliver biodiverse Habitats of Principal Importance within the wider site.

In considering the potential Land Use Impacts associated with the installation of the proposed electricity cable and water abstraction and discharge pipelines, the methods of working will be managed and controlled to mitigate impacts on agricultural or highway assets. Particular attention will be paid to the preservation of agricultural land drainage systems. Land drainage in each field will be carefully inspected and recorded. All drains severed by the trenching operations will be identified and an appropriate method of reinstatement discussed and agreed with the landowner. Furthermore, standard subsoil and topsoil management will apply to mitigate any impact on the field margins.

The electricity cable and water pipelines will be routed within the verge of the IWMF site access road, across areas of restored quarry workings, within the public highway or along agricultural field boundaries. The land use impact associated with these works on agricultural or highway assets will be Low and short term in nature.

It is concluded that from a land use assessment perspective the EIA for the IWMF proposal and wider foreseeable developments in and around the site have been considered and assessed, and no significantly negative additional impacts have been identified.