

**EXECUTIVE SUMMARY**

<b>ES Chapter</b>	<b>Location of ES Information</b>	<b>2008 Baseline</b>	<b>2008 Impact(s)</b>	<b>2015 Baseline</b>	<b>2015 Impact(s)</b>
Chapter 3 - Construction & Operations	Presented within Chapter 3 of the original IWMF Environmental Impact Assessment 2008. Further information presented within the Regulation 19 Sections: 19.5, 19.7, 19.13, 19.14 and 19.17.	<p>Detailed overview of the proposed integrated operation is presented within Chapter 3 of the original IWMF Environmental Impact Assessment 2008.</p> <p>An Integrated Waste Management Facility comprising: Anaerobic Digestion Plant treating mixed organic waste, producing biogas converted to electricity through biogas generators; Materials Recovery Facility for mixed dry recyclable waste to recover materials e.g. paper, plastic, metals; Mechanical Biological Treatment facility for the treatment of residual municipal and residual commercial and industrial wastes to produce a solid recovered fuel; De-inking and Pulping Paper Recycling Facility to reclaim paper; Combined Heat and Power Plant (CHP) utilising solid recovered fuel to produce electricity, heat and steam; extraction of minerals to enable buildings to be partially sunken below ground level within the resulting void; visitor/education centre; extension to existing access road; provision of offices and vehicle parking; and</p>	Considered within the Environmental Statements of 2008 and 2009.	<p>No changes were proposed to the integrated operation of the IWMF at the time of submitting the extension of time application.</p> <p>Table 3-6: Change of Use application submitted against Abstraction Licences 8/37/31/*S/0215 and 8/37/31/*S/0127. Abstraction Licence Serial Number AN/037/0031/001 issued which permits a maximum annual abstraction of 250,000 m<sup>3</sup> from November to March inclusive linked to the Hands off Flow in the River Blackwater.</p>	No change from 2009.

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		<p>associated engineering works and storage tanks.</p> <p>No more than 853,000 tonnes per annum of Municipal Solid Waste and/or Commercial and Industrial Waste shall be imported to the site for processing or treatment in the IWMF plant.</p>			

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Chapter 5 - Land Use	Presented within Chapter 5 of the original IWMF Environmental Impact Assessment 2008 and Regulation 19 Section 19.11.	Risk of contamination on and within 1 km of the IWMF site unlikely. Quarrying operations ongoing to the north of the IWMF within an area known as Site R. Former airfield runway(s), an aircraft Hangar, airfield buildings, TPO woodland(s) and agricultural fields present the footprint of the IWMF.	No records of contaminated land on or within 1 km of the Site. Loss of agricultural land associated with the construction of the IWMF was 12 ha [Table 5-6]. Four fields will be affected by the IWMF, namely: Bradwell South Field, New Field (none arable), Hangar Field, and Woodhouse Field. With the exception of Bradwell South Field (which is owned by the Bradwell Hall Estate) the holding most affected by the construction of the access road and IWMF (11.5 ha), Woodhouse Farm, is owned by GFC and farmed under the terms of a farm business tenancy by neighbouring farmers. Development will result in the removal of former airfield runway(s), an aircraft Hangar, airfield buildings and sections of TPO woodland(s).	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 present the footprint of the IWMF. TPO woodland(s) present. Open Habitat area established adjacent to Woodhouse Farm and hedgerow relocated to Wayfarers Field [Compensatory and mitigation measures implemented]. Quarrying operations commenced within Site A3 and A4. No contaminated land encountered during quarrying operations.	No overall change from 2008.  Remaining sections of the TPO woodland to be removed. [Site A2 quarrying operations has resulted in anticipated loss of farm land, former runway(s), an aircraft Hangar and airfield buildings].

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Chapter 6 - Ground and Surface Water	Presented within Chapter 6 of the original IWMF Environmental Impact Assessment 2008 and Regulation 19 Section 19.9. Supplemented by Chapters 6 and 15 of the Site A2 and Site A3 and A4 Environmental Impact Assessment.	<p>The Flood Estimation Handbook (FEH, 1999) reports annual rainfall of 566 mm per year in the area of the Site. The principal surface water features in the vicinity of the Site are the River Blackwater and the River Brain.</p> <p>IWMF site underlain by Boulder Clay quaternary drift deposits overlying the London Clay and Upper Chalk. Sands and gravels sit between the Boulder Clay and London Clay.</p> <p>Groundwater vulnerability maps classify the Boulder Clay as a non-aquifer, and the Sands and Gravels as a Minor aquifer. London Clay is classified as a non-aquifer, with the Upper Chalk classified as a Major Aquifer.</p> <p>Groundwater levels within the Sands and Gravels measured across the area in 2005 range between approximately 33 m AOD and 39 m AOD.</p> <p>Variability is related to hollows in the surface of the London Clay; with the greatest saturated aquifer thickness corresponding to the hollows.</p>	<p>Minor aquifer of the Sands and Gravels will be dewatered during development (mineral extraction) potentially causing a cone of depression in the water table around the IWMF Site; and, groundwater quality is at risk of pollution from spills or leaks of fuel or oil from Site plant during the excavation and construction phases.</p> <p>Off-site flood risk low. Surface water quality at risk of pollution from spills or leaks of fuel or oil from Site plant and from increased quantities of suspended solids during the Sand and Gravel extraction and construction phases of the Site. During the operation of the IWMF, surface water quality is at risk of pollution from spills or leaks of fuel or oil from Site plant and from quantities of suspended solids arising from Site</p>	<p>Across the footprint of the IWMF, quarrying operations within Site A2 has resulted in the removal of the Boulder Clay and recovery of the Sands and Gravels. Quarrying operations have confirmed that perched groundwater is encountered within the hollows (or natural low points) that result from natural variations in the interface between the sand and gravel and London Clay.</p> <p>Restoration proposals associated with Site A2 and Site A3 and A4 has resulted in an increase in the size of New Field Lagoon. The former overflow arrangements to Bradwell Pond are no longer proposed.</p> <p>The average annual rainfall for this region of England is 577 mm, which is similar and more conservative than the average rainfall currently presented on the met office website for the period 1971 to</p>	No overall change from 2008.

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			<p>activities. There is potential for on-Site flooding from surface water runoff generated during a high return period rainfall event. The discharge must be controlled to ensure the final overflow to New Field Lagoon and Bradwell Pond will not cause on-Site or third party flooding.</p>	<p>2000 for the nearby meteorological station of Wattisham (573.8 mm). Therefore no adjustment of the annual rainfall data has been made.</p> <p>Wider geological and hydrogeological setting remains unchanged.</p>	

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Chapter 7 - Ecology	<p>Presented within Chapter 7 of the original IWMF Environmental Impact Assessment 2008. Regulation 19 Sections 19.10 and 19.11. Chapter 5 of the IWMF Addendum ES. Supplemented by IWMF Habitat Management Plan 2011, IWMF GCN Licence 2011 and Chapters 7 of the Site A2 and Site A3 and A4 Environmental Impact Assessments and Site A2 Habitat Management Plan.</p> <p>All ecological information was collated within Golder Associates (UK) Ltd letter of 8 October 2015:</p> <p>Additional Information, Appendix 1: Golder (2008) <i>Rivenhall Airfield eRCF. Appendix 7-1 Baseline Ecology Report - ESS/37/08/BTE</i>; Additional Information, Appendix 2: Golder (2009) Addendum to the Environmental Statement, Proposed Evolution of the Recycling &amp; Composting Facility at Rivenhall Airfield - ESS/37/08/BTE</p>	<p>Quarrying operations ongoing to the north of the IWMF within an area known as Site R. Former airfield runway(s), an aircraft Hangar, airfield buildings, TPO woodland(s) and agricultural fields present the footprint of the IWMF.</p> <p>The Site lies within the southern part of Natural England Natural Area 50: East Anglian Plain and within Natural England Landscape Character Area 86: South Suffolk and North Essex Claylands.</p> <p>Within the 2.5 km of the Site's boundary there are: no statutory wildlife sites; and, six Local Wildlife Sites (LWSs).</p> <p><b>Habitats and Flora</b> (within the planning application boundary): <b>Arable land</b> (7.8 ha); <b>Poor semi-improved neutral grassland</b> (4.8 ha); <b>Bare ground</b> (3.9 ha); <b>Semi-natural broadleaved woodland</b> (3.2 ha); <b>Hard standing</b> (1.9 ha); <b>Semi-improved neutral grassland</b> (1.3 ha); <b>Scrub</b> (1.1 ha); <b>Tall ruderal vegetation</b> (0.7 ha); <b>Ponds</b> (0.5 ha); <b>Airfield Buildings</b> (0.4 ha); <b>Ephemeral / short perennial vegetation</b> (0.6 ha); <b>Quarry workings</b> (0.6 ha); <b>Planted broad-leaved woodland</b> (outside the site); <b>Isolated trees</b> (mature</p>	<p><b>River Blackwater</b> (Risk of pollution. Traffic risk to otters); <b>Woodland, Scrub and Hedgerow Habitats</b> (Loss of 1.5 ha woodland and 350m species poor young hedgerow); <b>Open Habitats</b> (Loss of 14 ha of open habitat); <b>Ponds</b> (Vegetation management adjacent to ponds at Woodhouse Farm); <b>Bats</b> (Demolition and restoration of confirmed and potential roost sites. Loss of foraging habitat); <b>Barn Owls</b> (Demolition and restoration of confirmed roosts sites and potential roost and nesting sites. Loss of foraging habitat); <b>Badgers</b> (Traffic risk to badgers); <b>Great Crested Newts</b> (Risk of loss and injury to individuals during site works and vegetation management).</p> <p><b>Ecological Risk Assessment:</b> Tier Zero, Tier One and Tier Three</p>	<p>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 – leaving predominantly bare ground. TPO woodland(s) present. Some individual TPO trees removed. Open Habitat area established adjacent to Woodhouse Farm and hedgerow relocated to Wayfarers Field [Compensatory and mitigation measures implemented]. Quarrying operations commenced within Site A3 and A4.</p> <p><b>Habitats and Flora</b> The majority of the land has already been removed by continuing quarrying activities within Site A2, which sits within the footprint of the IWMF site, leaving predominantly bare ground.</p>	<p>No overall change from 2009.</p> <p>Greater protection and better habitat for Great Crested Newts as mitigation has been implemented under licence.</p>

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	<p>Additional Information, Appendix 3: Golder (2010) <i>Evolution of the Recycling and Composting Facility, Rivenhall. Condition 53 Ecology Report - ESS/37/08/BTE;</i></p> <p>Additional Information, Appendix 4: Golder (2011a) <i>Blackwater Aggregates Site A2. Appendix 7-A Ecology Baseline Report - ESS/32/11/BTE;</i></p> <p>Additional Information, Appendix 5: Golder (2011b) <i>Blackwater Aggregates Site A2. Chapter 7 Ecology Impact Assessment - ESS/32/11/BTE;</i></p> <p>Additional Information, Appendix 6: Golder (2011c) <i>Evolution of Recycling and Composting Habitat Management Plan – ESS/37/08/BTE Condition 54;</i></p> <p>Additional Information, Appendix 7: Golder (2011d) <i>Site A2 Extension Habitat Management Plan – ESS/37/08/BTE Condition 54;</i></p> <p>Additional Information, Appendix 8: Golder Associates (UK) Ltd. (2011e)</p>	<p>and semi-mature trees were present); <b>Hedgerows</b> (16 hedgerows are present, three of which are species-rich, and one of which is important under the Hedgerow Regulations 1997); <b>Running water</b> (existing access road crosses the River Blackwater); and, <b>Dry ditches</b> (along field margins).</p> <p><b>Fauna:</b>  <b>Water Vole</b> (no evidence of this species within 500 m of the Site);  <b>Otter</b> (no evidence of this species within 500 m of the Site);  <b>Reptile</b> (Habitat suitable for common reptile; slow worm and grass snake records 3.5 km northwest); <b>Bats</b> (six buildings are used by roosting bats – Pipistrelle at Woodhouse Farm, brown long-eared bats in other buildings. Common pipistrelle, soprano pipistrelle, brown long-eared bat and a possible Myotis feeding across the Site);  <b>Breeding Birds</b> (Wide range of bird species utilise and breed within the Site. One Schedule 1 species (little ringed plover); Nine red-listed species (including European turtle dove, skylark, song thrush, spotted flycatcher, common starling, linnet, common bullfinch, yellowhammer, and reed</p>	<p>assessment confirmed that the risks for wildlife were considered negligible.</p>	<p>Peripheral trees, woodland/scrub identified to be retained under the original assessment have been protected and/or will be retained as originally proposed. [1.2 ha of TPO woodland remains].</p> <p><b>Fauna:</b>  <b>Breeding Birds</b> Breeding bird diversity has reduced within IWMF area; <b>Great Crested Newts</b> A translocation out of the IWMF site to protect newts was completed under Licence from Natural England in advance of quarrying activities within Site A2. Area of Open Habitat created as compensation to loss of terrestrial habitat.  <b>Bats</b> Some of the former airfield buildings of potential interest were removed as part of the Site A2 quarrying operations following a survey and internal inspection by a licensed bat ecologist. Bat boxes were installed</p>	

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	<p>Rivenhall Airfield eRCF Great Crested Newt Mitigation Licence Application – ESS/37/08/BTE. Unpublished;</p> <p>Additional Information, Appendix 9: Golder Associates (UK) Ltd. (2013) Blackwater Aggregates, Site A2, Annual Ecological Monitoring Report 2012 – ESS/32/11/BTE Condition 36;</p> <p>Additional Information, Appendix 10: Golder (2014a) Blackwater Aggregates Site A3 &amp; A4. Appendix 7-A Ecology Baseline Report – ESS/24/14/BTE;</p> <p>Additional Information, Appendix 11: Golder (2014b) Blackwater Aggregates Site A3 &amp; A4. Chapter 7 Ecology – ESS/24/14/BTE.</p>	<p>bunting) and ten amber-listed species (including kestrel, stock dove, green woodpecker, sand martin, barn swallow, meadow pipit, yellow wagtail, dunnock, mistle thrush, and willow warbler) - UK BAP priority species: European turtle dove, cuckoo, skylark, yellow wagtail, dunnock, song thrush, spotted flycatcher, common starling, linnet, bullfinch, yellowhammer, and reed bunting. Barn owl reported to have roosted at Woodhouse Farm in 2006 and 2007 – not found in 2008); <b>Great Crested Newt</b> (2005 and 2006 surveys a small population of GCNs (maximum count of four adults) was found to be present in pond P18 at Woodhouse Farm. 2008 found small populations of GCNs at Woodhouse Farm. Presence of juveniles in 2006 and eggs in 2008 indicates a breeding population) <b>Brown Hare</b> (two brown hares were seen within the Site); <b>Badger</b> (No signs of badgers within 200 m of the Site).</p>		<p>to compensate for the loss of the buildings in and around the existing woodland adjacent to Woodhouse Farm, and will be unaffected by the IWMF development works. Woodhouse Farm Cottages (north of Woodhouse Farm) will be maintained and/or redeveloped to offer a suitable site for bat roost within the roof space or chimney of the existing buildings [This offers additional ecological mitigation proposals from those originally assessed].</p> <p><b>Barn Owls</b> Ecological surveys and monitoring of the Site A2 area and IWMF footprint (in advance and throughout the quarrying operations) indicated that Barn Owls are no longer present within the immediate area of the site.</p>	



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Chapter 8 - Landscape Visual Impact	Presented within Chapter 8 of the original IWMF Environmental Impact Assessment 2008 and Regulation 19 Sections 19.11, 19.12 and 19.15.	<p>IWMF located 1.1 km to the northeast of Silver End and 2.6 km southeast of Bradwell. Site bound to the north by an existing quarry [Site R]. Industrial land uses contained in former airfield buildings within a predominantly rural character area, consisting of arable crops in large fields, often without boundaries resulting in a very open landscape. Vegetation generally restricted to blocks of woodland. The landform around the IWMF site forms a flat plateau around 50 m AOD. Vegetation of small stature has the ability to restrict views. Limited elevated viewpoints.</p> <p>The landscape study area lies wholly within Character Area 86 'South Suffolk and North Essex Clayland'. In the Essex Landscape Character Assessment, the IWMF lies within the Central Essex Farmland (B1) Landscape Character Area with the Blackwater and Brain Valley (C6) Landscape Character Area lying to the northeast and southwest. To the northeast of the Site, coinciding with the Blackwater Valley, lies a Special Landscape Area. In the Braintree, Brentwood, Chelmsford, Maldon and</p>	<p>Loss of sections of the TPO woodland and a number of individual TPO trees.</p> <p>IWMF partly built below surrounding ground levels. IWMF buildings would be 9.75 m above surrounding ground level. AD tanks and gasometer 12 m above surrounding ground level. Most notable feature would be the CHP chimney, standing at 35 m above surrounding ground level [approximately 15 m above the surrounding tree line].</p> <p>The landscape character of the area has adapted to changes in the past and the operation of the IWMF would be a continuation of this process of change. IWMF would affect relatively few sensitive visual receptors, the closest residential property being The</p>	<p>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 present the footprint of the IWMF. TPO woodland present. Individual TPO trees within the footprint of Site A2 removed.</p> <p>Site A2 quarrying and restoration operations are delivering low-level restoration contours that blend in with the surrounding topography and could blend with the levels and planting of the IWMF.</p>	<p>No change from 2009.</p> <p>The six key objectives for the mitigation proposals have not been changed and still hold true for the proposed IWMF.</p>

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		<p>Uttlesford Landscape Character Assessment, the Site lies within the Silver End Farmland Plateau (B18), an area which is described as having a moderate to high sensitivity to change.</p>	<p>Lodge by Allshots Farm to the east of the Site. Four isolated properties assessed as experiencing slight adverse impacts during construction and the early operating years of the IWMF. Users of footpaths to the north of the Site would have similar levels of impacts with views of the former airfield being replaced with views of the front elevation of the IWMF. Views from the village of Silver End would be relatively well screened and would be over 1 km in distance. The impact from a few properties on the eastern periphery of the village has been assessed as slight adverse. The proposed mitigation measures would take time to screen the proposed building, but within 15 years, the IWMF should be screened from nearby</p>		

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			<p>visual receptors. These measures would also augment the landscape resource of the area. Crushed concrete on the double curved roof of the building would gradually be colonised with vegetation. Where the chimney extends above the surrounding woodland it will be clad in stainless steel to reflect and mirror the surrounding environment. Woodhouse Farm would be refurbished as a Visitor/Education Centre.</p>		

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Chapter 9 - Archaeology	Presented within Chapter 9 of the original IWMF Environmental Impact Assessment 2008 and Regulation 19 Section 19.15 and 19.16. Supplemented by Chapter 8 of the Site A2 and Site A3 and A4 Environmental Impact Assessment.	<p>The archaeological sites identified within the scheme area indicate that the Boulder Clay plateau was intensively utilised during the prehistoric period, despite the inherent difficulties in cultivating such a heavy soil.</p> <p>The degree of 20<sup>th</sup> century ground disturbance may be considerable, associated with the construction of the World War II airfield.</p> <p>An archaeological evaluation was carried out during September and October 2006, which revealed archaeological features and deposits dating to the Middle Iron Age, medieval and post-medieval to modern periods.</p> <p>Listed Buildings are located within and around the proposed IWMF site.</p> <p>Woodhouse Farm (Grade II) is located approximately 180 m to the northeast of the proposed IWMF.</p> <p>Remnants of the former World War II airfield runway(s), an aircraft Hangar and some airfield buildings present on site.</p>	<p>Loss of archaeological deposits surviving within the area the World War II airfield.</p> <p>Loss of the remaining World War II airfield runway(s), an aircraft Hangar and some airfield buildings.</p> <p>Redevelopment of Woodhouse Farm as a visitor and education complex linked to the IWMF.</p> <p>Potential dewatering of the Woodhouse Farm moat associated with excavation operations across the IWMF site.</p>	<p>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 archaeological features (mainly small isolated medieval foci) within the fields. Some World War II features remaining with the TPO woodland(s) and potential for other archaeological features.</p> <p>Listed Buildings are located within and around the proposed IWMF site.</p> <p>Woodhouse Farm (Grade II) is located approximately 180 m to the northeast of the proposed IWMF.</p> <p>Quarrying operations within Site A2 have not resulted in the loss of water from the Woodhouse Farm moat.</p>	<p>No overall change from 2008.</p> <p>Remaining sections of the TPO woodland to be removed along with remnants (building foundations and access roads) of the former World War II airfield.</p> <p>[Site A2 quarrying operations has resulted in the recording of archaeological features across the site and increased understanding of the site's setting].</p>

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Chapter 10 - Transport	Presented within Chapter 10 of the original IWMF Environmental Impact Assessment 2008 and Regulation 19 Section 19.8. Supplemented by Chapter 10 of the Site A2 and Site A3 and A4 Environmental Impact Assessment.	<p>All access to and from the IWMF site via the A120. Proposed site access road crosses Church Road and Ash Lane.</p> <p>Manual Link Count data was collected on the A120 in 2005. Site access road Manual Turning Counts were conducted in 2006. TEMPRO/NRTF growth factors [Table 10-2] calculated for the Opening Year (2012) and the Forecast Year (2022) applied in analyses. . In submissions to the Highways Agency during the determination period of the planning application junction capacity assessments, which assessed the cumulative impact of the IWMF, the quarry and background traffic growth on the A120, were undertaken for a design year of 2025 and demonstrated that the site access junction with the A120 would operate acceptably.</p> <p>Personal Injury Accident data obtained for the local road network, including the A120, Church Road and Ash Lane for a three year period from May 2005 to April 2008 [Three accidents].</p>	IWMF will attract 404 HGV movements per day (202 in and 202 out).	<p>Site A2 and Site A3 and A4 assessments, which included undertaking new traffic counts in 2013, indicate that traffic movements along the existing site access road reduced from 2006 due to recession [Table 10.2].</p> <p>Highway Agency requirements for future year junction capacity assessments relaxed from 15 years to 10 years since the submission of the junction capacity assessments associated with the IWMF planning application.</p> <p>Original IWMF junction capacity assessments, for the design year of 2025, confirmed to represent the most reasonable worst case scenarios derived to date.</p> <p>Personal Injury Accident data obtained for the period 2006 to 2011 for Site A2 [Three further accidents] and 2010 to</p>	No change from 2008.

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				<p>2013 for Site A3 and A4 [Three further accidents].</p> <p>The most recent Personal Injury Accident data contained on the 'Essexworkstraffweb' website shows that between September 2013 and October 2015 there were two additional recorded Personal Injury Accidents on the A120 within the vicinity of the site access junction but no accidents at the haul road crossings of Church Road or Ash Lane.</p>	

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Chapter 11 - AQIA	Presented within Chapter 11 of the original IWMF Environmental Impact Assessment 2008. Regulation 19 Section 19.6. Chapter 2 of the IWMF Addendum ES.	<p>All residential properties within 1 km of the IWMF modelled [Table 11-5] along with an additional fifteen discrete receptors [Table 11-6].</p> <p>The closest receptor downwind of the IWMF (southwesterly prevailing winds) is Woodhouse Farm.</p> <p>The closest footpath lies approximately 150 m to the east (Footpath No. 8).</p> <p>Three County Wildlife Sites (CWSs) located within a 3km radius around the Site and nine statutory nature conservation areas located within 10 km.</p> <p>Nearest meteorological data station is London Stansted Airport, 30km west of the Site. Braintree District Council has no Air quality Management Areas.</p> <p>The estimated existing and future background air quality in the vicinity of the Site obtained from the National Environmental Technology Centre.</p> <p>Braintree District Council carries out local monitoring of nitrogen dioxide and particulate matter in the district. No background</p>	<p>2009 assessment considered: multiple flues from the CHP and gas engines encased within a single CHP stack shroud with a height of 35 m; a single effective flue CHP stack (with the combined CHP and gas engine exhaust emissions) with a height of 35 m; and an assessment of plume visibility.</p> <p>The assessment concluded that the proposed IWMF will not have a detrimental impact on air quality with no visible plumes predicted to be emitted from the stack.</p>	<p>No change in residential properties within 1 km of the IWMF. The closest receptor downwind of the IWMF (southwesterly prevailing winds) is Woodhouse Farm. The closest footpath lies approximately 150 m to the east (Footpath No. 8).</p> <p>Three County Wildlife Sites (CWSs) located within a 3 km radius around the Site and nine statutory nature conservation areas located within 10 km.</p> <p>Nearest meteorological data station remains as London Stansted Airport. Braintree District Council has continued to carry out local monitoring of nitrogen dioxide and particulate matter in the district. Annual mean PM<sub>10</sub> concentration of 19.2 µg/m<sup>3</sup>.</p> <p>Further baseline meteorological and air</p>	<p>The original assessment concluded that the proposed IWMF will not have a detrimental impact on air quality with no visible plumes predicted to be emitted from the stack.</p> <p>This conclusion remains valid.</p>

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		<p>monitoring of carbon monoxide or other pollutants was undertaken.</p> <p>PM<sub>10</sub> monitoring in Braintree town centre (8 km to the north west of the Site) - Annual mean PM<sub>10</sub> concentration of 19.3 µg/m<sup>3</sup> with a maximum in a 24 hour period of 64.6 µg/m<sup>3</sup>. Additional monthly monitoring of NO<sub>2</sub> and SO<sub>2</sub> dioxins and furans at thirteen locations carried out by Golder Associates (UK) Ltd in the vicinity of the Site.</p>		<p>quality monitoring results available [2009 to 2013].</p> <p>No overall change in local air quality.</p>	
Chapter 12 - Noise	Presented within Chapter 12 of the original IWMF Environmental Impact Assessment 2008. Supplemented by Chapter 12 of the Site A2 and Site A3 and A4 Environmental Impact Assessment.	<p>Background noise survey carried out at Gosslings Cottage, Herons Farm, The Lodge and Sheepcotes Farm over a 24 hour period.</p> <p>Originally considered that quarrying operations would cease in 2022.</p> <p>Noise levels at sensitive locations already conditioned and controlled by existing quarrying operations. Routine noise monitoring carried out around the site.</p>	No significant impact in terms of noise for the proposed daytime [combined with quarrying operations] and night time operation of the IWMF.	Quarrying operations will continue past 2022 within 'preferred' and 'reserve' sites for mineral extraction within the 2014 Minerals Local Plan. No change in baseline noise conditions [quarrying operations progressing in a phased and systematic manner in a continual transient manner].	No change from 2008.



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<i>Chapter 13 - Social Impact Assessment</i>	Presented within Chapter 13 of the original IWMF Environmental Impact Assessment 2008.	The Site is located within the District of Braintree, north east Essex. Braintree District is the second largest in Essex and is largely rural in character. Almost half of the population lives in villages (134,896 mid-year population estimates 2003). There are three main towns in the District of Braintree, namely Halstead, Witham and Braintree and 62 village parishes.	<p>IWMF will contribute positively to the regional targets and strategies for economic development and waste management.</p> <p>Some positive impacts on local socio-economic development, district rural and/or local community plans; positive contribution to some elements of these local development strategies.</p>	<p>IWMF Site Liaison Group has been set up and comprises representatives of Essex County Council, Braintree District Council, the Environment Agency, Rivenhall, Silver End, Bradwell, Coggeshall, Kelvedon and Feering Parish Councils, and the local Community Group.</p> <p>Government Grant Funding to Braintree District Council for day to day spending has reduced by £2 Million over the past four years.</p> <p>Braintree District Council has to make savings of up to £3.34 Million by 2020.</p>	<p>No overall change from 2008.</p> <p>Once the IWMF is operational, the Community Trust Fund would receive up to £42,650 per annum to fund local community projects.</p> <p>Preliminary assessment indicates the IWMF would pay &gt;£1 Million in Business Rates to Braintree District Council when operational.</p> <p>An Education Officer will be available at the Woodhouse Farm Visitors Centre.</p>

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Chapter 14 - Nuisance Impact Assessment	Presented within Chapter 14 of the original IWMF Environmental Impact Assessment 2008. Supplemented by Chapter 14 of the Site A2 and Site A3 and A4 Environmental Impact Assessment.	<p>Quarrying operations ongoing to the north of the IWMF within an area known as Site R. Former airfield runway(s), an aircraft Hangar, airfield buildings, TPO woodland(s) and agricultural fields present the footprint of the IWMF.</p> <p>All residential properties within 1 km of the IWMF assessed [Table 14-1]. The closest receptor downwind of the IWMF (south westerly prevailing winds) is Woodhouse Farm.</p> <p>The closest footpath lies approximately 300 m to the south (Footpath No. 8). Three County Wildlife Sites (CWSs) located within a 3km radius around the Site and nine statutory nature conservation areas located within 10 km.</p>	The operational measures to be employed were proved to be appropriate to minimise and control the sources of nuisance such as: air emissions; dust and particulate matter; bioaerosols and odour; litter, insects, vermin and birds; and, light pollution [Section 14.5.5]. The risk assessment concluded that potentially sensitive receptors were unlikely to be at risk from nuisances from the Site.	<p>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 – leaving predominantly bare ground. TPO woodland(s) present. Some individual TPO trees removed. Open Habitat area established adjacent to Woodhouse Farm and hedgerow relocated to Wayfarers Field [Compensatory and mitigation measures implemented]. Quarrying operations commenced within Site A3 and A4.</p> <p>The IWMF's location, site boundary, planning application area and surrounding site setting remains largely unchanged [i.e. no change in residential properties within 1 km etc] from that originally assessed.</p>	No overall change from 2008.

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Chapter 15 - Human Health	Presented within Chapter 15 of the original IWMF Environmental Impact Assessment 2008. Regulation 19 Section 19.6. Chapter 3 of the IWMF Addendum ES.	<p>IWMF located on Rivenhall Airfield between the villages of Bradwell (northwest 2.6 km), Silver End (southwest 1.1 km), Rivenhall (south 2.3 km), Coggeshall (northeast 2.8 km) and Kelvedon (southeast 3.4 km).</p> <p>HHRA considered the operation of the IWMF at maximum capacity with emission through the chimney at the proposed design height of 35m above existing ground level.</p> <p>A number of receptors identified surrounding the Site that represented potential pollutant linkages through which deposited contaminants could enter the human food chain [Table HHRA 5]. Identified farming activities included grain, root vegetables, above ground vegetables, chicken and egg production. Fishing of the River Blackwater (1.5 km to the north) or an un-named pond (1 km to the northeast) not considered as appropriate exposure scenario.</p> <p>Air dispersion and deposition modelling [Chapter 11 (2008) and Chapter 2 (2009)] used as source input values in the HHRA.</p>	<p>Results for PCDDs, PCDFs, metals and metalloids demonstrate that their estimated daily exposures do not exceed the published health effect criteria.</p> <p>The predicted levels of PCDD, PCDF, metals and metalloid exposure from the IWMF are unlikely to result in unacceptable risks to identified human receptors within the local area.</p>	<p>No change in residential properties within 1 km of the IWMF. The closest receptor downwind of the IWMF (south westerly prevailing winds) is Woodhouse Farm. The closest footpath lies approximately 300 m to the south (Footpath No. 8).</p> <p>Bradwell Trout Farm approximately 1.5km to the north of the IWMF which produces rainbow trout exclusively for the restaurant and catering trade [supply is limited]. Highly unlikely that any fish caught would make up a significant proportion of the local community's diet.</p> <p>Bradwell Trout Farm considered but screened out of the HHRA.</p>	<p>No overall change from 2009.</p> <p>No change in the overall health risks resulting from the IWMF's operation.</p> <p>IWMF will not result in appreciable health risks resulting from its operation.</p>

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		<p>Potential contaminants considered within the assessment included comprised 17 polychlorinated dibenzo-p-dioxin (PCDDs) and polychlorinated dibenzofuran (PCDFs) congeners; and 12 metals and metalloids (Cadmium, Thallium, Mercury, Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium).</p> <p>Greatest predicted deposition rates and maximum predicted annual ambient air concentrations were used within the HHRA model.</p>			

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Water Abstraction & Discharge Mains	Presented within Chapter 3 of the original IWMF Environmental Impact Assessment 2008.	Licensed surface water abstraction points presented within Table 3-6 - Abstraction Licences 8/37/31/*S/0215 and 8/37/31/*S/0127. The use of the abstraction licences was subject to a 'Change of Use' application to the Environment Agency.	Pipeline(s) would be installed by Statutory Undertakers along field boundaries or within road verge within narrow trench.	<p>Change of use application submitted.</p> <p>Abstraction Licence Serial Number AN/037/0031/001 permits a maximum annual abstraction of 250,000 m<sup>3</sup> from November to March inclusive linked to the Hands off Flow in the River Blackwater. The purpose of the abstraction licence is confirmed for the filling of reservoirs for the subsequent purpose of process water for waste treatment, processing and recycling.</p> <p>An application for the renewal of the existing abstraction licence will be submitted to the Environment Agency before 31 December 2015.</p> <p>Any abstraction point in the River Blackwater, if permitted, would comprise an underground structure that would be constructed in</p>	No significant environmental impact will occur as a result of these works.

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				<p>accordance with any future Flood Defence Consent application which would have to be approved by the Environment Agency before any abstraction occurred.</p> <p>Any future discharge application must comply with the European Water Framework Directive whereby the discharge must not have a detrimental effect on the receiving water quality (i.e. it must be of an equivalent or cleaner standard than the existing water course).</p> <p>Any application for an abstraction or discharge licence must be made to the Environment Agency,</p>	

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Electricity Cable to National Grid	Presented within Chapter 3 of the original IWMF Environmental Impact Assessment 2008. Regulation 19 Section 19.5.3	<p>EDF confirmed that:</p> <p><i>In accordance with the Electricity Act 1989, the Utilities Act 2000, and other relevant Statutes, EDF Energy as a licensed Distribution Network Operator, is obliged to provide a connection to its electricity distribution network for the transmission of electrical power to or from the customers premises. This connection would be provided at the most economic cost to the customer. Large capacity connections requiring system reinforcement and/or extension would potentially be more expensive than simple schemes and be likely to take longer to provide.</i></p> <p>Most likely connection point at that time was near Coggeshall.</p>	<p>Cable would be installed by Statutory Undertakers along field boundaries or within road verge in narrow trench.</p> <p>Short term transient impacts associated with disturbance along Cuthedge Lane and field boundaries on land under the applicant's control.</p>	Statutory Undertaker [now UKPN] has confirmed the connection point at the Braintree Sub-Station.	<p>No overall change.</p> <p>Cable would be installed by Statutory Undertakers along field boundaries or within the road or road verge in narrow trench.</p> <p>Short term transient impacts associated with disturbance along the cable route.</p>

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IWMF Earthworks	Presented within Chapter 3 of the original IWMF Environmental Impact Assessment 2008 [Section 3.6.3 and 3.9.3]. Supplemented by the Site A2 and Site A3 and A4 Environmental Impact Assessments.	<p>Quarrying and restoration operations ongoing within Site R to the north of the IWMF site.</p> <p>To reduce the visual impact of the IWMF, prior to its construction, overburden materials will be excavated and removed lowering it at least 11 m below ground level.</p> <p>Overburden soils excavated from the Site will either be used within the construction of the IWMF or transported from the Site for use within other construction works, land reclamation or environmental improvement schemes.</p> <p>Sand and gravel either used in the construction of the IWMF, exported to Bradwell Quarry for screening and processing or transported off site for use in other construction projects as 'as-raised ballast'.</p>	The Transport Assessment [Chapter 10] considered that all materials would be excavated and transported from site via the A120.	<p>Quarrying and restoration operations across Bradwell Quarry are focussed across three working areas, namely: the former Site R [New Field], Site A2 and Site A3 and A4.</p> <p>Within the 'Site specific issues to be addressed' for Sites A2, A3 and A4 of the Mineral Local Plan, it is noted that:</p> <p><i>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.</i></p> <p>Subject to the implementation of the IWMF, the integrated use and retention of the overburden and restoration soils within</p>	<p>No overall change from 2008.</p> <p>Indigenous restoration soils excavated from the footprint of the IWMF, would be relocated and stockpiled across New Field in a planned and systematic manner over a 6 to 8 month period. As the stockpile is created, to maintain continuity of the existing quarrying operations, particularly the provision of a sustainable water supply to the screening and washing plant, a temporary lagoon would be created within the former Site A2 quarry 'Sheepcotes Lagoon'.</p>



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				<p>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. The creation of the 'New Field Stockpile' and the formation of the temporary 'Sheepcotes Lagoon' could be integrated within the overall restoration scheme of Bradwell Quarry [This will be subject to a separate application by Blackwater Aggregates].</p>	