



**RIVENHALL INTEGRATED WASTE MANAGEMENT FACILITY  
CABLE AND WATER MAIN CONNECTIONS LVA**

**Prepared for Gent Fairhead & Co Limited**

**by**

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# **1 INTRODUCTION**

## **1.1 Background**

1.1.1 This report has been prepared by Hankinson Duckett Associates on behalf of Gent, Fairhead & Co Ltd (GFC). It is understood that this report will form part of a Regulation 22 Addendum ES to be submitted to both Essex County Council (ECC) and the Planning Inspectorate in response to the latter's request for further information dated 13 November 2015 regarding Gent Fairhead & Co Limited's Appeal No APP/Z1585/W/15/3053088, in respect of an extension of time to implement its planning permission No ESS/55/14/BTE for the Integrated Waste Management Facility (IWMF) at Rivenhall Airfield.

1.1.2 This report presents the landscape considerations of an up to date environmental assessment of the IWMF proposals and a cumulative impact assessment for the IWMF alongside a number of other foreseeable developments, the details of which have been provided by GFC, and summarised as follows:-

- Services Connections:
  - Electricity Grid Connection Underground Cables;
  - River abstraction/discharge pipelines;
- Mineral extraction and restoration;
  - On-going operations Sites A2, A3 & A4;
  - New Field Stockpile and Sheepcotes Lagoon;
- Local Development Framework Projects

1.1.3 The overall objectives of this study are to provide an updated baseline to the current Environmental Statement (ES), in order to bring this up to date, including an updated Cumulative Impact Assessment (CIA) that assesses the foreseeable developments as listed above. In order to complete this, a new site inspection/baseline review and study was undertaken along the alternative routes for the services connections, in association with GFC representatives and other specialist consultants.

1.1.4 The specific objectives of the review of the alternative services route were as follows:-

- To undertake a desk and field review of three proposed services routes;
- To advise on any major constraints which might affect the route options;
- To advise on any more minor constraints which might require mitigation and to identify that mitigation.

## **1.2 Experience at Rivenhall Airfield**

1.2.1 This report has been prepared by Christine Marsh who has been involved in providing landscape and visual assessment work, monitoring and advice to GFC and its associate quarrying company Blackwater Aggregates since 2006, particularly for the RCF, eRCF applications and s73. Christine therefore has extensive knowledge of the site and its

proposals and was the expert landscape and visual witness at the 2009 inquiry for the IWMF.

### **1.3 Report Structure**

1.3.1 This report is a supplement to the Landscape and Visual Impact Assessment (LVIA) which was originally prepared as Chapter 8 of the ES for the IWMF at Rivenhall Airfield, north-east of the village of Silver End, east of Braintree in West Essex, on behalf of GFC. The LVIA, dated August 2008, was prepared by Golder Associates to support Planning Application No ESS/37/08/BTE which was submitted on 28 August 2008. The IWMF was granted planning permission by the Secretary of State following a Public Inquiry (appeal ref: APP/Z1585/V/09/2104804) on 2 March 2010.

1.3.2 This supplementary statement provides a baseline assessment for the proposed route of the electricity cable connection, and two potential routes for the water supply pipelines (to the existing licenced abstraction position; and, to a new and alternative location for which an application will be submitted to the Environment Agency over the coming weeks), to and from the proposed IWMF. The statement also considers the cumulative impact of these connections in conjunction with the IWMF. The statement has been prepared by Hankinson Duckett Associates and by the same author as the original LVIA. This statement has been based upon a desk-based study of the area, and though a site visit has not been undertaken specifically for the grid connection, the area was visited during the preparation of the original ES and throughout 2014 and 2015 to support the recent section 73 application and the submission of details.

## **2 BASELINE ENVIRONMENT**

### **2.1 General Description of Underground Electricity Cable Connection Route**

2.1.1 The proposed underground electricity cable connection would extend approximately 8.5km from the IWMF to connect into the existing electricity substation at Galley's Corner on the south-eastern outskirts of Braintree. For the initial 2.2km of its length (from the IWMF's sub-station), the cable would be laid in the verge of the site access road. From the point where the site access road crosses Ash Lane, the cable would head in a westerly direction along Ash Lane towards the hamlet of Perry Green. At the Perry Green junction, the cable would head southwards along Links Road. Approximately 140m from the junction with Boars Tye Road (to the south of Links Cottage), the cable would head to the north-west across agricultural land, lying to the south of an existing hedgerow for about 200m, and would then be aligned due north along the western side of the parish boundary between Bradwell and Cressing. The cable would then head due west for about 200m along the northern boundary of The Bungalow to join Lanham Green Road. This 600m length of underground cable between Links Road and Lanham Green Road would be laid through agricultural land.

2.1.2 From The Bungalow on Lanham Green Road, the cable connection would run northwards within the field to the east of the Cressing Water Reservoir and then head south-west across the road and through agricultural land along the northern boundary of the reservoir to join Lanham Farm Road (a private road and track). The cable would follow Lanham Farm Road in a north-westerly direction past Lanham Manor Farm until almost opposite Lanham Farm Cottages, where it would be laid in the field to the south of the lane-side hedgerow rather than being in the track itself. Reaching the eastern-most corner of Lanham Wood, the cable connection would head south-west along the south-east edge of the wood alongside Footpath 74-23. (The works will be offset a safe distance from the public right of way thereby avoiding the need for a temporary closure and/or diversion of the footpath). At the northern end of the garden to Stacey's Farm (on Ashes Road), the cable would head westwards through the existing hedgerow to run along the north-western boundary of the farm to join the minor road of Long Green/Ashes Road. Between Stacey's Farm and Sandiacres, the cable would be laid in the field to the north of Long Green/Ashes Road. At Sandiacres, the cable would cross to the southern side of Long Green to be laid in the field to the north-east corner of the property of Half Acre. From this point on Ashes Road/Long Green, the cable would be laid along one side of the carriageway.

2.1.3 At the junction of Long Green with the Galley's Corner roundabout formed between the B1018 and A120, the cable would run down the wide verge on the eastern side of the B1018. From the south-west corner of the Braintree Garden Centre, the cable would continue south-west along the southern verge of the B1018 to connect into the substation to the west of the 90° bend of the Braintree Road into Tye Green.

## **2.2 General Description of River Abstraction and Discharge Pipeline Routes**

### *Existing Licence Abstraction Location (Coggeshall Bridge)*

2.2.1 The existing river abstraction license (Serial Number AN/037/0031/001) is located at the footbridge over the River Blackwater on the former access road to the former Coggeshall Sand and Gravel Pit (adjacent to Footpath No 72/33). If GFC ultimately connects to this point, through its shared ownership of Blackwater Aggregates, it would be able to route the pipeline through land entirely under its control. The abstraction pipeline would be installed within a single pipeline trench (1.0m wide) and will include one 90mm abstraction main.

2.2.2 Initially, the pipeline would pass beneath the old concrete access road into Coggeshall Pit. It would then run along the northern edge to the restored quarry up to Cuthedge Lane.

2.2.3 Passing under Cuthedge Lane, the pipeline would continue south-westwards alongside the edge of the field boundary (adjacent to Herons Farm), and across the restored Site R quarry, avoid new planting, proposed landscaping and hedgerows, until it reached the IWMF site access road, to the south-east of Maxey's Spring. On this basis, 1.7km of pipeline would be laid in agricultural fields.

*Proposed (Alternative) Abstraction and Discharge Pipeline(s)*

2.2.4 The alternative pipeline route is based on a design and application that GFC may make in the next few weeks, (although we understand from GFC that the operation of the IWMF is not dependent upon this scheme). As an alternative abstraction and discharge proposal, it would result in the improved management of water to and from the River Blackwater and the IWMF. The abstraction and discharge pipelines would be installed within a single pipeline trench (1.6m wide) and will include two abstraction mains (one at 90mm diameter and one at 225mm diameter) and one discharge main (at 90 mm diameter).

2.2.5 The proposed (alternative) abstraction and discharge point(s) would be constructed on the River Blackwater approximately 300m downstream and to the east of the existing site access road Bailey Bridge that crosses the River Blackwater, just south of the A120. From this point southwards and south-eastwards the pipeline(s) would either be laid in the existing and/or proposed site access road verge for the whole of its remaining length to the IWMF, or alongside the existing hedgerow and field boundary from the Bailey Bridges to Church Road. Where the proposed abstraction and discharge pipeline(s) cross Church Road and Ash Lane, they would be installed using trenchless technologies (i.e. directionally drilled) to avoid the need for temporary road closure (s) and/or diversion(s).

## **2.3 Landscape Character**

2.3.1 The extent of the cable and the abstraction and discharge pipelines or water main connections lie within National Character Area No 86 'South Suffolk and North Essex Clayland' as described in the LVIA chapter of the ES (paragraph 8.2.2.1), and at the regional level, the connections lie within Landscape Character Area B1, 'Central Essex Farmlands', with Area C6 'Blackwater/Brain/Lower Chelmer Valleys' coinciding with the northern extent of the access road to the IWMF and hence with the routes of the water main connections. Within the District's character assessment, only the urban area associated with Braintree lies outside Landscape Character Area B18 Silver End Farmland Plateau (refer to boundary line as shown in green on Plan HDA CC05).

## **2.4 Visual Receptors**

2.4.1 The proposed cable and water main connections would generally be routed along the access road to the IWMF, along minor roads and through agricultural land. Potential visual receptors would therefore be users of the roads and public rights of way through

the area, or private residents in those properties that lie adjacent to the proposed routes of the connections, such as the following:

- Ash House on Ash Lane;
- Properties at Perry Green, including Periwinkle Hall, The Bungalow and to a lesser degree, Hill House and Perry Green Farmhouse;
- Properties along Links Road, including Nos 1 & 2 Jubilee Villas, Silver Birches, Bromans, Pine Side, Paigles and Link Cottage;
- Properties at Lanham Green, particularly The Bungalow and to a lesser degree, the Council Houses;
- Lanhams on Lanham Farm Road and Nos 1-4 Lanham Farm Cottages; and
- Properties on Ashes Road/Long Green, including Stacey's Farm, Poplar Cottage, Burley, St Edmunds, Sandiacres, Half Acre and Fowler's Farm.

## **2.5 Landscape Designations and Other Landscape Elements**

2.5.1 The Braintree District Local Plan Review (BLPR) was superseded by the Core Strategy (CS) in September 2011 and Appendix 1 of the CS lists those BLPR policies that have been replaced by CS policies. Policy RLP79 regarding Special Landscape Areas (SLA) has been replaced by Policy CS8 Natural Environment and Biodiversity. The SLA covers the northern part of the study area, thus it encompasses the northern half of the site access road, Ash Lane and most of the existing licenced water main connection. Policy RLP78 regarding Countryside Protection has been replaced by Policy CS5 on Countryside. In Appendix 1 of the CS, there is not a direct replacement for Policy RLP87 on Protected Lanes, which includes Ash Lane (crossed by the site access road and along which the proposed cable connection will run) and Cuthedge Lane (crossed by the existing licenced water main connection).

2.5.2 Other planning policy considerations are located at the western end of the cable connection route. Plan HDA CC05 shows the extent of Tye Green village envelope, which lies a minimum of 250m to the south of the route's connection into the existing substation. The A120 defines the extent of the Town Development Boundary (Policy RLP2, 3 and 4), though the proposed route of the cable connection would lie wholly outside this policy area. The area at Galleys Corner between Braintree and Tye Green is subject to Policy RLP 58, Special Policy Area designation (refer to orange area as shown on Plan HDA CC05. Within this area:

*“very strict control will be exercised over development in this area, in order to limit the spread of the built up area of Braintree and to prevent the coalescence of Braintree and Tye Green. Within this area development will be restricted to the following categories of uses:*

1. *Transport related development – motorists' café/restaurant, overnight accommodation, petrol filling station;*
2. *The existing garden centre and ancillary uses;*
3. *The existing established haulage depots at Long Green.*

*Buildings will not be permitted to cover any more than 20% of the site area. The improvement of this area by substantial planting and landscaping will be a requirement of any permission that is granted.”*

2.5.3 Listed buildings in the vicinity of the cable and water main connections include the following:

- Woodhouse Farm (within the red line boundary of the IWMF);
- Holy Trinity Church, Bradwell - 150 metres to the east of the site access road;
- An ancillary building 50m to the south-east of Bradwell Hall - 180 metres to east of site access road;
- Perry Green Farmhouse and a barn - 85 metres to the west of the cable connection route at the junction of Ash Lane and Links Road;
- Silver Birches adjacent to the west side of Links Road;
- Fowler’s Farm at the junction of Long Green and the B1018;
- Grigg’s Farm located to the south of Stane Street – 260 metres north-east of the existing water abstraction point; and
- The Lodge and The Barn at Whiteshill Farm – 270 metres east of the proposed water abstraction/discharge point.

2.5.4 Link’s Wood to the south of Links Road and Lanham Wood to the north-west of Lanham Green are both listed on Natural England’s Inventory of Ancient Woodland. Records of trees subject to Tree Preservation Orders are not available electronically, therefore at the detailed route design stage for the cable and water main connections, the local planning authorities records will need to be checked.

### **3 ENVIRONMENTAL STATEMENT: POTENTIAL EFFECTS ON LANDSCAPE AND VISUAL RECEPTORS**

#### **3.1 Cable and Water Main Connection Proposals**

3.1.1 A general description of the routes for the cable and water mains connections is given above (Section 2.1). Outline activities associated with the connections would include site clearance, site establishment, the construction phase and operational phase.

3.1.2 The electricity cable will installed within a trench 1m in width and 1.025m deep within the highway or 1.275m deep within agricultural land. A minimum 6.5m working corridor will be required by the cable installation teams along the line of the cable route. Similarly the water main(s) will be installed within a trench either 1m in width to the existing licenced water abstraction point or 1.6m to the proposed [alternative] abstraction and discharge point(s). During the excavation of the trenches, arisings will be stored adjacent to the working area(s) for reuse as backfill. Across areas of agricultural land sub-soil will be carefully stored separately from the topsoil for reuse and reinstatement purposes.



Particular attention will be paid to the preservation, maintenance and reinstatement of agricultural land drainage systems.

- 3.1.3 Pumping chambers will comprise below ground structures which will be installed outside the approximate extent of the flood plain, with abstraction points (and discharge) located adjacent to the River Blackwater.
- 3.1.4 The construction period for the proposed cable and water main connections are currently anticipated to take approximately 6 months to complete, inclusive of commissioning. The current timeframe is that the IWMF could be fully operational by 2019 at the earliest. Construction work for the connections will usually be programmed for the summer months when climatic conditions are more favourable, ground conditions should be at their driest and water levels at their lowest. To minimise disturbance to farmland during construction, routes adjacent to field boundaries, on the margins of fields, have been chosen.
- 3.1.5 Reinstatement of the surface of the land will be carried out as soon as practicable following installation of the cable or water main connection. This will include subsoiling where required and spreading of the stored topsoil. Permanent cable and water main markers will be installed at agreed locations, generally at the edges of fields or other enclosed areas, to minimise interference with normal agricultural or other commercial activities.
- 3.1.6 Once the construction phase is complete and the cable or water main is in service, its presence should have no significant effect on the land. The connections should not require regular maintenance, though some surveillance will be required necessitating occasional inspection by foot patrols. There will be restrictions on building works and tree growth within the 'connection easement'. This will protect the cable or water main, though land over the route can continue to be used for normal agricultural operations except where a farmer intends to carry out any activity which involves working the soil to a significant depth near the cable or water main.

## **3.2 Landscape Impact Assessment**

### *Impact on Landscape Character*

- 3.2.1 The effects of the proposed cable and water main connections on landscape character have been assessed in the context of the existing condition of the receiving landscape at a baseline of November 2015 (rather than June 2008, which was the baseline for the original LVIA). This assessment will consider the degree of change from the conditions on site as they currently exist to determine the impact of the proposed cable and water main connections.

3.2.2 The published regional landscape character assessment for the area (Essex LCA, 2003) describes the sensitivity of the Central Essex Farmlands landscape character area as low. The landscape has demonstrated that it is able to tolerate change, albeit temporarily, with the ongoing extraction of minerals at Bradwell Quarry. The proposed restoration schemes for the Quarry in combination with the IWMF, will replace some of the distinctive qualities that contribute to landscape character. The magnitude of change on the local landscape resulting from the proposed cable and water main connections would be minimal. There would be disturbance to an extensive tract of land during the construction of the cable and water main connections, however the dimensions of the trenches to be dug are relatively small. Once the surface area of the trenching works has been restored to its former land use, the existence of the connection would be barely perceptible. The significance of effects on landscape character at completion of the works would therefore be negligible.

3.2.3 In the vicinity of Bradwell Quarry and the former Rivenhall airfield, the local landscape character was described in the original LVIA as industrial, with some landscape features being incongruous with the surrounding rural characteristics (such as the restored landform resulting from the low level restoration of the adjacent quarrying operations, former airfield buildings, local industrial areas such as the Polish Site and scrapyards etc.). The sensitivity of the landscape to the type of development proposed has been assessed as 'Low'. The landscape character of the study area has been able to accept large degrees of change arising to date from wider quarrying operations, so the changes now suggested (although part of the permitted changes that would result from the construction of the IWMF), would be minimal, a small additional change in a series of planned and approved changes. An underground cable would be introduced into a landscape that is already crossed by services, so it would not be out of keeping with the current character. Any disturbance to the fabric of the landscape would be reinstated with new, replacement hedge planting or enhancement of existing habitats.

#### *Impact on Landscape Resource*

3.2.4 Impacts on existing vegetation that would result from the excavation of the trenches for the proposed cable connection and water mains would be minimised as much as possible through careful route selection and design. Where the connection routes would be along the site access road, adopted minor roads and private farm tracks, the trench would be positioned below the surfacing of the road/track to reduce disturbance to verge-side vegetation; therefore, it is unlikely that Root Protection Areas (RPAs) for some roadside trees will be affected by the trench excavation if it is located in the centre of the road and offset for existing verge drains and ditches. No mature trees will be removed as a result of the proposed cable and water main connections.

3.2.5 The cable connection would cut through existing hedgerows at only six locations as follows:

- South of Links Cottage, though there is an existing field entrance that could be utilised in this location;
- At either end of the northern boundary of Crossing Water Tower where the cable route would join Lanham Green Road and Lanham Farm Road;
- Opposite Lanham Farm Cottages;
- At the northern end of the garden of Stacey's Farm; and
- South of Sandiacres where the cable join would join Long Green.

3.2.6 Given that the working width for the cable installation will be a minimum width of 6.5m, the maximum loss of existing hedgerow lengths from these locations will be approximately 40-50m. At these locations, replacement hedgerow plants would be planted to infill, over time, any gaps formed during the construction of the cable route.

3.2.7 The route of the cable connection would lie adjacent to two main blocks of woodland, Link's Wood and Lanham Wood, both of which are ancient woodlands. Although the cable connection would not be routed directly through these woods, Natural England's standing advice is that no works should be carried out within 15m of the boundary of ancient woodlands. The NJUG methodology for working within RPAs would equally apply to trenching works along the edge of the two ancient woodlands. Barrier fencing would be erected along the boundary of the ancient woodland for the duration of the construction phase to ensure no unauthorised access into the woods.

#### *Summary of Landscape Impacts*

3.2.8 Any impacts on landscape character and resources would be short-lived, restricted to the construction phase of the cable and water main connections when land uses will be subject to temporary disruption. Once the services are in operation and the surface cover reinstatement works have had time to become established or hard surfacing materials have weathered a little, the connections would be barely perceptible. The significance of effects of the connections on the landscape has therefore been judged to be negligible. Similarly, there would be no long-term landscape impacts on the wider landscape (the 'North Essex Claylands').

### **3.3 Visual Impact Assessment**

3.3.1 The proposed cable and water main connections would not, in visual terms, be noticeable once the ground over them has been reinstated. The excavation works for the trench would be the only visible phase of the works.

3.3.2 The existing network of hedgerows and woodland along the proposed cable and water main connections would provide screening of the works from the wider landscape, with any potential impacts being restricted to localised areas, for example, where the works would be in close proximity to identified sensitive visual receptors such as users of public roads and PROWs, and private residential properties adjacent to the connections.

3.3.3 It is considered unlikely that the visual impacts on each receptor group arising from the proposals would be high. Over twenty properties immediately adjacent to the routes of the connections would be the only residential receptors (private views) likely to experience adverse levels of visual impact and only during the transient construction phase, with direct impacts, i.e. when construction works are taking place within the immediate vicinity of the property limited to a few days. Most of the properties adjacent to the route of the connections are located behind roadside fences or hedgerows, which would help to screen the majority of the construction activities. Visual impacts for residents are therefore considered to be Negligible. The assessment of visual effects on users of public footpaths (and roads) is also unlikely to be adverse.

3.3.4 In summary, it is assessed that low levels of visual impact would be experienced only during the construction phase of the cable and water main connections for visual receptors in close proximity of the connections. Once in operation and reinstatement works have become established, the connections would be barely perceptible.

## **4 PROPOSED MITIGATION MEASURES**

### **4.1 Principles of Mitigation Measures**

4.1.1 Route choice is the principle means of mitigating the potential impacts of the cable and water main connections, thus cutting through existing hedgerows has been minimised as much as possible. Where hedge loss would be unavoidable, any gaps formed would be replanted with the same species as the existing hedge, with protection against rabbit grazing included at the time of planting. The hedgerow mix as proposed within the Habitat Management Plan for the IWMF (HMP, Golder Associates Ltd, April 2011 (updated in July 2015 by Green Environmental Consultants to accompany the Section 73 submission)) would be used for larger gaps. The hedgerow mix would be as follows:

| <b>Hedgerow Mix</b> |             | <b>% in HMP</b> |
|---------------------|-------------|-----------------|
| Acer campestre      | Field Maple | 5%              |
| Corylus avellana    | Hazel       | 15%             |
| Crataegus monogyna  | Hawthorn    | 75%             |
| Ilex aquifolium     | Holly       | 5%              |

4.1.2 Reinstating gaps in hedges can be problematic, due to competition for light and water from the adjacent existing hedgerow plants. Hedgerow plants would be planted directly

into previously prepared pits. Spiral rabbit guards or shrub shelters will be fitted to each plant to protect them from rabbit/deer grazing during the establishment phase (up to Year 5).

4.1.3 Any disturbance to existing grass verges would be reinstated with a general amenity grass seed mix. As it is likely that re-seeding would be into existing topsoil, therefore the incorporation of wildflowers into the grass seed mix is considered to be unsuitable, given the potential for the topsoil to have a high nutrient composition.

4.1.4 **Maintenance:** New hedgerow plants would receive a minimum of 5 years maintenance and during the initial 5-year establishment period, all failed plants would be replaced as necessary to maintain the density of planting across the gap in the hedgerow. Reinstated areas of grass seeding will be maintained for one year post construction, and after this period, verge would revert back to its normal management routine (carried out by the Highways Department of Braintree District Council). It is expected that these levels of maintenance/management would be enforced through the imposition of planning condition(s).

## 5 CONCLUSIONS

### 5.1 Summary of Report

5.1.1 The route choice for the proposed cable and water main connections has been the principal means of mitigating the potential impacts on landscape and visual receptors arising from the construction of the connections. The connections would require the removal of six short sections of existing hedgerow. From a limited number of visual receptors in close proximity to the proposed connections the construction activities associated with the connections would be visible for a short period of time.

5.1.2 The overall impact of the proposed connections on the landscape is predicted to be negligible and visual impacts would be limited to a few residential properties and users of the footpaths that would cross the route of the connections. The mitigation measures proposed, which would principally be the infilling of gaps created by the excavation of the connections through existing hedgerows, would, once they have matured, help to reinstate the integrity of the hedgerow and repair any damage caused to the fabric of the landscape. As the infilled gaps in the existing hedgerows mature, this will provide improvements in the overall quality of the surrounding landscape. Over time, the location of the connections would be barely perceptible on the ground and hence would have no effect on the wider landscape in the future.

## 5.2 Cumulative Landscape Impact Assessment

5.2.1 The landscape assessments set out within chapter 8 of the Environmental Impact Assessment (EIA) for the IWMF proposal were undertaken on the basis that the landscape mitigation measures would be integrated into the restoration proposals for the adjacent quarrying operations to screen long distant views of the IWMF buildings, i.e. the IWMF buildings would be lowered into the ground, sections of existing woodland retained around the perimeter of the site, new woodland and hedgerow planting and the creation of off-site compensatory habitats, etc. These measures would also augment the landscape resource of the area. Where the IWMF's chimney extends above the surrounding woodland it will be clad in stainless steel to reflect and mirror the surrounding environment and make its appearance as unobtrusive as possible.

5.2.2 The planning application boundaries of the former Site A2 and existing Sites A3 and A4 quarrying operations included the IWMF site to ensure that 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 were addressed, 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.*

5.2.3 The preparation of the Site A2 and Sites A3 and A4 planning application(s) and Environmental Impact Assessment(s) captured changes in environmental legislation and present an assessment of the cumulative impacts most likely to arise should the IWMF be developed. When preparing the original Environmental Impact Assessment for the IWMF, it considered the cumulative effects of the IWMF's construction and operation alongside permitted quarrying operations within Bradwell Quarry which were planned to cease in 2022, i.e. considering the IWMF and quarrying operations. The cumulative impacts presented within the recent Site A2 and Sites A3 and A4 Environmental Impact Assessments (which extend quarrying operations in and around the IWMF site) considered the potential development (implementation) of the IWMF, i.e. quarrying operations and IWMF.

5.2.4 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 blends with the surrounding topography and landscape mitigation proposals around the IWMF.

- 5.2.5 The potential stockpiling of overburden materials from within the footprint of the IWMF across New Field would provide materials which could be used to meet a predicted shortfall in restoration soils. 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 overall design and arrangement of the stockpile would allow for the storage, retention and subsequent reuse of natural indigenous site won materials to be retained within the Site, rather than their excavation and transportation off-site for reuse or disposal. Original ground levels in and around the Site are at or around 50m AOD, and the maximum height and elevation of the stockpile within New Field will be limited to 8m or 58m AOD. However, the landscape impact associated with the stockpiling operations would be Low and of a temporary and short term nature. The mitigation proposals and residual effects of the stockpiling operations on either the IWMF or Bradwell Quarry would remain unchanged.
- 5.2.6 Further consideration has been given to the landscape impacts associated with the installation of the proposed electricity cable and water abstraction and discharge pipelines, and whilst they may result in the temporary loss of approximately 50m of hedgerow, which would be reinstated through new planting, the impacts associated with the works would be short term. Therefore, the overall impacts associated with the IWMF development from a landscape perspective are considered low resulting from the route(s) proposed.
- 5.2.7 It is concluded that from a landscape assessment perspective the EIA for the IWMF proposal and wider foreseeable developments in and around the site have been considered and assessed.

## HDA Document Control and Quality Assurance Record

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| Issue | Description                | Date of Issue | Signed         |
|-------|----------------------------|---------------|----------------|
| 1     | V0 First draft for comment | December 2015 | <i>C Marsh</i> |
| 2     | V1 Revised draft           | December 2015 | <i>C Marsh</i> |
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| 4     |                            |               |                |

|                    | Personnel       | Position                      |
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