CHAPTER 8

LANDSCAPE ASSESSMENT

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APPENDICES

8.0 CHAPTER 8 – LANDSCAPE ASSESSMENT

8.1 Introduction and Current Site Setting

Across the footprint of the Integrated Waste Management Facility (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 – leaving predominantly bare ground.

Following the implementation of the IWMF planning permission, within the footprint of the IWMF construction area, remaining areas of woodland scrub, topsoil, subsoil and hard-standing (remnants of the former airfield comprising brick foundations and concrete tracks and bases) have been removed. However, in accordance with the planning permission, some individual and groups of TPO trees have been protected and retained to provide perimeter screening around the Site.

Quarrying operations have ceased within Site A2 and are now focussed within Site A3 and A4 – to the northeast of the IWMF site.

Areas of Open Habitat have been established adjacent to Woodhouse Farm for Great Crested Newts, by stripping agricultural soils from the field due east of Woodhouse Farm (0.8 ha), and a hedgerow has been relocated from the Site A2/IWMF area into Wayfarer's Field. In addition, the remaining topsoil and subsoil from within the IWMF construction site has been relocated and placed into temporary storage across Wayfarers Field.

Within the local landscape the progression of the Site A2 and Sites A3 and A4 quarrying operations has resulted in screening mounds being established around the footprint of the progressive quarrying operations which temporarily prevent views of the quarrying operations and IWMF site.

8.2 Landscape Baseline Conditions 2017

The principal changes in the baseline situation have resulted from the progression of quarrying operations within and around the IWMF site leaving predominantly bare ground comprising either areas of recently restored ground, areas awaiting final restoration through the placement of topsoil and subsoil, or areas undergoing restoration activities.

Quarrying operations and site preparation works within the footprint of the IWMF site have resulted in Hangar No 2 being removed, together with an ancillary building to its north and associated woodland scrub vegetation, and arable land and hard surfaced areas of the former airfield runways to facilitate the permitted quarrying operations by Blackwater Aggregates and the implemented IWMF "enabling works" (defined as trees, topsoil and subsoil removal in the remaining footprint area of the IWMF).

On 9 February 2012 planning permission (ESS/32/11/BTE) was granted to Blackwater Aggregates for the extension of its quarrying operations into an area known as "Site A2" which overlaps and incorporates a significant area of the IWMF footprint.

The application was described as follows:

> *"Extraction of an estimated reserve of 900,000 tonnes of sand and gravel and retention of existing access onto the A120, private haul road, sand and gravel processing plant, ready mixed concrete plant, bagging plant, dry silo mortar plant and water management system, internal haul roads and recontouring of existing extraction area (known as Site R in Minerals Local Plan) with restoration to a combination of agriculture, woodland, nature conservation, water lagoons and to levels appropriate to safeguard implementation of planning permission ESS/37/08/BTE (Integrated Waste Management Facility)".*

In addition, planning permission was granted in March 2015 for the extension of quarrying operations into Site A3 and A4 (ESS/03/14/BTE) to the north of the IWMF site for the following:

> *"Extraction of an estimated reserve of 3 million tonnes of sand and gravel (from Site A3 and A4 as identified in the Pre-Submission Draft Replacement Minerals Local Plan) and retention of existing access onto the A120, private haul road, sand and gravel processing plant, ready mixed concrete plant, bagging plant, dry silo mortar plant and water management system, internal haul roads and recontouring of existing extraction areas (Sites R and A2) with restoration to a combination of agriculture, woodland, biodiversity, water lagoons and to levels appropriate to safeguard implementation of planning permission ESS/37/08/BTE (Integrated Waste Management Facility)."*

The Environmental Impact Assessment (EIA) submitted with the application(s) took into account the requirements of the Minerals Local Plan and considered the cumulative impacts associated with its development against Site A2, Site A3 and A4 and the unimplemented IWMF planning permission.

Whilst the development of Site A2 has resulted in a localised change in ground levels in and around the vicinity of the IWMF site, this would be in line with the Site Specific Issues within the Minerals Local Plan, stated as follows:

> *"Careful consideration has been given to the final low-level restoration contours to ensure the final landform blends with the surrounding topography and would blend with the levels and planting of the strategic waste management development (Ref ESS/37/08/BTE) if implemented."*

Recent and ongoing quarrying operations in and around the IWMF have resulted in a change in landform, but have not affected the overall landscape mitigation strategy associated with its development.

The implementation of the IWMF planning permission ESS/34/15/BTE and the commencement of site "enabling works" throughout 2016, resulted in remaining areas of woodland scrub, topsoil, subsoil and hard-standing (remnants of the former airfield comprising brick foundations and concrete tracks and bases) being removed. However, in accordance with the planning permission, some individual and groups of TPO trees have been protected and retained to provide perimeter screening around the Site.

This application relates only to a modification to the height of the IWMF stack.

The existing planning permission established the principle of a stack within the landscape, and the revised stack height of 58 m above surrounding ground level (108 mAOD) represents a change in stack height of only 23 m. The revised stack height is of a comparable height to that of the existing landmarks within the local landscape such as the Sheepcotes Hangar mast and the network of high voltage overhead electricity pylons which are around 50 m above surrounding ground level.

To support the proposed change of the IWMF stack height, Hankinson Ducket Associates (HDA) has reconsidered the Landscape and Visual Impact Assessment (LVIA) in relation to the original planning application and considered the implications of raising the stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD). This report is presented within Appendix 8A.

The Addendum Landscape and Visual Impact Assessment considered the magnitude of change and the significance of the effects arising from the height of the stack as portrayed in the montages from the original seven representative viewpoints. This included the preparation of updated photomontages to show the proposed increase in height of the stack following construction (Year 0) from the same viewpoints used within the original

assessment, which are supported by additional photomontages which have been prepared from viewpoints within a 10 km Zone of Theoretical Visibility.

The Zone of Theoretical Visibility (ZTV) was prepared to consider the degree of change associated with the increase in stack height on its surroundings. Based upon professional judgment the for landscape and visual impact purposes a 10 km study area was considered[1].

The ZTV was prepared to assist in the identification of potential visual receptors. Its purpose is to identify where potential views may theoretically be possible and to aid further site work. It does not consider the diminishing visual effects resulting from distance, nor does it consider the limitations of the human eye. In reality, the greater the distance from the feature being assessed, the lesser the visual effects become. This is particularly the case for a stack that has no visible plume during operations.

There is no specific guidance in relation to the size of a ZTV study area for a stack or static development.

The height of the currently permitted IWMF stack at 35 m above surrounding ground level (85 mAOD) and the revised height of 58 m above surrounding ground level (108 mAOD) have been superimposed onto a digital surface terrain model of the site and its surroundings (OS Terrain 5, at 5 m resolution); enabling a three-dimensional plot of the 'visible areas' to be produced, taking into account screening afforded by landform and significant woodland blocks.

It should be noted that the ZTV represents a 'worst case scenario'; accounting only for major visual barriers which are in excess of 8 m in height above ground level. In reality, considerable additional screening at eye level at the point of the observer is afforded by intervening hedgerows, buildings and other structures.

The ZTV is presented on a 1:25,000 scale Ordnance Survey base to illustrate the potential zone of visibility of the stack under the existing planning permission ESS/34/15/BTE, and the degree of change that will result in varying the height of the IWMF stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD).

The 10 km ZTV indicates that the existing 35 m stack would be visible over an area of 100.35 km², and with an increase in stack height of 23 m the ZTV would extend a further 28.26 km², with 185.49 km² affording no potential visibility within the total environment of 314.1 km². The ZTV confirms that the stack will theoretically be visible within the local landscape. It should be noted that the ZTV is purely a tool to assist in the assessment of visibility. It does not necessarily guarantee views will or will not be possible, nor does it consider the reduction in prominence associated with increased distance of the view from the stack

The following descriptions and analyses draw upon the results of the HDA study and report. Where the report discusses the proposed treatment of the aluminium/stainless steel stack and the green (sedum) roof, these details were approved under ESS/34/15/BTE against Conditions 14 and 18 are presented within as Appendices 8B (Stack Cladding details) and 8C (Green/sedum roof).

In addition to the above, in accordance with Condition 15:

> *Prior to construction of the IWMF buildings or the structures to the rear of the main building details of the IWMF buildings and structures including the design and samples of the external construction materials, colours and finishes of the external cladding of the, and design and operation of the vehicle entry and exit doors, shall be submitted*

[1] The ZTV was refined to 3 km study area for Heritage Assessment purposes. Based on professional judgement any potential viewpoint locations of heritage assets beyond the 3km study area would not result in significant visual effects, and would likely be slight to negligible.

to and approved in writing by the Waste Planning Authority. The development shall be implemented in accordance with the details and samples approved.

Proposed cladding details relating to the IWMF buildings are presented within Appendix 8D (Building Cladding).

8.2.1 Landscape Character

Changes have taken place to the landscape character publication at a national level (now published as a web-based resource), but other than this, the description of the baseline landscape character at the regional and district level has not changed from the 2008 Landscape and Visual Impact Assessment (LVIA). The only changes to the description of landscape character at the local level are changes in the permitted and proposed quantities of sand and gravel to be extracted in the local area. It is proposed that Bradwell Quarry will continue to expand, but this would be followed by an ongoing programme of restoration once extraction has ceased. The landscape quality of the study area was assessed as Good (Category 3) to Ordinary (Category 4) and although this assessment has not changed in the intervening period, it is anticipated that landscape quality should improve in the long term with the implementation of planting proposals not only within the red line boundary but also as part of the restoration proposals for the worked-out areas of sand and gravel extraction.

Drawings showing details of the soft landscape proposals that were approved against planning condition 57 of the implemented IWMF planning permission ESS/34/15/BTE, are presented within Appendix 8A (within Appendix C of the Hankinson Ducket Associates Landscape and Visual Impact Assessment).

8.2.2 Visual Receptors

The current views experienced by the principal visual receptors within the vicinity of the site, as described in Tables 8-4, 8-5, 8-6 and 8-7 of the original LVIA, have only changed where receptors are likely to have views of the recently extended quarrying operations. Sand and gravel extraction is now ongoing on the land between some visual receptors and the site of the proposed IWMF. Otherwise, the descriptions of views as described in the baseline of the LVIA have not changed.

8.2.3 Landscape Designations and Other Landscape Elements

The Regional Strategy for the East of England was revoked in January 2013, and the Braintree District Local Plan (BLP) Review has been superseded by the Core Strategy (adopted in September 2011). Appendix 1 of the Core Strategy lists those BLP Review policies that have been replaced by Core Strategy Policies. Policy RLP79 regarding Special Landscape Area has been replaced by Core Strategy Policy CS8 Natural Environment and Biodiversity, and Policy RLP78 regarding Countryside Protection has been replaced by Policy CS5 on Countryside. In Appendix 1 of the Core Strategy, there is not a direct replacement for Policy RLP87 on Protected Lanes or Policy RLP81 which provided guidance on trees, woodlands, grasslands and hedgerows.

The baseline conditions described for topography, geology and hydrology have not changed from those reported in the LVIA. In the land use and vegetation section of the LVIA, the areas of grassland (1.5 ha) and arable land referred to have already been removed by quarrying operations and similarly, Hangar No 2 and two smaller dilapidated brick buildings to the northwest of the hangar as described in the historical and cultural components section have already been removed in advance of quarrying. In addition, the remaining areas of woodland scrub, topsoil, subsoil and hard-standing (remnants of the former airfield comprising brick foundations and concrete tracks and bases) within the footprint of the IWMF construction site area have been removed. However, in accordance

with planning permission, individual and groups of TPO trees have been protected and retained to provide perimeter screening around to the Site.

8.3 Updated Landscape Assessment 2017

8.3.1 Impact on Landscape Character

The LVIA assessed the effects of the proposed development on landscape character in the context of the existing site conditions and the condition of the surrounding landscape at a baseline of June 2008. Since June 2008, permitted quarrying operations have taken place on the site, therefore the current baseline has seen a marked degree of change in the landscape since the previous baseline. This assessment has therefore looked at the conditions on site as they currently exist (i.e. at January 2017) and assesses the degree of change from this time resulting from the development to determine the overall impact of the IWMF.

The published regional landscape character assessment for the area (Essex LCA, 2003) has not been updated since the LVIA was written; therefore, the sensitivity of the Central Essex Farmlands landscape character area to change has not been altered from its original classification of low. The landscape has demonstrated that it is able to tolerate change, albeit temporarily, with the extraction of minerals, and the proposed restoration scheme following quarry operations will replace some of the distinctive qualities that contribute to landscape character.

The local landscape character area was identified as industrial, and although many of the site's features associated with its use as an airfield, and more recently as a storage facility, have been removed by the quarry operations, the site continues to exert an industrialising influence on the surrounding rural character. The landscape character of the study area continues to be able to accept large degrees of change. An industrial structure would be introduced into an industrial landscape, so it would not be out of keeping with the current character. Built development would be separated from the surrounding rural landscape by areas of existing and proposed woodland.

8.3.2 Impact on Landscape Resource

The loss of existing vegetation on the site resulting from the construction of the IWMF would be unchanged from that previously assessed. Vegetation to the north of the former Hangar No 2 has already been removed as part of the Site A2 quarrying operations, together with the former small derelict airfield buildings (including the control tower) around which this vegetation was clustered. An area of approximately 1400 m^2 was removed comprising group G1, together with trees T1, T2 and T8.

The remaining areas of woodland scrub of approximately 1.6 ha (G4, and sections of W2 and W3), topsoil, subsoil and hard-standing (remnants of the former airfield comprising brick foundations and concrete tracks and bases) have been removed. However, in accordance with the planning permission, some individual and groups of TPO trees have been protected and retained to provide perimeter screening around the Site.

The retained woodland would still be managed as previously proposed, to promote a greater age range in the trees retained and improve the woodland's ecological diversity, and the trees would continue to be monitored for any signs of stress arising from potential de-watering. The four mature oak trees on the northeast edge of the site (see T4 to T7 on Drawing 19-2D) would still be retained with the revised scheme.

All trees within the red line boundary (including those mentioned above) are protected by Tree Preservation Order (Ref 11/2001 as issued by Braintree District Council) and any losses arising from the construction of the proposed IWMF would need to be mitigated with compensatory planting. The location of barrier fencing erected to adequately protect the

retained trees from damage during the construction phase of the works is shown on Drawing 19-3D.

Quarrying operations within Site A2 have already resulted in the removal of the areas of grassland and Grade 3a arable land within the red line boundary (previously reported as 1.5 ha of grassland and 10.9 ha of arable land). A 250 m long hedgerow, that had been planted along the northern edge of the former runway, as part of the advanced works for Bradwell Quarry, was translocated during the Site A2 mineral operations to the Wayfarer's Field where it delineates the southeast boundary of the additional woodland planting.

Following the implementation of the IWMF planning permission ESS/34/15/BTE, site clearance "enabling works" have resulted in the remaining trees being felled and the topsoil and subsoil from within the IWMF construction site being relocated and placed into temporary storage across Wayfarers Field.

With some vegetation losses having already taken place with the quarrying and implementation of the IWMF, the magnitude of change on landscape resources is likely to be less than the Medium as assessed previously. Given the extent of the quarrying operations within Site A2 and the commencement of the IWMF site enabling works, the magnitude of change on the current and proposed restored landform would be Low.

The short-term impact on the landscape character of the area was reported in the previous LVIA as Minor Adverse (based upon an assessment of Low sensitivity and Medium magnitude of change); this remains unchanged. Similarly, long-term landscape impacts on the wider landscape (the 'North Essex Claylands') were reported as Negligible; this assessment will also remain unchanged.

8.3.3 Visual Impact Assessment 2017

An Addendum Landscape and Visual Impact Assessment has been prepared by Hankinson Duckett Associates in support of the proposed change in stack height, which is presented within Appendix 8A. The assessment confirmed that the proposals to increase the height of the CHP stack by 23 m would not change the conclusions of the 2008 Landscape and Visual Impact Assessment (LVIA) or its subsequent Addendum 2015, which is supported by the preparation of additional photomontages, from a wider area and from other potentially public viewpoints, that have been prepared to demonstrate the negligible impact that the increase in the IWMF's stack height would have at distant viewpoints from the Site.

The quarrying operations within the IWMF footprint area have necessitated the removal of a small number of trees, the aircraft hangar and other ancillary buildings that were due to be removed as part of the IWMF scheme. From the limited number of distant external views that are not interrupted by existing trees, the arched roofs of the main building of the IWMF would be visible 9.75m above surrounding ground levels of 51m AOD, but where surrounding ground levels are at 48m AOD, the apex of the roof from distant views would be visible by 12.75m.

The overall visual impact of the proposed change in stack height on the landscape is predicted to remain at negligible, and visual impacts would still be limited to a few residential properties, though quarrying operations now lie between these and the site of the implemented IWMF. The assessment of visual impacts has not changed, and for most receptors remains at Minor Adverse. The mitigation measures proposed, including large areas of woodland planting, will, once they mature, help to screen the building, though the CHP stack will continue to project above the surrounding tree screen. Measures to mitigate the stack's visibility will still rely on it being clad in aluminium/stainless steel (the "Optic Cloak") to reflect back changes in weather and lighting conditions in the local environment, and unlike other similar facilities in the UK, there will be no visible plume from the IWMF stack. As the tree and vegetation planting matures, this will provide improvements to the overall quality of the surrounding landscape.

Quarrying and restoration operations across the footprint of the proposed IWMF have already been completed as part of the permitted Site A2 works. The remaining trees in the TPO woodland of W2 and W3 adjacent to the quarrying operations and the implemented IWMF works are being monitored as part of the approved Habitat Management Plan and are not showing any signs of distress. The previously approved change in design from vertical concrete retaining walls to a soil-nailed structure around the IWMF would retain more undisturbed ground in situ adjacent to the retained trees, and thus this would help to mitigate the risk of dewatering the trees. It is proposed that the retained trees are inspected at least once every six months, and during periods of lower than average rainfall. As and when the need for watering arises, this will be carrying out through the use of a tractor and bowser. The retained trees will be managed, through the use of selective coppicing, removal of dead or diseased trees, new infill planting, etc., thereby improving the overall health of the woodland.

The retained woodland would still be managed as previously proposed, to promote a greater age range in the trees retained and improve the woodland's ecological diversity, and the trees would continue to be monitored for any signs of stress arising from potential de-watering. The four mature oak trees on the north-east edge of the site would still be retained with the revised scheme. Ash (Fraxinus excelsior) is present in the retained woodland, though is not a dominant component of the mixed species woodland. Given the potential for the spread of Ash dieback disease in the area, this has the possible outcome of removing Ash trees in the woodland which may reduce the effectiveness of its screening qualities. With the demise of Ash in the woodland it is likely the resultant gaps would quickly be recolonised by self-seeded saplings or new trees of desirable species could be purposely planted as part of the ongoing management regime.

Despite changes to the intervening landform, it was considered unlikely by HDA that the visual impacts on receptors arising from the IWMF, and in particular following the proposed modifications in the height of the stack, would be different from those previously reported in the 2008 Landscape and Visual Impact Assessment. The degree of change in terms of theoretical visibility was considered not to be significantly different from those already theoretically possible with the permitted stack height. Tables 8-9, 8-10 and 8-11 present details of potential visual impacts during construction, after one year of operation and after 15 years of operation, from an increased number of potential visual receptors (now 35 in total) including many additional potential public viewpoints from selected locations on public footpaths.

The HDA's LVIA Report 2017 concluded:

> *"Considering that there will be no visible plume (unlike all other similar EfWs in the UK) and that the stack will be clad in reflective material, there will be no emissions that would otherwise draw the eye of the observer, and experience from other reflective structures suggests that the overall effect could be more interesting than offensive, and more fascinating than objectionable."*

Through the IWMF's legal agreement (Section 106) there is the opportunity that a landscape and environmental fund is established which will allow for the implementation and management of off-site landscape planting. This could be designed to fund the planting of off-site hedgerows and increase tree cover in order to provide visual impact mitigation through landscape restoration in the wider landscape. Funds could be made available to community groups, landowners and parish councils subject to a scheme for the management of the funds and practical projects. Such a fund would need to be managed through a legal agreement.

8.3.4 Lighting

No en-route lighting beacons will be required on the IWMF's stack. The stack poses a negligible risk to aviation and its height is comparable to the existing telecommunications mast located at Sheepcotes Farm and the network of high voltage electricity pylons that cross the open countryside which stand unlit at 50m above surrounding ground level. It should be noted that the high voltage electricity pylons skirt the perimeter of Earls Colne Airfield and are unlit. For completeness, the location and elevation of the stack will be shared with the Essex Police and Essex and Hertfordshire Air Ambulance who can enter its position into their flight system(s).

Lighting around the perimeter on the IWMF will not spill above the height of the full cut off luminaires, and by using light absorbent construction materials around the perimeter of the IWMF the potential for light reflection is negligible.

The use of full cut off luminaires ensures no direct light emittance above the horizontal and from a mounting height of 8m no direct light should fall on the stack either above or below the level of the surrounding landscape.

Pell Frischmann conducted the original external lighting impact assessment for the proposed Integrated Waste Management Facility at Rivenhall Airfield where both the local and wider environment was considered, and a supportive statement confirming the above, and that there will be no changes as a result of increasing the stack height by 23 metres, has been prepared on GFC's behalf and presented within Appendix 8E.

8.4 Cumulative Impact Assessment 2017

The landscape assessments set out within Chapter 8 of the 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 distance views of the IWMF buildings, i.e. the IWMF buildings would be lowered into the ground, sections of existing woodland would be retained around the perimeter of the site, new woodland and hedgerows would be planted and off-site compensatory habitats would be created, etc. These measures would also augment the landscape resource of the area. Where the IWMF's stack extends above the surrounding woodland it will be clad in aluminium/stainless steel to reflect and mirror the surrounding environment and visually cloak its appearance as unobtrusive as possible.

It is proposed to vary the height of the IWMF stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD).

The existing planning permission ESS/34/15/BTE established the principle of the stack within the landscape. The degree of change associated with the proposed increase in elevation and views from the local area is presented on the photomontages on the HDA Drawings 732.1-30to 732.1-66.

Whilst within the wider landscape the revised stack height is of an elevation similar to existing landmarks such as the Sheepcotes Hangar mast and the network of high voltage overhead electricity pylons which are around 50 m above surrounding ground level; the prominence of the stack (or degree of change) within the local landscape has increased from some of the existing views, particularly those closer (within 1 km) to the IWMF site. However, the degree of change in terms of theoretical visibly is not considered to be significantly different from those already theoretically possible.

The IWMF stack will be visually "cloaked" with reflective materials that will mirror the local landscape and changes in weather, lighting conditions and local environment. The IWMF will operate without a visible plume emitting from the top of the stack. In time, the stack will

become a local landmark within the landscape, similar to the existing Sheepcotes Hangar Mast and network of overhead electricity pylons.

The planning application boundaries of the former Site A2 and existing Site 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.*"

The preparation of the Site A2 and Site A3 and A4 planning application(s) and EIA(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 EIA 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 Site A3 and A4 EIAs (which extend quarrying operations in and around the IWMF site) considered the potential development (implementation) of the IWMF, i.e. quarrying operations and IWMF.

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

On the 7 October 2016, Blackwater Aggregates received planning permission (ESS/07/16/BTE) for a variation of conditions to modify the restoration scheme for Bradwell Quarry under planning which permits the integrated use of materials excavated from the footprint of the IWMF site within the overall restoration of the adjacent quarry.

The materials excavated from the IWMF site, can 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 will be created known as 'Sheepcotes Lagoon'. The subsequent excavation of the stockpile and use of the materials within the overall restoration scheme will be integrated into the final site restoration scheme over a period of 3 to 5 years.

Prior to construction of the IWMF, excavations of previously stockpiled overburden materials from within the footprint of the IWMF will be transferred temporarily to New Field as this will provide suitable materials that can be used to meet a predicted shortfall in restoration soils within areas A3 and A4.

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 phasing scheme for Bradwell Quarry and implemented under standard operational practices. The overall design and arrangement of the stockpile allows 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 50 m AOD, and the maximum height and elevation of the stockpile within New Field will be limited to 8 m above surrounding ground levels or 58 m AOD. However, the landscape impact associated with the stockpiling operations would be Low and of a temporary and short term nature (3 to 5 years). The mitigation proposals and residual effects of the stockpiling operations on either the IWMF or Bradwell Quarry would remain unchanged.

On the 23 December 2016, Gent Fairhead & Co Limited received planning permission ESS/44/16/BTE for the installation of an abstraction point, pumping equipment and water main from the River Blackwater to the IWMF site (ESS/34/15/BTE) using an existing abstraction licence (Environment Agency ref AN/037/0031/001/R01) at land between River Blackwater and IWMF site.

The cumulative impact associated with the above abstraction only arrangement was considered within the Hankinson Duckett Associates Cable and Water Main Connections LVA submitted within the Addendum Environmental Statement of 2015, presented within Appendix 8F.

In summary, the installation of the proposed electricity cable and water abstraction (and possible discharge) pipelines may result in the temporary loss of approximately 50 m of hedgerow, which would be reinstated through new planting, it was considered that 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) either approved and/or potentially proposed.

Braintree District Council has updated its Strategic Housing Land Availability Assessment (SHLAA) to support the production of its new Local Plan.

The Braintree District Council website provides details of those sites put forward for potential consideration for future development. The website link for these plans is as follows:

https://www.braintree.gov.uk/info/200230/planning_policy/701/new_local_plan/4

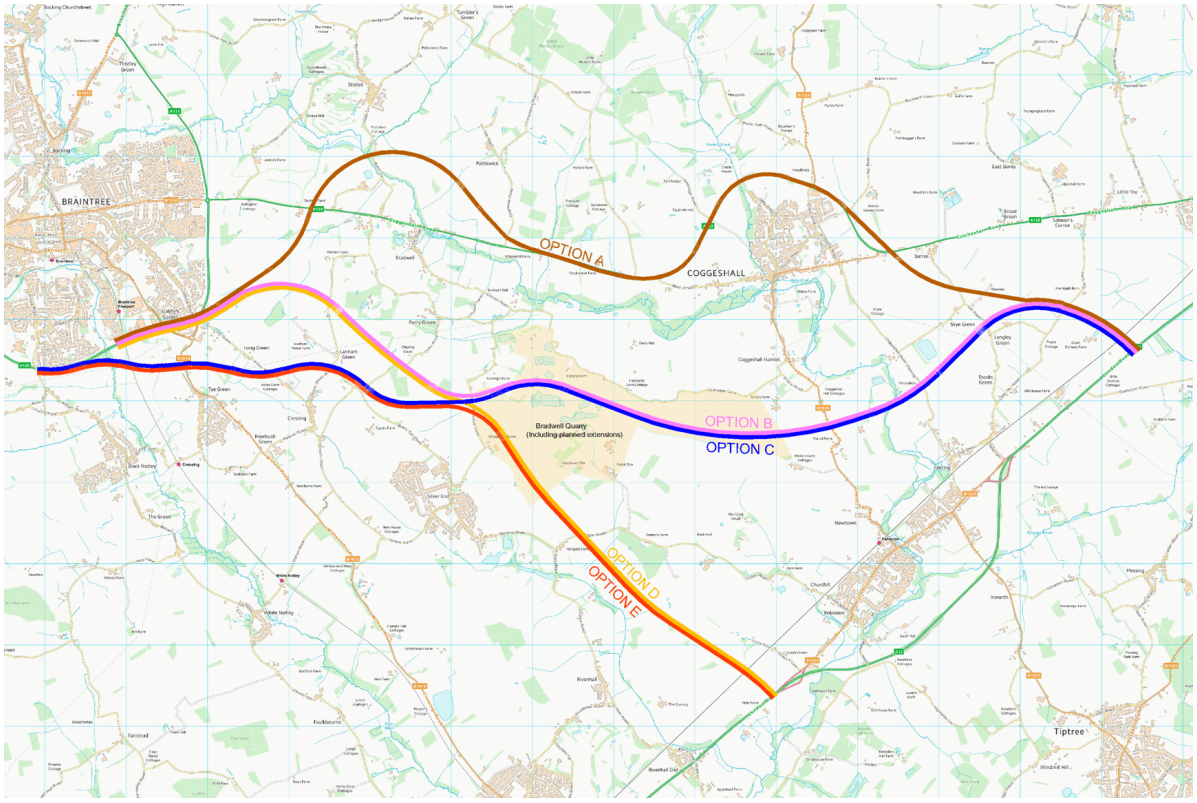
The sites presented on the various maps were originally reviewed as potential development sites within the Addendum Environmental Statement of 2015.

A potential development site is the proposed Gladman Development project for 350 houses on land east of Silver End, which was considered at a Public Inquiry on 31 January 2017. Subsequently, on 21 March 2017, the Secretary of State decided to grant outline planning permission for this development "*with all matters reserved for subsequent approval*". Whilst this approval would result in moving the housing edge of Silver End closer to the IWMF, it would still be sufficiently distant that views would largely remain unchanged and as assessed from the eastern edge of Silver End. This is confirmed by paragraph 88 of the Inspector's Report stating that, with regard to the Gladman Development application, "*the Environmental Statement considers the impact of Bradwell Quarry and a proposed waste facility on the proposed houses, concluding that there would be no significant adverse effects*". It is clear that the IWMF has been in the planning domain for many years prior to the concept of this development. Gladman Developments has been able to design its scheme using the naturally lower topography and the proposed perimeter woodland to minimise any potential environmental effects. Nevertheless, the IWMF's most recent Environmental Assessment considered the presence of this proposal and concluded that there would be no cumulative impacts associated with its development if approved..

The proposed change in the IWMF stack height does not alter the findings of the Gladman Development Environmental Statement or the cumulative impacts associated with its development alongside the IWMF.

Finally, a consultation on options for a new stretch of the A120 between Braintree and the A12 was launched on the 17 January 2017.

Five possible options are being considered for this section of the A120.



The A120 routing Options B, C, D and E will either cross the IWMF access road (Options B and C) and/or run to the north (Options B and C) or to the west (Options D and E) of the IWMF site. Potential opportunities exist during the design and selection of A120 routing Options B, C, D and E to interconnect with the landscaping and ecological mitigation proposals for the IWMF and Bradwell Quarry.

Although the A120 is part of the Strategic Road Network operated by Highways England, in 2015 the Government agreed that Essex County Council will lead on the work to determine the way forward.

It is important to remember that at this early stage the options have been technically developed to a point where we are confident that they can be built. However exact details about road alignments, junction design and environmental assessments and mitigation measures have not been completed. Like other major road projects this work is undertaken once a single option has been selected.

The primary aim is to create greater capacity to cope with the volume of traffic today, and predicted future growth in traffic.

As the design of the A120 matures, consideration would need to be made of the implemented (and operational 2020/2021) IWMF planning permission,

- Any final route will be delivered and constructed to meet UK guidelines for a strategic road. his will be a dual carriageway road with grade separated junctions, advanced technology and a 70mph speed limit.
- It is also likely that access to and from the road will only be from grade separated junctions.
- New local roads would be provided to ensure existing local connections are maintained. This could include the construction of a junction to serve the IWMF and Bradwell Quarry.

- Connections and routes for cyclists, pedestrians and horse riders, such as Public Rights of Way will be maintained and, where practicable, enhanced.

It is concluded that from a landscape assessment perspective the EIA for the IWMF and wider foreseeable developments in and around the site have been considered and assessed.

The increase in stack height has neither changed nor altered the overall findings of the landscape assessment.

APPENDIX 8A

Landscape and Visual Impact Assessment 2017

APPENDIX 8B

Approved Stack Cladding details Condition 14 ESS/34/15/BTE

APPENDIX 8C

Approved Sedum Roof details Condition 18 ESS/34/15/BTE

APPENDIX 8D

Proposed IWMF Building Cladding Details

APPENDIX 8E

Lighting Statement 2017

APPENDIX 8F

Cumulative Landscape Assessment 2015