PART B – Your representation

3. Please tick the document that you would like to make a representation on:

☑ Crawley submission Local Plan

☑ Crawley submission Local Plan Map

☐ Crawley submission Sustainability Appraisal

☐ Habitats Regulation Assessment Screening Report

4. Which part of the Local Plan does this representation relate to?

Paragraph: | Policy: EC4 | Other:

5. Do you consider the Local Plan to be: *(Please tick)*

5.1. Legally compliant?	Yes ☐	No ☑
5.2. Sound?	Yes ☐	No ☑
5.3. Compliant with the duty to co-operate?	Yes ☐	No ☑

6. Please give details explaining your response to 5.1, 5.2, or 5.3 below. Please be as clear as possible.

Please refer to attached written representation and additional information

If required, please continue your response on an additional piece of paper and securely attach it to this response

7. **Please set out what modification(s) you consider necessary to resolve the issues you have identified above. You need to state why this modification will make the Local Plan legally compliant or sound. It would be helpful if you are able to suggest how the wording of any policy or text should be revised. Please be as clear as possible.** *Any non-compliance with the duty to co-operate is incapable of modification at examination.*

As set out in attached written representation para 67 to 70

If required, please continue your response on an additional piece of paper and securely attach it to this response

Your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations. ***After this stage, further submissions will only be at the request of the Inspector, based on the matters and issues s/he identifies for examination.***

8. **If your representation is seeking a modification, do you consider it necessary to participate in the public examination hearings?** *(Please tick)*

No, I do not wish to participate in the examination hearings ☐

Yes, I wish to participate in the examination hearings ☑

9. If you wish to participate in the public examination hearings, please outline why you consider this to be necessary:

Due to the significant policy issues involved.

The Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the public examination.

If you would like to make a representation on another policy or part of the Local Plan then please complete a separate PART B section of the form or securely attach an additional piece of paper. Copies of the representation form can also be downloaded from the council's website at: www.crawley.gov.uk/localplanreview

Signature

Date

20/6/2023

STRATEGIC POLICY EC4: STRATEGIC EMPLOYMENT LOCATION

1. On behalf of our clients, we are supportive of the principle of allocating Gatwick Green as a Strategic employment site. Indeed, the allocation can provide a substantive contribution towards future economic growth in a suitable location that is of regional importance. In this regard our clients confirm their commitment to ensuring delivery in partnership with the Council and The Wilky Group (hereafter TWG) if the entire area was to be allocated as we suggest is necessary in order to make the plan sound.

2. As set out in our representations in respect of Policy EC1 we believe that the minimum amount of land required in order to meet needs is 34ha (approximately 102,000 sqm of floorspace). The current area of land proposed to be allocated by EC4 is a major underestimation of the requirement necessary. As such in order to ensure the requirements can be met the area to be allocated must be extended to include the missing section of land that forms part of the wider area envisaged by TWG in their representations.

3. Our clients control 8.8 ha of the missing section of Gatwick Green and confirm that it is available for employment uses in line with the requirements of the Plan. Accordingly, our clients are of the view that the allocation area should be extended to cover the missing section of the area to the east of Balcombe Road that is within their control.

4. They support the proactive and positive view that the Council have taken towards allocating land in this area and are committed to a comprehensive approach to the master planning of Gatwick Green in order to ensure a robust approach is taken. They confirm that land that they own / control is available, deliverable and viable, in this regard they would work with TWG to feed into any future planning application for the entire area and indeed to the strategic vision for the site. This supersedes previous representations that have been made in relation to the area.

5. Significant technical work has previously been undertaken in the area including in respect of highways, landscape, ecology and drainage. Accordingly the following additional information is submitted as an appendices to this representation:

    1. Red line plan;
    2. Illustrative master plan;
    3. Development Framework Document;
    4. Transport Note Prepared by Miles White Transport;
    5. Ecology Note Prepared by GE;
    6. Landscape Note prepared by Pegasus;
    7. Drainage Strategy prepared by PHG; and
    8. Water Neutrality Strategy by Quantum CE.

6. The information submitted confirms that the site could contribute towards the requirement in technical terms and it is anticipated that this would be updated to align and integrate with the technical work undertaken by TWG and feed into a comprehensive master plan and EIA.

7. Indeed, our clients believe that a positive response is required locally in order to ensure the future economic recovery and growth of Crawley such that the authority is no longer entirely reliant upon the fortunes of Gatwick Airport.

National Planning Policy

8. The National Planning Policy Framework (NPPF) (2021) establishes the Government's planning policies for England and how they are to be applied. It provides a framework within which locally prepared plans can be produced (paragraph 1).

9. Paragraph 15 of the NPPF states that the planning system should be genuinely plan-led. Succinct and up-to-date plans should provide a positive vision for the future of each area, a framework for addressing economic, social and environmental priorities, and a platform for local people to shape their surroundings.

10. Plans should: be prepared with the objective of contributing to sustainable development; be positively prepared, but deliverable; shaped by effective engagement; contain policies that are clearly written and unambiguous; be accessible through the use of digital tools; and serve a clear purpose (paragraph 16).

11. Development plans must include strategic policies to address an area's priorities for development and the use of land (paragraph 17). Strategic policies should set out an overall strategy for the pattern, scale and design quality of places and make sufficient provision for inter alia housing; employment; retail; leisure; other commercial development; infrastructure; community facilities; and the conservation and enhancement of the natural, built and historic environment and measures to address climate change (paragraph 20).

12. Strategic policies should look ahead over a **minimum** 15-year period from adoption, to anticipate and respond to the long-term requirements for infrastructure (paragraph 22). The preparation and review of policies should be underpinned by relevant and up-to-date evidence, that should be adequate and proportionate, focused tightly on supporting and justifying the policies concerned (paragraph 31).

13. Local plans will be examined to assess whether they have been prepared in accordance with legal and procedural requirements and whether they are sound (paragraph 35). Plans are sound if they are:

    a) Positively prepared – provide a strategy which, as a minimum, seeks to meet the area's objectively assessed needs and is informed by agreements with other authorities;
    b) Justified –provide an appropriate strategy, taking into account other reasonable alternatives, based on proportionate evidence;
    c) Effective – deliverable over the plan period and based on effective joint working on cross-boundary strategic matters; and
    d) Consistent with national policy – enabling the delivery of sustainable development in accordance with policies within the NPPF.

14. As it is currently written Policy EC4 does not meet the tests of soundness rather a more comprehensive and long term approach to the strategic vision for the area (in this plan period and beyond) needs to be taken in order to address the evidence base short comings and increase the supply of employment land as set out in our representations in respect of Policy EC1. In this regard, a comprehensive approach to the future planning of Gatwick Green is required that includes allocating our clients site as part of a wider area.

The site

15. Our clients control land shown within the accompanying red line plan (appendix 1) that lies to the east of Balcombe Road and occupies the substantive "missing section" of the proposed allocation of EC4 which is crucial to facilitating a comprehensive and well planned approach to development.

16. The total site area is 8.8 ha, and comprises three elements:

- The WT Lamb site (3.1ha) comprises an existing residential bungalow at the front and the rear of the site was previously used for horticultural purposes and comprised over 17,000 sq.ft of glass greenhouses and other ancillary structures associated with its commercial nursery use. However, the greenhouses were unused for some time and fell into considerable disrepair with significant glass and fly tipping across the site

- Land and buildings owned by the Dye Family (5ha) which is formed by three distinct parcels of land to the north and south of Hunters Lodge and MSL Heat Treatment – a manufacturing company operating from the buildings to the rear of Hunters Lodge who intend to remain on site. The land surrounding is generally flat and the three fields are in an agricultural use.

- Land under the ownership of Elliott Metals/The Simmonds Family (0.7 ha) that lies to the rear of the family metal recycling centre (Elliott Metals). This is a family business that has operated at the premises for over 80 years. The land to the rear of the metal business is vacant, flat and suitable for redevelopment. It is yet to be determined whether the metal business would relocate or remain at the site. However if they decided to remain it would be complimentary to future employment opportunities.The three landholdings comprise a significant landholding that totals 8.8 ha.

17. It is bound:

- to the east the boundary is formed by a line of trees along Donkey Lane which a small residential lane beyond which is the proposed allocation SE4 along with incremental businesses and landholdings. Further to the East lies the M23;
- to the south by Fernhill Road and Elliott Metals along with a number of small residential dwellings with allocation SE4 further to the south of Fernhill Road;
- to the north the site is bounded by an existing fields which are part of proposed allocation SE4 and a residential dwelling. Slightly further to the north lies the M23 Spur; and
- to the west the site is found by the Balcombe Road, immediately beyond which is the vast complex of Gatwick Airport (as defined by policies in respect of Gatwick Airport) which comprises offices, hotels as well as the airport itself.

18. It is clear that the site and wider Gatwick Green proposal lies within a highly urbanised part of the District with major infrastructure of national significance forming the overarching land use in the local area. Our clients sites form left over land that is perfectly suited to help capitalise on these national infrastructure linkages.

19. Our clients landholdings provide a logical and important part of the future Gatwick Green proposals.

Gatwick Green

20. As noted, we are supportive in general of the allocation of Gatwick Green for employment purposes. The Wilky Group (TWG) submitted the proposed employment opportunity to the Council as part of the previous consultation version of the plan. The site submitted by TWG comprised about 59 ha (146 acres), including 8.8 ha controlled by our clients.

21. In this regard, TWG set out that Gatwick Green as a whole represents a regionally and nationally significant opportunity for high quality mixed-use economic growth that will solve Crawley Borough's growing deficit of employment land as identified in its employment land evidence base. They sought to provide sufficient information to confirm that it will be delivered during the plan period and that it therefore address the five considerations identified by Crawley Borough Council in its Regulation 18 consultation, of note they covered:

    - Suitability of the site for employment development.
    - Availability or likely availability of the site for employment development.
    - The economic viability of delivering employment on the site.
    - The amount of employment development which can be delivered on the site.
    - The likely time-frame for any employment delivery projected for the site.

22. In the context of the urgent need to plan and provide for the unmet and long-standing employment and economic needs of the Borough TWG have submitted evidence to indicate that Gatwick Green would meet the Policy tests of the Council (plainly only part of the wider area has been indicated to be available to date). Our clients support the position in respect of the suitability of the site, availability and viability of the site as a whole, indeed, they confirm that the land within their control is available.

23. Indeed, our clients consider that Gatwick Green is a highly suitable site for strategic employment. In view of its close proximity and accessibility to Gatwick Airport, it is well suited to bringing forward a high-quality business hub to optimise the potential of this strategic location at the confluence of several national transport infrastructure networks – Gatwick Airport, London Brighton Mainline Rail, the Gatwick Express service, the M23 motorway and the Crawley-Gatwick-Horley Fastway bus service.

24. It is noted that the site is not affected by any significant environmental, physical or heritage constraints and could be developed within the current / future aircraft noise environment and aerodrome safeguarding requirements relating to the Airport.

Site capacity

25. A Development Framework Plan (DFP) has been prepared by TWG to assess the high-level capacity of the site and demonstrate its ability to incorporate a range of sustainability and environmental requirements arising out of national and local planning policy and other statutory requirements. The DFP has assessed the land and floorspace potential of the entire site of 59 ha to provide mixed employment floorspace in use classes B8, B1, B2 and C1, including ancillary uses within use classes A1 - A4 and D1.

26. It is stated that Gatwick Green is a proposed integrated mixed-use development and co-ordinated infrastructure solution. They anticipate that the development could comprise the following:

- B8, B1(c), B2, industrial, warehousing, distribution and logistics.
- B1 office/R&D.
- GEA of C1 hotel use.
- Supporting education uses for apprenticeships & staff training.
- An integrated amenity centre including ancillary shopping, leisure, dining and community uses.
- High quality open space with mobility interchange hub.
- Sustainable mobility at the heart of the masterplan design, with dedicated public transport, pedestrian and cycle infrastructure.
- Ancillary car parking with Electric Vehicle Charging facilities.

27. It is further noted that "***Gatwick Green represents a strategic opportunity to bring forward a highly sustainable mixed-use employment area, offering a unique opportunity to deliver significant benefits to all three of the key components of sustainability. Whilst the site will be a focus for B8 and B2 class floorspace, it has the benefit given its highly accessible location, of being attractive to a mix of non-B class employment uses such as education and training. This will help the site to come forward more quickly given its wider appeal to a number of different sectors and investors (delivery partners). It will also enable the site to deliver a greater variety of jobs to help transform and rebalance the economy and benefit the local community.***"

28. It is clear that TWG consider that the entire area of Gatwick Green (59ha) is suitable for development as supported by their evidence base and as supplemented by our clients. We support this position and confirm that their combined sites are available to contribute towards this wider allocation.

29. In its current form it is notable that TWG do not control all of the site and as such its ability to provide a comprehensive development solution is undermined. This has left a large area allocated to provide just 13 ha of development land despite the significantly higher employment need (as set out in our representation in respect of Policy EC1) and capacity of the area. Our clients can confirm that they would work alongside TWG and the Council in any future proposals for the entire site.

30. Accordingly in order to achieve the requirement figure and a comprehensive approach to the area, then a combination of reviewing the Development Framework and with the addition of our clients site, a larger and more comprehensive allocation of 57ha (comprising our clients site along with TWG land) would allow for a net development area of at least 34ha to be achieved and provide the required B2/B8 floorspace figure. In this regard, our clients would work with the Council and TWG to ensure a joined up approach to delivery.

Our clients site

31. As shown within the supporting Development Framework Document, our clients site comprises 8.8 ha of land that could accommodate:

- Employment floor space of approximately 25,000 sqm (subject to final mix) comprising:
    - B8 employment uses including frontage development along Balcombe Road;
    - Smaller scale general industrial uses to meet a need in Crawley that is not currently catered for;
- The potential for a high quality "gateway" with access provided to the very heart of the site;
- A new access from Balcombe Road that could serve the subject site but would also be able to link in to the wider TWG proposals;
- Water neutrality along with potential to contribute towards the rest of the allocation through an on site well;
- Green infrastructure on site including necessary open space, landscape / ecology buffers; and
- Surface water attenuation if required.

32. Our clients site could be developed on its own, however, they recognise the strategic importance of the wider Gatwick Green Allocation and as such envisage that it would come forward as part of the comprehensive proposals for the site and are committed to this approach. In this regard, they confirm that they would work jointly on any future planning application with TWG and Council in order to ensure a deliverable and comprehensive approach is taken.

Comprehensive Approach to Development

33. A significant amount of technical work has been undertaken to date in respect of the site, in addition to the submission made as part of TWG submission, it is noted that further work has been prepared in respect of the 8.8ha site in respect of Design, Landscape, Ecology, Accessibility, Transport and Drainage. A summary of this is set out below. It is anticipated that this would supplement the work undertaken by TWG and is capable of integrating with this.

Design

34. The National Planning Policy Framework makes clear that creating high quality buildings and places is fundamental to what the planning and development process should achieve. The National Design Guide, illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice. The Guide is clear that ***"Well-designed places have individual characteristics which work together to create its physical Character. The ten characteristics help to nurture and sustain a sense of Community. They work to positively address environmental issues affecting Climate. They all contribute towards the cross-cutting themes for good design set out in the National Planning Policy Framework."***

35. The guidance identifies 10 characteristics of good design which summarily cover the following elements and must form the starting point for the future design of the proposals:

1. **Context**: well designed places are based on a sound understanding of the features of the site and the surrounding context. They are integrated into their surroundings so they relate well to them;

2. **Identity**: well designed places have a positive and coherent identity that everyone can identify with and a character that suits the context;

3. **Built Form:** relates to the pattern / arrangement of development blocks, streets, buildings and open spaces which together create the built environment rather than individually;

4. **Movement:** whereby well designed spaces provide a clear pattern of streets and encourage access for all via a wide range of means of sustainable travel;

5. **Nature**: which requires natural features and biodiversity to be integrated into future proposals.

6. **Public Spaces**: with well design and well located public spaces within a hierarchy of locations and available to ensure an excellent environment;

7. **Uses**: with support given to a range of mixes that support everyday activities;

8. **Buildings**: that provide high quality living and working conditions;

9. **Resources**: places that limit their environmental impact; and

10. **Lifespan**: places that are designed over the longer term.

36. Furthermore, the National Planning Policy Framework expects local planning authorities to develop local design guides, taking account of the National Design Guide and the National Model Design Code. Given the issues that we have raised in respect of site capacity and the development framework plan proposed by TWG, we are of the view that it is appropriate to undertake a thorough master planning exercise. Indeed, the National Model Design Code is clear that for larger schemes such an approach ***"can help to maintain consistency in the delivery of development over a longer period of time."*** Government policy would expect this to provide more specific and visual guidance than is possible within policy wording to include: the layout of new development, how landscaping should be approached, factors to consider in the design of building, environmental performance and approach to local vernacular and heritage, architecture and materials.

37. Indeed, it is clear from national guidance that a comprehensive approach to larger developments such as Gatwick Green is required that deals with the longer term (which may even fall outside of the plan period). This will be particularly important for Gatwick Green given that our clients "missing section" is a logical starting point for development along the Balcombe Road (adjacent to the airport) and ought to be phased ahead of the more remote parts of the eastern section of the site that are constrained by residential properties and parcel shapes (for B2/B8 uses).

38. It is noted therefore that consideration of our clients site as part of the allocation and a more thorough design process (as considered important by TWG in their regulation 18 submission) includes:

- A comprehensive approach to development and the creation of an appropriate environment in line with Government policies on design and master planning;

- Provision of sufficient gross area to safeguard the approach to green infrastructure identified within TWG development framework and ensure sufficient developable land to deliver the required amount of B2/B8 uses;

- An additional access from Balcombe Road with options to link into TWG site to the south and north;

- A more logical phasing of development meaning that land at our clients site along the Balcombe Road and adjacent to the airport is delivered earlier within the development period than the eastern parts of the wider site that are more sensitive to existing residential properties;

- Scope for seeking low energy forms of development and improving access to the area to ensure a "green" development in terms of energy efficiency;

- A joined up approach to landscape, ecological enhancement and surface water attenuation which will help provide a master plan that is predicated on the delivery of significant green infrastructure; and

- A comprehensive framework for the future of the area rather than simply moving forward on the basis of the area of land considered available in 2020.

Landscape

39. A baseline landscape note has been undertaken by Pegasus based on more detailed technical work already carried out. It has considered a number of key issues and will form the basis for a future more detailed study that would feed into an outline planning application.

40. The Site is comprised of a number of fields that are either vacant or in agricultural use interspersed with trees and hedgerows. The site is not covered by any designation at a national or regional level that recognises a specific landscape importance.

41. The site is located between Fernhill Road and Balcombe Road, to the east of Gatwick Airport and close to the M23 motorway, including a spur which provides a connection to the airport. The site is made up of a series of mostly irregular shaped agricultural fields, with the inclusion of a number of buildings including Hunters Lodge and an agricultural outbuilding to the west and Fernlands and a residential building between Fernhill Road and Donkey Lane to the south-east.

42. The site is surrounded by a number of residential, farm and employment buildings off the surrounding road network. Land to the north and south of Fernhill Road is predominantly agricultural, with the M23 forming a prominent visual detractor in the surrounding landscape. The landscape to the west is dominated by car parking, employment buildings, hotels and retail uses.

43. A public right of way (3675Sy) is located adjacent to the eastern site boundary, which provide a rural link between Fernhill Road and Balcombe Road to the north-west of the site. Close to the south-east corner of the site, another public right of way (359sy) follows a fenced off track adjacent to car parking associated with Gatwick Airport, before heading further southward and connecting to Radford Road. The Sussex Border Path long distance footpath is located to the east and north of the site, where it follows Peeks Brook Lane to the east before crossing the M23 and heading westward adjacent to the motorway. The Tandridge Border Path long distance footpath links with the Sussex Border Path east of the M23 and to the north-east of the site.

44. A dense network of mature trees surrounds Fernlands and the residential building to the south-east, which follow Donkey Lane and the public right of way. A tree lined hedgerow aligns most of Fernhill Road, coupled with residential properties and their associated garden vegetation, limits visibility into the site. Where the site abuts Balcombe Road (B2036) the site is defined by clipped field boundary hedgerows, with occasional matures trees within the hedgerows further to the south, which provides a more open aspect from the road. A mature tree belt defines the north-eastern and northern boundaries, which provides visual enclosure. The internal field boundaries are of variable quality, with those most established appearing to the north.

45. Views towards the site from surrounding areas are well contained by the surrounding network of mature vegetation. Therefore, views are limited to the network of roads and footpaths either adjacent to or in the vicinity of the site, and do not extend beyond the M23 or the areas of woodland to the south and south-west.

46. The following landscape and visual opportunities and constraints are shown on the supporting plan and set out below.

Opportunities

47. The principal landscape and visual opportunities for the site comprise:

- the potential to manage and enhance the existing field boundaries and mature trees, to provide visual enclosure and to enhance wildlife benefits;
- the potential to manage and enhance the internal network of field boundary hedgerows;
- the potential to enhance the local wildlife and biodiversity through new planting and the introduction of new landscape features;
- the potential to provide improved connections to the surrounding roads and public footpaths; and
- the potential to enhance the intimate landscape area to the south-east for recreation and/or local wildlife.

Constraints

48. The principal landscape and visual constraints for the site comprise:

- Openness of Balcombe Road with clear and unobstructed views over western parts of the site;
- The potential for the area of biodiversity enhancement to the north of the site to restrict development;
- potential loss of existing site features including trees and hedgerows, in particular, to the south-east;
- potential to adversely affect the visual amenity of local residences, particularly those abutting the site along Fernhill Road and Balcombe Road; and
- potential to adversely affect the visual amenity of vehicles and walkers using surrounding rural roads and the network of public footpaths.

Design Considerations

49. To assist the design development of future design proposals that mitigate the landscape and visual constraints identified, a number of design considerations are set out below.

Vegetation Pattern

- Existing vegetation to the north and east and adjacent to Fernhill Road must be retained and respected, as well as augmented wherever possible.

- The internal network of field boundary vegetation must be respected by any development layout and enhanced.

- Any development needs to be set back from Balcombe Road (B2036), to allow for the addition of new structural planting along the western and south-western edges of the site.

- Development proposals must adhere to the guidance set out in the county and local landscape character assessments. The creation of a recreational or wildlife area to the south-east should be considered in order to respect the existing trees and vegetation and respect the intimate setting of the landscape.

- Any new planting or landscape features should aim to enhance the value of the site to local wildlife, in particular, where located within Biodiversity Opportunity Areas to the north as defined by Policy ENV2 of the local plan and shown on the landscape and visual opportunities and constraints plan.

- Any trees lost as a result of the development must adhere to tree replacement in accordance with Crawley District Councils Policy CH6, based upon tree replacement tree planting in relation to trunk diameter of the tree lost.

- Development should avoid any impacts upon trees and vegetation within adjacent properties.

- All landscape proposals must adhere to the guidance in relation to planting in proximity to airports, and in accordance with CAP 772: Wildlife Hazard Management at Aerodromes.

Built Form

- The development should reflect the height, scale and massing of similar surrounding buildings in the vicinity of the site and be minimised wherever possible.

- The development should allow for sustainable movement around the site and look for opportunities to improve pedestrian and cycle links in the local area.

Surrounding Land Uses

- Any development must be appropriately offset from the adjacent residential properties to respect their visual amenity.

- The development must respect the setting of the listed buildings to the east of the site, as well as other surrounding locally listed buildings further to the east and those listed buildings to the west.

- Any development must ensure that the setting of the public right of way is respected, with mitigation within the site to limit views toward development proposals.

Ecology

50. GE Consulting has been commissioned to prepare a Ecology Technical Note to accompany representations to the draft local plan consultation in relation to land at. It aims to

- Draw together previous ecological survey work and provide an overview of baseline conditions; Evaluate the requirements of a proposal in terms of biodiversity planning policy and legislation;

- Review initial constraints and opportunities for the Site and propose likely mitigation measures/design considerations; and

- Detail further ecological survey work required to inform detailed proposals and a future planning application.

51. In summary it is concluded that there are no in principle ecological constraints preventing allocation of this Site for future development.

52. Furthermore, they note that the Site is unlikely to be constrained by the presence of statutory designated sites for nature conservation in the local area, subject to further assessment and possible mitigation including:

    - Habitat retention should focus on those features of highest ecological value, contributing to local conservation strategies/priorities where possible;

    - Development should aim to retain and incorporate features for protected and notable species, including a network of wildlife corridors through and around the Site;

    - Development proposals seeking to ensure that biodiversity net gain can be achieved; and

    - Detailed design and any future planning applications should be informed by further ecological survey work as recommended however there unlikely to be any overarching constraints.

Transport

53. Miles White Transport (MWT) have been appointed to provide traffic and transportation advice in relation to the proposed development of land close to Gatwick Airport between Crawley and Horley in West Sussex. MWT have formulated a proposed Transport Strategy that will enable the site to be developed as part of the adjacent Gatwick Green Strategic Employment Location.

54. They propose that the 8.8 ha site can be accessed from a new traffic signal controlled junction on Balcombe Road approximately 150m north of Fernhill Road. The proposed signal controlled junction would provide two lanes on Balcombe Road on the approaches to the junction and accords with highway design guidance for the speeds recorded on this part of Balcombe Road. In addition linkages can be provided to TWG site.

55. The provision of a new signal controlled junction in this location will help reduce vehicle speeds (possibly in conjunction with a Traffic Regulation Order to formally reduce the speed limit) and improve road safety on this part of Balcombe Road.

56. New footway and cycleway infrastructure and facilities will be provided as part of the development of the Fernlands site that will seek to maximise pedestrian and cycling links to the existing transport network and also to the wider Gatwick Green site area.

Integration with Wider Gatwick Green Site

57. The proposed access to the site could provide one of the additional access points that TWG are considering. The internal access road could link directly into the TWG land or connect via the north-south multi-modal transport link shown in green in TWG's development framework. Such an approach would enable the development and sustainable transport infrastructure at Gatwick Green

to be provided in a comprehensive manner as suggested by TWG. Our clients would work collaboratively with TWG in this regard in order to ensure a comprehensive approach is taken.

Mobility Strategy

58. A package of travel planning measures and initiatives will be formulated to reduce the need to travel using the private car (single occupancy trips) and maximise travel by sustainable modes of transport. This could include the following:

- Provision of a Mobility Station/Hub to integrate the various forms of transport proposed to/from/within the site and provide "first and last mile solutions" to connect communities to frequent public transport services.
- Provision of hire schemes (electric bike, pedal cycle, e-scooter, e-cargo bike etc).
- Electric car club and car sharing scheme.
- Dynamic Demand Responsive Transport (DDRT) using advanced and real time requests (dial-a-ride, shared taxis).
- Use of new mobility technology (e.g. Mobility as a Service – Maas – platform).

59. These travel planning measures would be formulated in conjunction with others (TWG, Crawley Borough Council, West Sussex County Council etc) to ensure they fully align with the desired mobility strategy for the wider Gatwick Green area.

Impact

60. An assessment considers that the proposed site access will operate well within capacity with minimal delays and queues in the 2026 design year with the traffic associated with the subject site.

61. Our clients site has modelled the impact of between 14,780 sq.m (based on the Crawley Council assumptions of density) and up to 46,290 sq.m (based on TWG assumptions) additional employment land (depending upon the final composition). At the lower level, it is expected this would generate 63 and 52 vehicle trips in the AM and PM peaks respectively, i.e. approximately 1 vehicle per minute. It is considered unlikely that the addition of 1 vehicle trip per minute will result in additional junctions being in need of physical mitigation. For the higher level there would be 277 and 236 respectively, which would still operate well within the capacity of the network.

62. Whilst the impact of the site has not been modelled in the CTS, it is our view that the mitigation identified in the CTS will adequately cater for the relatively small number of additional vehicle trips associated with this land and thus the conclusions of the CTS will not alter with the addition of our clients site.

Drainage

63. PHG Consulting Engineers have reviewed the available information to assess the hydrology in the area of the proposed development site. It has been concluded that there is a very low risk of fluvial flooding and the low risk of surface water flooding can be reduced with the introduction of site-specific positive drainage.

64. They note that the surface water drainage strategy for the site should restrict discharge to the calculated QBAR greenfield runoff rate, this would ensure that during rainfall events greater than the predicted 1 in 2 year event discharge from the site post-development would be reduced. Base on the site area of 9.18ha consisting of 60% impermeable surfacing the QBAR greenfield runoff rate has been calculated to be 28.6l/s. To maximise the benefits of a SuDS approach to surface water management, the use of swales to convey water should be considered and the final attenuation

should be provided in a landscaped basin (or basins). This will ensure the surface water drainage network maximises amenity and biodiversity benefits whilst reducing the volume and rates of runoff. The masterplan should allow space within landscaped areas for attenuation basins to be provided. Any attenuation feature within the site should be designed to accommodate flows up to and including the 1 in 100 year with a 40% increased for climate change. To ensure exceedance can be managed, a minimum freeboard of 300mm should be included. Given the above parameters, a 1.5m deep basin with 1 in 3 banks covering a surface area of approximately 3,670m2 and providing 4,500m3 storage would be required. Further SuDS techniques such as porous surfaces can be utilised to reduce the overall size of surface water attenuation required.

65. Foul Sewer records have been obtained from Thames Water and show few existing foul sewers with the vicinity of the development. The development is surrounded by green fields, Gatwick Airport and some smaller development/dwellings. The dwellings in the vicinity of the site are likely to have individual treatment plants and Gatwick Airport would be served by a private drainage system. The nearest Public Sewers are located approximately 600m south of the development in Balcombe Road. Sewer records show that the existing manhole (7801) at the start of this run has an invert level of 57.54m and the public sewer discharges to a pumping station. The pumping station is assumed to have a direct discharge to Crawley Sewerage Treatment Works located 300m to the west. Due site levels and the invert level of the existing manhole, a pumping station will be required to discharge to the Thames Water network. The pumping station would also include an offsite rising main being laid in Balcombe Road, approximately 500m long.

66. It is expected that both foul and surface water could be dealt with either through a standalone scheme for the site or as part of a coordinated approach with TWG land.

CHANGES REQUIRED IN ORDER TO ENSURE THAT THE PLAN IS COMPLIANT WITH NPPF

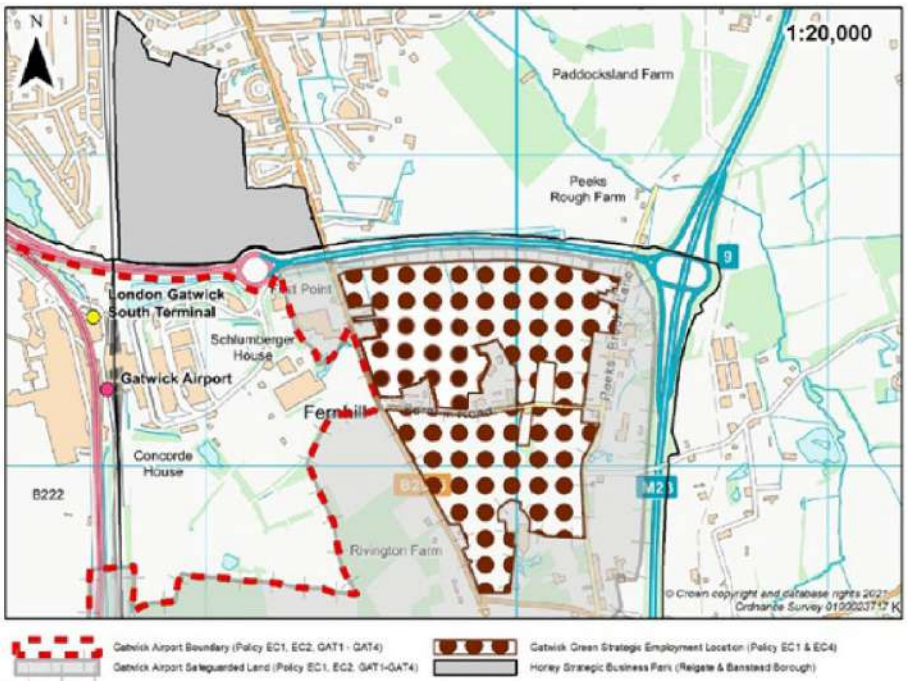
67. As we have indicated we are supportive of the allocation of Gatwick Green as a strategic employment allocation under policy EC4. However, as set out in our representations in respect of Policy EC1 we consider that there is a significant under estimation of the amount of land requirement for employment purposes during the plan period. We have set out the change in respect of the strategic policy that we believe is required in order to make the plan sound in particular it requires that a minimum of 34ha of employment land is required over the course of the Plan period.

68. Aside from providing the required employment land, the addition of our clients land to the allocation would allow for a more comprehensive development scheme. The value of this method is in line with national design guidance and was recognised by TWG regulation 18 consultation submission. By approaching the area in a comprehensive manner would allow the overarching ambitions and high quality aspirations to be achieved, in simple terms approaching the area in a comprehensive rather than piecemeal way would allow for the proper planned approach. This would be done over a time frame envisaged by NPPF for strategic sites such as Gatwick Green.

69. Our clients confirm that they would be happy to work with TWG and the Council in order to ensure a comprehensive approach to the master planning of the site. In this regard they would be willing to enter into a Statement of Common Ground with TWG to confirm their commitment to joint working, collaboration and delivery.

70. It is considered therefore that in order to make the plan sound, two changes are required.

1. The proposals map for Policy EC4 should be redrawn as below to include land within our clients control:



2. The policy wording of Strategic Policy EC4: Strategic Employment Location should be amended under the heading "Employment Uses" to read:

a. provide as a minimum 34ha of new industrial land and warehousing land including for B8 storage and distribution along with smaller scale general industrial land to meet local needs, demonstrating through appropriate evidence the justification for any further industrial floorspace beyond this amount;
b. justify any limited complementary ancillary uses such as office floorspace, small-scale convenience retail and small-scale leisure facilities that would support the principal industrial-led storage and distribution function

LRM Planning
June 2023

Appendix 1. Red line plan

KEY

8.8214 HECTARES 21.7927 ACRES

1.0134 HECTARES 2.5041 ACRES

Based upon Places by Design drg.1951/1010.
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Rev.	Amendments	Date	Drw.

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CLIENT:
WT LAMB HOLDING LTD / ELLIOTT & SIMMONDS

PROJECT:
LAND NORTH OF FERNHILL ROAD

DRAWING TITLE:
LAND IDENTIFICATION PLAN

DRAWN:	JOB NO:	SCALE:
THR	2394/21	As Shown@A3
CHECKED: POW	DRAWING NO: ID-01	REV:
DATE: JUNE 21		

Z:\PCS Current POW\239421 WT Lamb Fernhill house\2394 Land ID PLA 25.06.2021.dwg

Appendix 2: Illustrative master plan

KEY

- Application Areas
- Proposed Transport network
- Proposed Site Access
- Wilky Owned land - under the proposed development framework
- Existing Landscaping and boundary Enhancement
- Buildings to be demolished

Scale: 1:5000

50 100 150 200 m

N

Prepared By:

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Client:

WT LAMB HOLDINGS EST.1901

Rev.	Date	Description	Drawn by
A	02.03.21	Updated following comments	CB
B	13.03.21	Updated connections	CB
C	15.03.21	Updated connections	CB
D	16.03.21	Updated key and connections	CB
E	19.03.21	Updated annotations	CB
F	28.06.21	Updated boundary	CB
-	-	-	-
-	-	-	-

Project:
Fernlands, Gatwick Green

Drawing:
Illustrative Masterplan

Project No: 1951

Drawing Status: PRELIMINARY

Dwg No: 1100

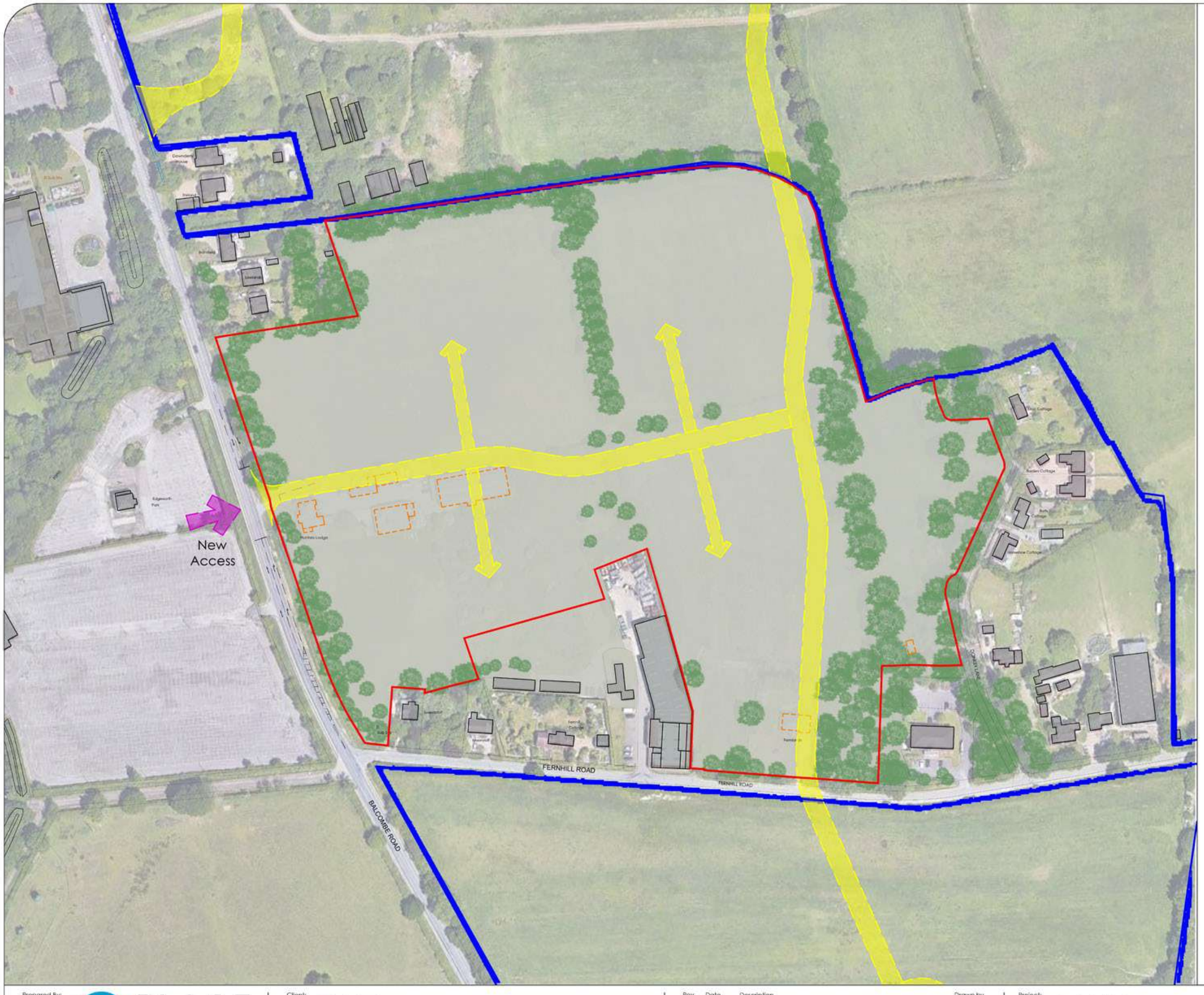
Date: 10.02.21

Rev: F

Scale: 1:5000@A3

Drawn by: CB

Checked by: SH



KEY

- Application Areas
- Proposed Transport network
- Proposed Site Access
- Wilky Owned land - under the proposed development framework
- Existing Landscaping and boundary Enhancement
- Buildings to be demolished

Scale: 1:2000

20 40 60 80 m

N

Prepared By:

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Client:

WT LAMB HOLDINGS EST.1901

Rev.	Date	Description	Drawn by
A	15.03.21	Updated connections	CB
B	16.03.21	Updated key and connections	CB
C	19.03.21	Updated annotations	CB
D	28.06.21	Updated areas	CB
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project:
Fernlands, Gatwick Green

Drawing:
Proposed Site Plan

Project No: 1951
Drawing Status: PRELIMINARY
Dwg No: 1110
Date: 12.03.21
Rev: D
Scale: 1:5000@A3
Drawn by: CB
Checked by: SH

Appendix 3. Development Framework Document

GATWICK GREEN, CRAWLEY

Prepared by LRM Planning Limited on behalf of WT Lamb, the Dye Family and Elliott Metals/The Simmonds Family

Version 2| June 2023

A comprehensive solution for Gatwick Green

WT Lamb, the Dye Family and Elliott Metals/The Simmonds Family control the "missing section" of proposed Strategic allocation EC4. The landowners have joined together in order to provide an option for a comprehensive approach to development of the area for employment purposes.

It is recognised that over the course of 2020 and into 2021 the unparalleled impacts of COVID 19 on the airline industry and indeed the local economy mean that it is now more important than ever to ensure that the Borough is well placed to fully recover economically and secure the future of its residents.

Accordingly our clients believe that their land holdings can help the Council plan robustly for future economic recovery and prosperity. It is considered that our clients landholdings allow for comprehensive planning of the area and not a piecemeal and incremental approach.

Contents

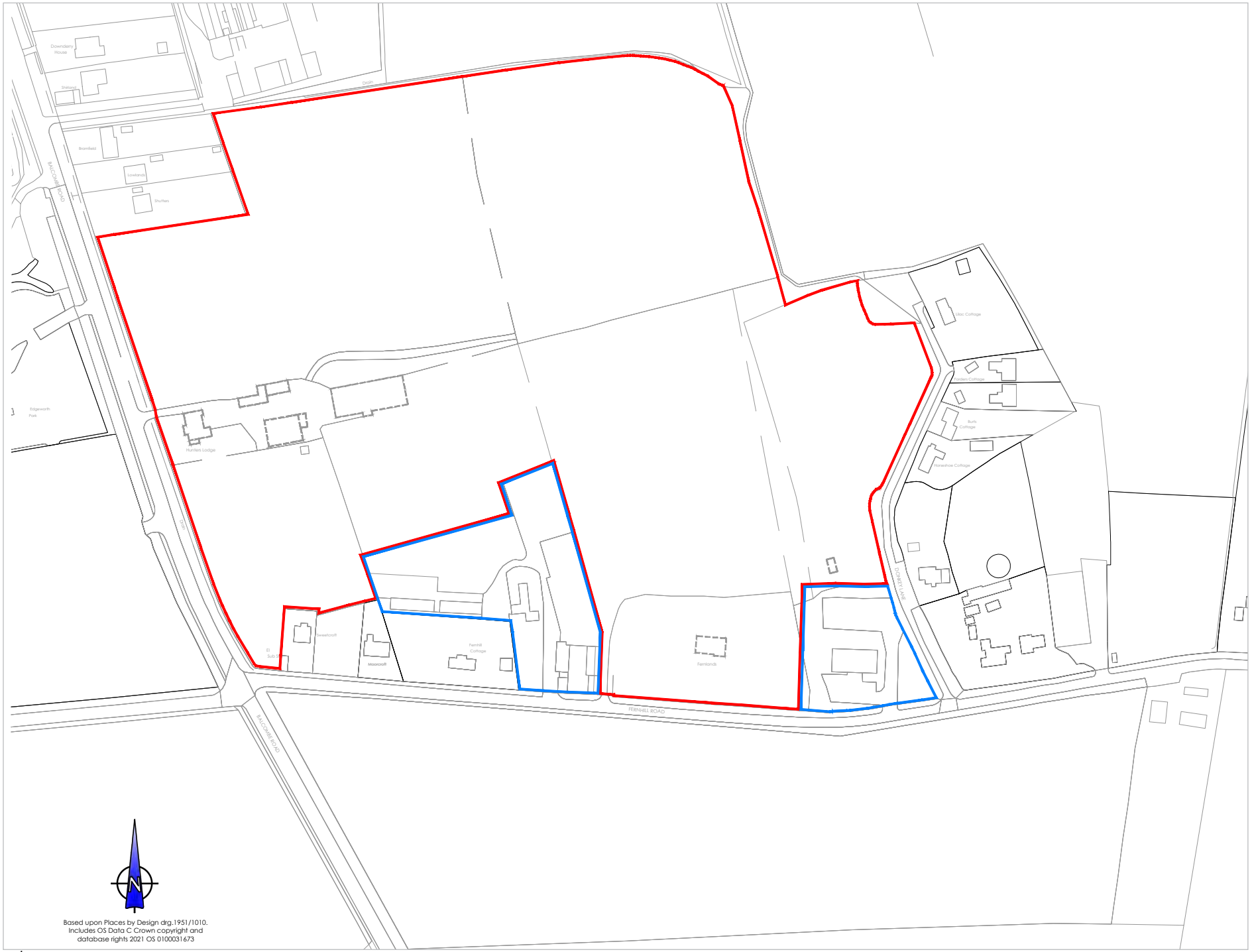


Fig 1: red line plan

1 Introduction

1.1 Background

This document has been prepared by LRM Planning on behalf of WT Lamb, the Dye Family and Elliott Metals/The Simmonds Family and sets out how their combined landholdings can contribute towards the Gatwick Green proposals. Between them, our clients own 8.8ha of land that in effect form the missing section of the Gatwick Green Proposals.

Our clients consider that there is an opportunity to plan comprehensively for the entire Gatwick Green area not just elements of it and confirm that the site is available for B2/B8 employment purposes.

There are signficant methdological weaknesses with the level of employment land provided for within policy EC1 and as such, it is considered that there will be a need to identifiy further allocations in order to make the plan sound.

Accordingly, a comprehensive approach towards Gatwick Green will signficantly help to fulfil this objective and place the Borough on track to fully recover economically and secure the future of its residents.

Fig 2: The old nursery off Fernhill Road

2

The Site

2.1 Introduction

The total site (figure 2) area is 8.8ha, and comprises the following:

- The WT Lamb site (3.1ha) comprises an existing residential bungalow at the front and the rear of the site was previously used for horticultural purposes and comprised over 17,000 sq.ft of glass greenhouses and other ancillary structures associated with its commercial nursery use. However, the greenhouses were unused for some time and fell into considerable disrepair with significant glass and fly tipping across the site
- Land and buildings owned by the Dye Family (5ha) which is formed by three distinct parcels of land to the north and south of Hunters Lodge and MSL Heat Treatment – a manufacturing company operating from the buildings to the rear of Hunters Lodge who intend to remain on site. The land surrounding is generally flat and the three fields are in an agricultural use.
- Land under the ownership of Elliott Metals/The Simmonds Family (0.7ha) that lies to the rear of the family metal recycling centre (Elliott Metals). This is a family business that has operated at the premises for over 80 years. The land to the rear of the metal business is vacant, flat and suitable for redevelopment. It is yet to be determined whether the metal business would relocate or remain at the site. However it is currently outside of the red line area and given its use would be complementary to future employment opportunities.

The three landholdings comprise a significant landholding that totals 8.8ha. It is bound:

- to the east the boundary is formed by a line of trees along Donkey Lane which is a small residential lane beyond which is the proposed allocation SE4 along with incremental businesses and landholdings. Further to the East lies the M23;
- to the south by Fernhill Road and Elliott Metals along with a number of small residential dwellings with allocation SE4 further to the south of Fernhill Road;
- to the north the site is bounded by an existing fields which are part of proposed allocation SE4 and a residential dwelling. Slightly further to the north lies the M23 Spur; and
- to the west the site is found by the Balcombe Road, immediately beyond which is the vast complex of Gatwick Airport (as defined within the Local Plan) which comprises offices, hotels as well as the airport itself.

It is clear that the site and wider Gatwick Green proposal lies within a highly urbanised part of the District with major infrastructure of national significance forming the overarching land use in the local area. Our clients sites form left over land that is perfectly suited to help capitalise on these national infrastructure linkages.

Location

The site forms part of the wider Gatwick Green area as promoted by the Wilky Group, it is located adjacent to Gatwick Airport operational land with the M32 Spur to the north and the M23 to the west. Crawley lies to the south. It is framed by infrastructure of national significance.

It is located east of the B2036 Balcombe Road and west of Peeks Brook Lane. The site area is bounded to the north by the M23 Spur and the south by the B2037 Antlands Lane.

The B2036 Balcombe Road provides a broadly north-south link between the A23 to the north of Horley town centre and Balcombe to the south, and beyond as London Road/Brook Street to the A272 close to Cuckfield.

Balcombe Road is a single carriageway road and is subject to the national speed limit (60mph). The speed limit decreases to 40mph approximately 400m south and 450m north of the site frontage.

Fernhill Road runs east-west along much of the south of the Fernlands site between Peeks Brook Lane and Balcombe Road. It is a rural single lane road with no footways or street lighting

Fig 3: view of the site from Balcombe Road

Fig 4: the combination of low quality land alongside existing industrial buildings on site.

Fig 5: existing industrial buildings and structures on site.

Fig 6: derelict area within the site previously used as a largescale nursery

Fig 7: derelict parts of the site.

Fig 8: Fernhill Road

Fig 9: existing buildings on site

Fig 10: elements of the site in use for agricultural purposes

Fig 12: low quality land with features on site to be retained where possible.

Fig 11: fields in the western part of the site

Fig 13: view from the site towards the north

Fig 16: existing bungalow on Fernhill Road to be demolished

Fig 14: Fernhill House along Fernhill Road

Fig 15: buildings off Fernhill Road

Fig 17: Industrial units within the ownership of Elliott Metals

Fig 18: buildings off Fernhill Road

Fig 19: empty car park at Gatwick

Fig 20: the site with empty Car parking and major infrastructure at Gatwick airport in the background

Fig 21: the site with traffic on Balcombe Road visible and Gatwick airport beyond.

Fig 22: Gatwick airport at full capacity during 2019

Fig 23: Gatwick airport following the impacts of COVID 19 during 2021

3 Gatwick Green Proposals by The Wilky Group

3.1 Introduction

The Wilky Group (TWG) submitted the proposed Gatwick Green employment opportunity to the Council as part of the previous consultation version of the plan. The Site is identified on the plan at figure 24 which shows the extent of the Gatwick Green opportunity, comprising about 59ha (146 acres). Including c. 8.8ha controlled by our clients.

Our clients support TWG view that Gatwick Green represents a regionally and nationally significant opportunity for high quality economic growth that will solve Crawley Borough's growing deficit of employment land as identified in its employment land evidence base. However, we are strongly of the view that the current proposed allocation (EC4) must reflect the comprehensive area in order to ensure the proper planning of the area over the long term and to deliver the required employment land supply.

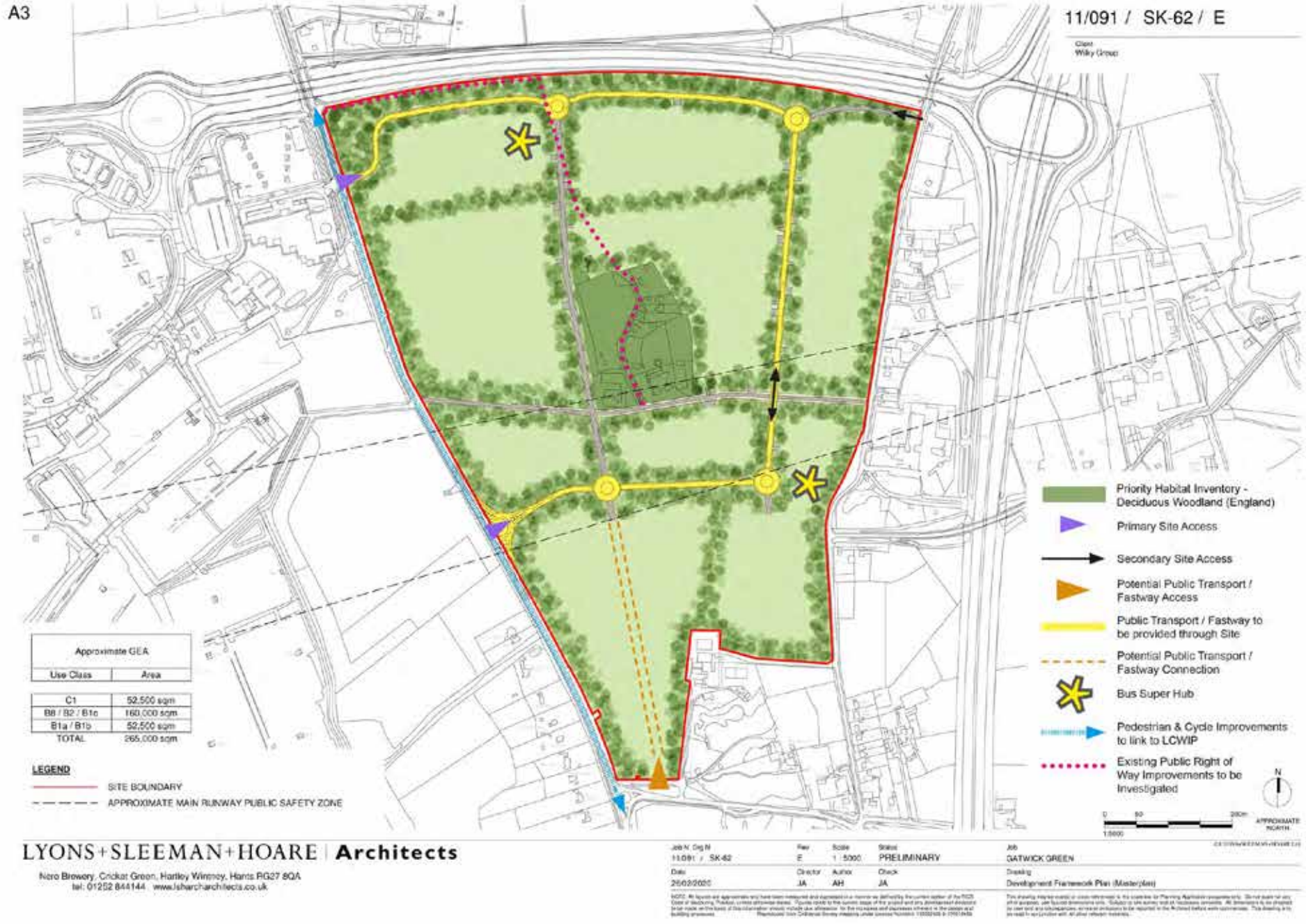


Fig 24: the 59ha framework plan prepared by TWG for Gatwick Green

TWG Proposals

A Development Framework Plan (DFP) has been prepared by TWG to assess the high-level capacity of the site and demonstrate its ability to incorporate a range of sustainability and environmental requirements arising out of national and local planning policy and other statutory requirements.

It is stated that Gatwick Green is a proposed integrated mixed-use development and coordinated infrastructure solution. They anticipate that the development could comprise the following:

- B8, B1(c), B2, industrial, warehousing, distribution and logistics.
- B1 office / R&D.
- C1 hotel use.
- Supporting education uses for apprenticeships & staff training.
- An integrated amenity centre including ancillary shopping, leisure, dining and community uses.
- High quality open space with mobility interchange hub.
- Sustainable mobility at the heart of the masterplan design, with dedicated public transport, pedestrian and cycle infrastructure.
- Ancillary car parking with Electric Vehicle Charging facilities.

It is further noted that "Gatwick Green represents a strategic opportunity to bring forward a highly sustainable mixed-use employment area, offering a unique opportunity to deliver significant benefits to all three of the key components of sustainability. Whilst the site will be a focus for B8 and B2 class floorspace, it has the benefit given its highly accessible location, of being attractive to a mix of non-B class employment uses such as education and training. This will help the site to come forward more quickly given its wider appeal to a number of different sectors and investors (delivery partners). It will also enable the site to deliver a greater variety of jobs to help transform and rebalance the economy and benefit the local community."

Suitability

TWG considered that Gatwick Green is a highly suitable site for strategic employment. In view of its close proximity and accessibility to Gatwick Airport, it is well suited to bringing forward a high-quality business hub to optimise the potential of this strategic location at the confluence of several national transport infrastructure networks – Gatwick Airport, London Brighton Mainline Rail, the Gatwick Express service, the M23 motorway and the Crawley-Gatwick-Horley Fastway bus service.

The site is not affected by any significant environmental, physical or heritage constraints and could be developed within the current/future aircraft noise environment and aerodrome safeguarding requirements relating to the Airport.

A number of evidence based documents have been prepared to support the allocation of Gatwick Green for strategic employment. These include in

respect of transport, ecology and landscape.

The site is also considered to be complementary to Gatwick Airport's growth plans in its Master Plan 2019, including the DCO for the use of the standby runway. Overall, the site is considered to be highly suitable for strategic employment, supported by evidence from Savills review of employment land requirements.

Delivery timeframe

TWG indicate that Gatwick Green could be developed as a mixed-use proposal that achieves a higher density and a better site optimisation than other locations; an appropriate build out rate; parcelled up and phasing to de-risk delivery; benefit from agglomeration, and deliver wider economic benefits. On this basis, it is considered that the market could support a build out over 7 to 10 years finishing around 2035.

Key Considerations

It is clear that TWG consider that the entire area of Gatwick Green (59ha) is suitable for development as supported by their evidence base and as supplemented by our clients. We support this position and confirm that their combined sites are available to contribute towards this wider allocation.

In its current form it is notable that TWG do not control all of the site and as such its ability to provide a comprehensive development solution is undermined. This has left an area of 48ha controlled by TWG Group that is allocated by Policy EC4 rather than the comprehensive approach that their submission was based on. As a result the development framework prepared includes piecemeal parcels and strips of land that have limited potential for employment purposes and are constrained by surrounding land uses.

In this regard our clients would be committed to work with TWG and the Council in any future master plan for the area.

4 Gatwick Green Missing Section

4.1 Introduction

The proposal forms a key missing "section" of the wider Gatwick Green Proposals to enable a comprehensive rather than piecemeal approach to the planning of the area.

The proposed contribution that the site can make includes:

- Employment floor space of approximately 25,000 sqm (subject to final mix) comprising B8 employment uses and smaller scale general industrial uses;
- The potential for a high quality "gateway" with access the heart of the site;
- A new access from Balcombe Road that could serve the subject site but also link in to the wider TWG proposals;
- Green infrastructure on site including necessary open space, landscape/ ecology buffers; and
- Surface water attenuation if required.

Fig 25: illustrative master plan

Key design principles

A number of key principles have guided the proposals, which include:

- A comprehensive approach to development and the creation of an appropriate environment taking account of local context in line with Government policies on design and master planning;

- Provision of sufficient gross area to safeguard the approach to green infrastructure identified within TWG development framework and ensure sufficient developable land to deliver the required amount of B2/B8 uses;

- Access from Balcombe Road with additional options to link into TWG site to the south and north;

- A more logical phasing of development meaning that land at our clients site along the Balcombe Road and adjacent to the airport is delivered earlier within the development period than the more remote eastern parts of the wider site that are more sensitive to existing residential properties;

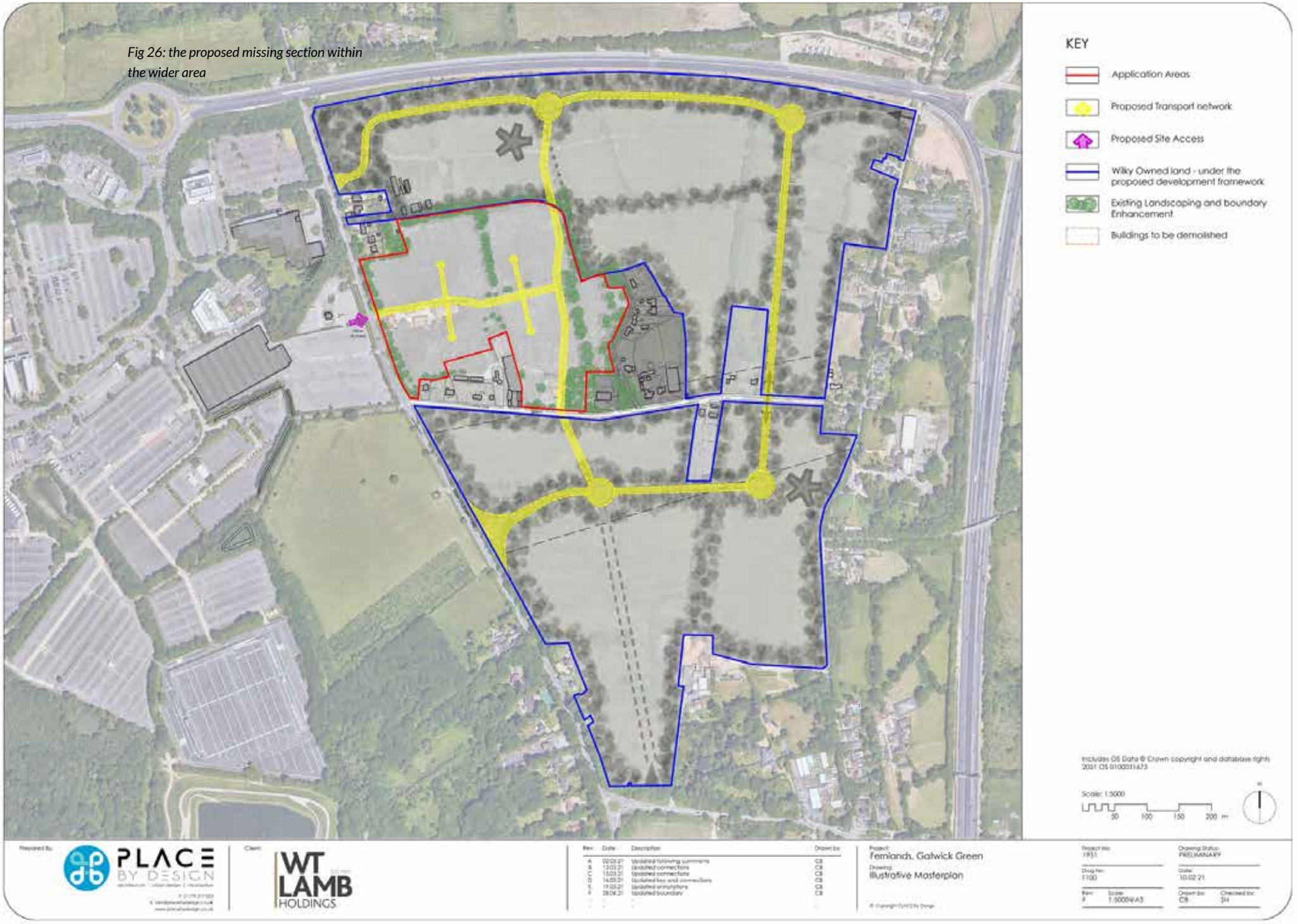
- Scope for seeking low energy forms of development and improving access to the area to ensure a "green" development in terms of energy efficiency;

- A joined up approach to landscape, ecological enhancement and surface water attenuation which will help provide a master plan that is predicated on the delivery of significant green infrastructure; and

- A comprehensive framework for the future of the area rather than simply moving forward on the basis of the area of land considered available in 2020. In this regard our clients are committed to working jointly with the Council and TWG in order to ensure that the future employment aspirations are achieved.

- Strategic delivery alongside TWG in a collaborative approach.

Fig 26: the proposed missing section within the wider area



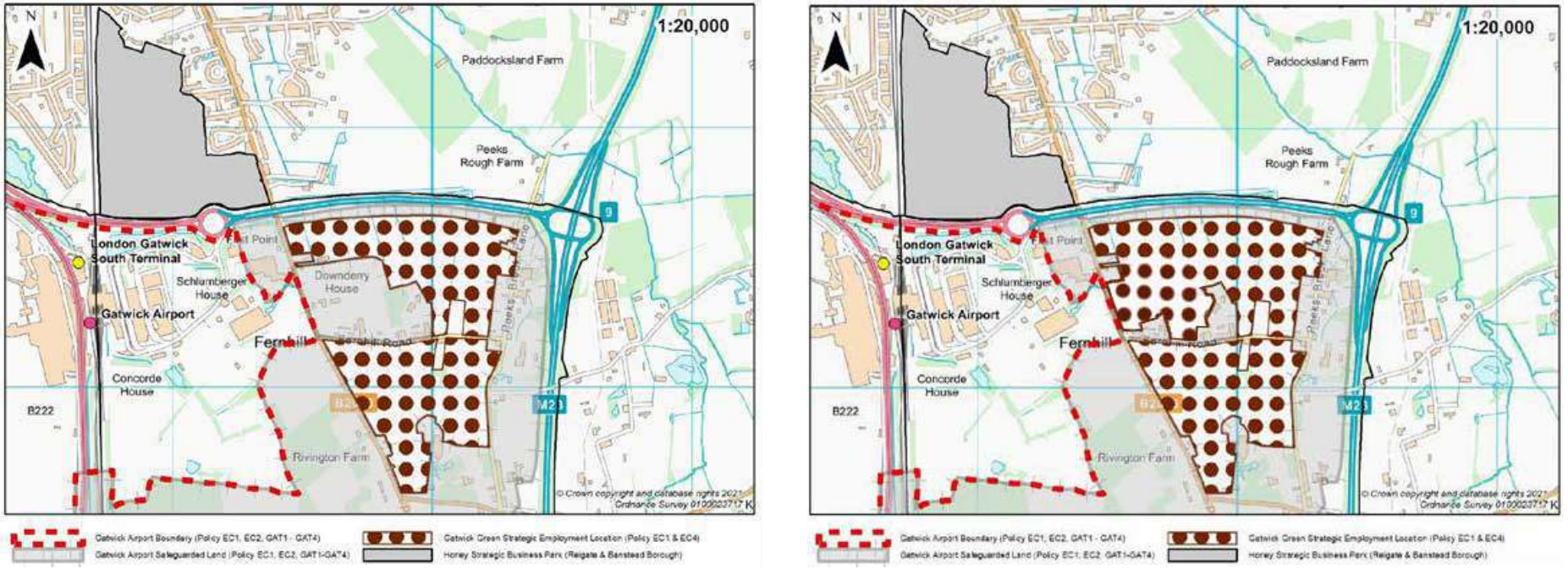


Fig 27: the gap in policy EC4 (left) and EC4 redrawn (right) with our clients site

5

Technical Considerations

5.1 Introduction

In order to help shape proposals, a range of background studies and investigations have been undertaken.

This section sets out a summary of the key findings of these assessments. Full details are set out within the various reports prepared. It considers the initial potential impacts of the proposals to give an overview of their acceptability and would be updated to integrate with the work undertaken by TWG, including:

- National Policy (LRM Planning);
- Landscape Impact (Pegasus)
- Ecology (GE);
- Transport (Miles White Transport);
- Hydrology (PHG); and
- Water Neutrality (Quantum CE).

National Planning Policy

Employment Land

Chapter 6 of the National Planning Policy Framework (NPPF) sets out the Government's requirements for "Building a strong, competitive economy", Para. 80 is clear that planning policies should help create the conditions in which businesses can invest, expand and adapt".

It places significant weight on supporting economic growth and productively taking account of local business needs and wider opportunities for development. Such that each area builds on its strengths, counters any weaknesses and addresses the challenges of the future. It is clear that areas with high levels of productivity should be allowed to capitalise on their potential so that Britain can be a global leader in innovation: driving productivity improvements is the core vision contained in the Government's Industrial Strategy.

Para. 81 sets out that Policies should:

- proactively and positively encourage sustainable economic growth with regard to Local Industrial Strategies and other policies for economic development;
- identify strategic sites for local and inward investment to match the strategy and to meet anticipated need;
- address any barriers to investment; and
- be flexible enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices and to enable a rapid response to changes in economic circumstances

Para. 82 requires that policies should recognise and address the specific locational requirements of different sectors which includes for storage and distribution operators at a variety of scales and in suitably accessible locations.

Further guidance on providing for economic development needs is set out in Planning Practice Guidance (PPG – 025 Ref IDs: 2a-025-20190220 to 2a-032-20190722). To ensure robust evidence on business needs, local authorities should liaise closely with the business community and take account of Local Industrial Strategies. Councils should take a 'best fit' Functional Economic Market Area (FEMA) and then assess the existing employment land stock; the pattern of land supply and loss; evidence of market demand from local data, market intelligence, surveys of business needs, discussions with developers/agents and evidence from business forums; wider market signals on growth, diversification and innovation, and any evidence of market failure.

Above all, this requires close liaison with the business community to understand current and future requirements. In relation to market signals, PPG states that Councils need to look at current and robust data on labour demand (jobs/employment forecasts); Labour supply (demographically derived forecasts of the economically active population, i.e. future employees); the trends in take-up of employment land; future property

market requirements, and consultation with relevant organisations and study business trends, models and employment statistics, taking account of longer term economic cycles. This work will reveal any quantitative or qualitative mismatches in demand and supply and which market segments are under or over-supplied. Councils should look at a range of robust data to understand the requirements for office, general business and distribution space and which market segments are over/under supplied.

PPG contains specific guidance on the needs of the logistics sector given its role in the efficient supply of goods, and therefore economic productivity which is a key part of the UK Industrial Strategy. It goes on to note that strategic logistics facilities need significant amount of land with access to strategic transport networks and that where a need exists. Councils should collaborate with infrastructure providers and other interested parties to identify the scale of need. Likewise, Councils need to understand the needs of specialist or new sectors including through clustering of certain industries to support collaboration, innovation, productivity and sustainability.

Overall therefore, the NPPF and PPG requires that plan-making authorities must address their economic needs in their local plans, which requires an overriding strategy on how and where those needs are to be met. This is critical to achieving a Plan that is sound in accordance with the tests in the NPPF (para 35).

Design

The National Planning Policy Framework makes clear that creating high quality buildings and places is fundamental to what the planning and development process should achieve. The National Design Guide, illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice.

The Guide is clear that "Well-designed places have individual characteristics which work together to create its physical Character. The ten characteristics help to nurture and sustain a sense of Community. They work to positively address environmental issue affecting Climate. They all contribute towards the cross-cutting themes for good design set out in the National Planning Policy Framework."

The guidance identifies 10 characteristics of good design which summarily cover:

1. Context: well designed places are based on a sound understanding of the features of the site and the surrounding context and are integrated into their surroundings so they relate well to them;

2. Identity: well designed places have a positive and coherent identify that everyone can identify with and a character that suits the context.

3. Built Form: relates to the pattern/arrangement of development blocks, streets, buildings and open spaces which together create the built environment rather than individually.

4. Movement: whereby well designed spaces provide a clear pattern of streets and encourage access for all via a wide range of means of sustainable travel.

5. Nature: which requires natural features and biodiversity to be integrated into future proposals.

6. Public Spaces: with well design and well located public spaces within a hierarchy of locations and available to ensure an excellent environment.

7. Uses: with support given to a range of mixes that support everyday activities.

8. Homes and Buildings: that provide high quality living and working conditions.

9. Resources: places that limit their environmental impact.

10. Lifespan: places that are designed over the longer term.

Furthermore, the National Planning Policy Framework expects local planning authorities to develop local design guides, taking account of the National Design Guide and the National Model Design Code. Given the issues that we have raised in respect of site capacity and the development framework plan proposed by TWG, we are of the view that it is appropriate to undertake a thorough master planning and design code exercise, indeed, the National Model Design Code is clear that It indicates that “For larger schemes, design codes can help to maintain consistency in the delivery of development over a longer period of time.”

Government policy would expect this to provide more specific and visual guidance than is possible within policy wording to include: the layout of new development; how landscaping should be approach, factors to consider in the design of building, environmental performance and approach to local vernacular and heritage, architecture and materials.

Landscape

A baseline landscape note has been undertaken by Pegasus based on more detailed technical work already carried out. It has considered a number of key issues and will form the basis for a future more detailed study that would feed into an outline planning application.

The Site is comprised of a number of fields that are either vacant or in agricultural use interspersed with trees and hedgerows. The site is not covered by any designation at a national or regional level that recognises a specific landscape importance.

The site lies within the corridor of a long distance view from Target Hill Park to the south-west of Crawley, as identified under Policy CH8 of Crawley District Council's Local Plan. The aim of the policy is to ensure the view remains unobstructed by development in the foreground, however, it is noted that the site is approximately 8km to the north-east of the corridor.

The site is located within an area defined as the North East Crawley Rural Fringe, as identified under Policy CH9 of Crawley District Council's Local Plan. The policy states:

'To ensure that Crawley's compact nature and attractive setting is maintained, development should:

i. Be grouped where possible with existing buildings to minimise impact on visual amenity;

ii. Be located to avoid the loss of important on-site views and off-site views towards important landscape features;

iii. Reflect local character and distinctiveness in terms of form, height, scale, plot shape and size, elevations, roofline and pitch, overall colour, texture and boundary treatment (walls, hedges, fences and gates);

iv. Minimise the impact of lighting to avoid blurring the distinction between urban and rural areas and in areas which are intrinsically dark to avoid light pollution to the night sky;

v. Ensure the building and any outdoor storage and parking areas are not visually prominent in the landscape;

vi. Does not generate an unacceptable level and/or frequency of noise in areas relatively undisturbed by noise and valued for their recreational or amenity value;

vii. Does not generate traffic of a type or amount inappropriate to the rural roads; and

viii. Does not introduce a use which by virtue of its operation is not compatible with the countryside.

Where harm to the landscape character cannot be avoided appropriate mitigation and, as a last resort, compensation, will be required as part of a planning application. Applicants are advised to consider the enhancement opportunities identified in the Crawley Borough Council Landscape Character Assessment.'

Under Policy CH9, it specifically states in relation to North East Crawley Rural

Fringe that 'Proposals which do not create or are able to adequately mitigate visual/noise intrusion are generally supported. This area has an important role in maintaining the separation of the distinct identities of Gatwick Airport, Crawley and Horley.'

Northern most fields within the site are located within a Biodiversity Opportunity Area as defined by Policy ENV2 of Crawley District Council's Local Plan. The policy states that 'All development proposals will be expected to incorporate features to encourage biodiversity where appropriate, and where possible enhance existing features of nature conservation value within and around the development.'.

Landscape Character

The site lies within National Character Area 121: Low Weald. At a regional level, the site is located to the north-east of the Northern Vales Landscape Character Area as set out in the West Sussex County Council Landscape Character Assessment. The land management guidelines overarching goal is to 'Conserve the mostly rural character of the area', with specific guidelines of relevance to the site as follows:

• 'Conserve, manage and restore woodlands, hedgerows, hedgerow trees, field ponds, species rich grassland and meadows, unimproved grassland and meadows.

• Maintain historic character including small scale field patterns, earthworks and historic parkland.

• Establish a framework of new woodland and hedgerow planting.

• Promote the establishment of field margins in arable areas.

• Conserve historic lanes with their ancient oaks and unimproved roadside verges.

• Focus on the enhancement of the major transport corridors, seeking better integration into the existing field pattern of the wider landscape.

• Ensure any small scale development responds to the historic dispersed settlement pattern and local design and materials.

• Ensure any new development around the urban edges, in particular … Crawley…is well integrated with the wider landscape pattern. Encourage bold native woodland and hedgerow planting. Buildings should also blend in with the landscape in scale, form, colour and design.

• Encourage screen planting of native trees and woodland around roadside buildings and service areas, and industrial and commercial development, including Gatwick Airport.

At a local level, the site is located within Area 6 – High Woodland Fringes Landscape Character Area. The area is identified as having high landscape value, but a moderate sensitivity to change, being sensitive to elements such as large scale commercial and residential development and the condition of the landscape is considered to be declining due to increasing visual/noise intrusion in some parts. The planning guidelines for the landscape character area are as follows:

• Proposals must respect the important role of the area to maintaining the

separate identities of Gatwick Airport, Crawley and Horley.

• Incremental development should be resisted to prevent the actual and perceived reduction in the highly valued open character of this area.

• Proposals should follow the wider planning and land management guidelines of the Low Weald Northern Vales character area.

Context

The site is located between Fernhill Road and Balcombe Road, to the east of Gatwick Airport and close to the M23 motorway, including a spur which provides a connection to the airport. The site is made up of a series of mostly irregular shaped agricultural fields, with the inclusion of a number of buildings including Hunters Lodge and an agricultural outbuilding to the west and Fernlands and an office building between Fernhill Road and Donkey Lane to the south-east.

The site is surrounded by a number of residential, farm and employment buildings off the surrounding road network. Land to the north and south of Fernhill Road is predominantly agricultural, with the M23 forming a prominent visual detractor in the surrounding landscape. The landscape to the west is dominated by car parking, employment buildings, hotels and retail uses.

A public right of way (3675Sy) is located adjacent to the eastern site boundary, which provide a rural link between Fernhill Road and Balcombe Road to the north-west of the site. Close to the south-east corner of the site, another public right of way (359sy) follows a fenced off track adjacent to car parking associated with Gatwick Airport, before heading further southward and connecting to Radford Road. The Sussex Border Path long distance footpath is located to the east and north of the site, where it follows Peeks Brook Lane to the east before crossing the M23 and heading westward adjacent to the motorway. The Tandridge Border Path long distance footpath links with the Sussex Border Path east of the M23 and to the north-east of the site.

A dense network of mature trees surrounds Fernlands and the office building to the south-east, which follow Donkey Lane and the public right of way. A tree lined hedgerow aligns most of Fernhill Road, coupled with residential properties and their associated garden vegetation, limits visibility into the site. Where the site abuts Balcombe Road (B2036) the site is defined by clipped field boundary hedgerows, with occasional matures trees within the hedgerows further to the south, which provides a more open aspect from the road. A mature tree belt defines the north-eastern and northern boundaries, which provides visual enclosure. The internal field boundaries are of variable quality, with those most established appearing to the north.

Views towards the site from surrounding areas are well contained by the surrounding network of mature vegetation. Therefore, views are limited to the network of roads and footpaths either adjacent to or in the vicinity of the site, and do not extend beyond the M23 or the areas of woodland to the south and south-west.

Opportunities and Constraints

The following landscape and visual opportunities and constraints are shown on the supporting plan and set out below.

Fig 28: Landscape and visual opportunities plan

Opportunities

The principal landscape and visual opportunities for the site comprise:

• the potential to manage and enhance the existing field boundaries and mature trees, to provide visual enclosure and to enhance wildlife benefits;

• the potential to manage and enhance the internal network of field boundary hedgerows;

• the potential to enhance the local wildlife and biodiversity through new planting and the introduction of new landscape features;

• the potential to provide improved connections to the surrounding roads and public footpaths; and

• the potential to enhance the intimate landscape area to the south-east for recreation and/or local wildlife.

Constraints

The principal landscape and visual constraints for the site comprise:

• Openness of Balcombe Road with clear and unobstructed views over western parts of the site;

• The potential for the area of biodiversity enhancement to the north of the site to restrict development;

• potential loss of existing site features including trees and hedgerows, in particular, to the south-east;

• potential to adversely affect the visual amenity of local residences, particularly those abutting the site along Fernhill Road and Balcombe Road; and

• potential to adversely affect the visual amenity of vehicles and walkers using surrounding rural roads and the network of public footpaths.

Design Considerations

To assist the design development of future design proposals that mitigate the landscape and visual constraints identified, a number of design considerations are set out below.

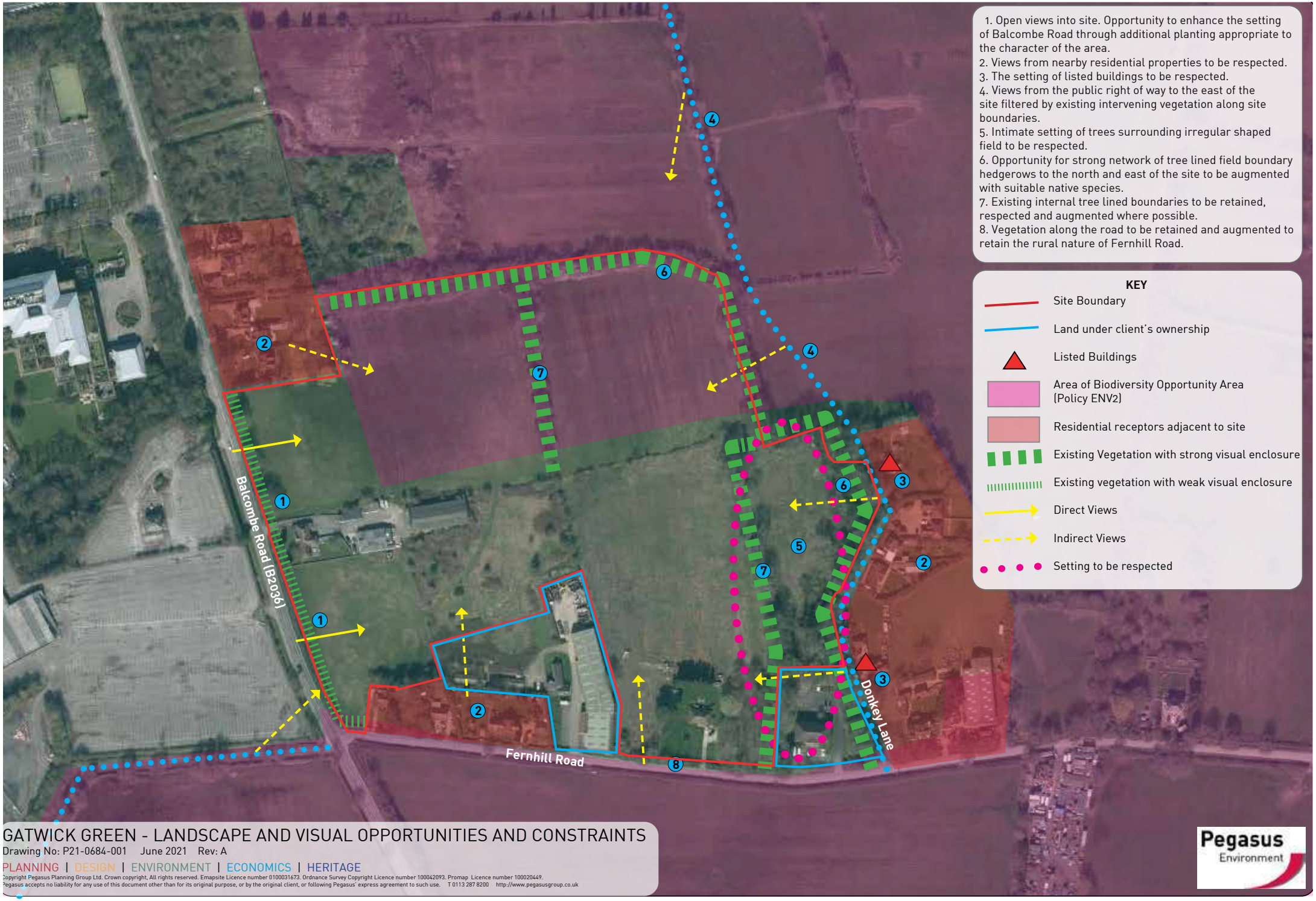
Vegetation Pattern

Existing vegetation to the north and east and adjacent to Fernhill Road must be retained and respected, as well as augmented wherever possible.

The internal network of field boundary vegetation must be respected by any development layout and enhanced.

Any development needs to be set back from Balcombe Road (B2036), to allow for the addition of new structural planting along the western and south-western edges of the site.

Development proposals must adhere to the guidance set out in the county



1. Open views into site. Opportunity to enhance the setting of Balcombe Road through additional planting appropriate to the character of the area.
2. Views from nearby residential properties to be respected.
3. The setting of listed buildings to be respected.
4. Views from the public right of way to the east of the site filtered by existing intervening vegetation along site boundaries.
5. Intimate setting of trees surrounding irregular shaped field to be respected.
6. Opportunity for strong network of tree lined field boundary hedgerows to the north and east of the site to be augmented with suitable native species.
7. Existing internal tree lined boundaries to be retained, respected and augmented where possible.
8. Vegetation along the road to be retained and augmented to retain the rural nature of Fernhill Road.

KEY

- Site Boundary
- Land under client's ownership
- Listed Buildings
- Area of Biodiversity Opportunity Area (Policy ENV2)
- Residential receptors adjacent to site
- Existing Vegetation with strong visual enclosure
- Existing vegetation with weak visual enclosure
- Direct Views
- Indirect Views
- Setting to be respected

GATWICK GREEN - LANDSCAPE AND VISUAL OPPORTUNITIES AND CONSTRAINTS

Drawing No: P21-0684-001 June 2021 Rev: A

PLANNING | DESIGN | ENVIRONMENT | ECONOMICS | HERITAGE

Pegasus Environment

and local landscape character assessments, as set out in paragraphs 6 and 7 above.

The creation of a recreational or wildlife area to the south-east should be considered in order to respect the existing trees and vegetation and respect the intimate setting of the landscape.

Any new planting or landscape features should aim to enhance the value of the site to local wildlife, in particular, where located within Biodiversity Opportunity Areas to the north as defined by Policy ENV2 of the local plan and shown on the landscape and visual opportunities and constraints plan.

Any trees lost as a result of the development must adhere to tree replacement in accordance with Crawley District Councils Policy CH6, based upon tree replacement tree planting in relation to trunk diameter of the tree lost.

Development should avoid any impacts upon trees and vegetation within adjacent properties.

All landscape proposals must adhere to the guidance in relation to planting in proximity to airports, and in accordance with CAP 772: Wildlife Hazard Management at Aerodromes.

Built Form

The development should reflect the height, scale and massing of similar surrounding buildings in the vicinity of the site and be minimised wherever possible.

The development should allow for sustainable movement around the site and look for opportunities to improve pedestrian and cycle links in the local area.

Surrounding Land Uses

Any development must be appropriately offset from the adjacent residential properties to respect their visual amenity.

The development must respect the setting of the listed buildings to the east of the site, as well as other surrounding locally listed buildings further to the east and those listed buildings to the west.

Any development must ensure that the setting of the public right of way is respected, with mitigation within the site to limit views toward development proposals.

Ecology

GE Consulting has been commissioned to prepare a Ecology Technical Note to accompany representations to the draft local plan consultation in relation to land at. It aims to:

- Draw together previous ecological survey work and provide an overview of baseline conditions; Evaluate the requirements of a proposal in terms of biodiversity planning policy and legislation;
- Review initial constraints and opportunities for the Site and propose likely mitigation measures/design considerations; and
- Detail further ecological survey work required to inform detailed proposals and a future planning application.

Statutory Designated Sites

There are no National Site Network sites, which includes SACs and SPAs, within 10km. However, a Draft Habitat Regulations Assessment of the Draft Crawley Borough Council Local Plan (Lepus Consulting, January 2021) has screened in specific impacts relating to development at Gatwick Green on:

• Mole Gap to Reigate Escarpment SAC, 11.3km north-west

• Ashdown Forest SAC/SPA, 12.5km south-east;

• The Mens SAC, 30km south-west; and

• Arun Valley SAC/ SPA/ Ramsar, 33km south-west.

There are no statutory sites (such as SSSIs or LNRs) within 2km of the Site. Furthermore, the Site does not lie within any

Non-statutory Sites

There are two non-statutory sites of County importance located within 1km:

• Horleyland Wood Local Wildlife Site (LWS), 0.8km south-west, important for ancient coppice-with- standards bluebell woodland; and

• The Roughs LWS, 0.9km north-east, important for ancient semi-natural woodland and locally rare fine-leaved water-dropwort.

Local Priorities/ BAP/ Conservation Strategies

Biodiversity Opportunity Areas

Biodiversity Opportunity Areas (BOAs) are landscape scale areas which have been identified as supporting high concentrations of Habitats and Species of Principal Importance (HPI/ SPI) and/or have the potential/greatest opportunities for restoration and creation of habitats. They seek to expand, link and buffer important biodiversity sites to provide an ecological network.

The Gatwick Wood BOA lies partially within the Site boundary, excluding the southern and western fields. This area is described within the Crawley Green Infrastructure SPD (2016) as:

"dominated by the Gatwick Airport landscape but contains a small amount of ancient woodland amongst agricultural land where the opportunities for biodiversity gain and landowner liaison are tangible.

- Woodland management and restoration;
- Education and community engagement, including links to health;
- Increased site designation;
- Working with and attracting new businesses;
- Ecological networks;
- Visitor facilities."

Natural England National Habitat Network

Natural England have developed an England-wide dataset of zones where action may be undertaken to build greater ecological resilience. These zones are based around existing HPIs, or 'primary habitats' and comprise:

• Network Zone 1: land within close proximity to the primary habitat what are more likely to be suitable for creation of the same habitat type.

• Network Zone 2: land within close proximity to the primary habitat that are unlikely to be suitable for creation of the primary habitat, but where other types of habitat may be created or green infrastructure delivered.

• Fragmentation Action Zone: land immediately adjoining primary habitat patches that are small or have excessive edge to area ratio where habitat creation is likely to help reduce the effects of habitat fragmentation.

• Network Expansion Zone: land within relatively close proximity to Zones 1 & 2 identified as possible locations for connecting and linking up networks across a landscape.

The Site does not lie within any National Habitat Network zones.

Habitats & Flora

Priority Habitats

A review of MAGIC shows HPI 'Deciduous Woodland' occupying the eastern field and surrounding the property off Fernhill Road (see Appendix 4). The field appears from aerial imagery to comprise grassland and would therefore require ground-truthing.

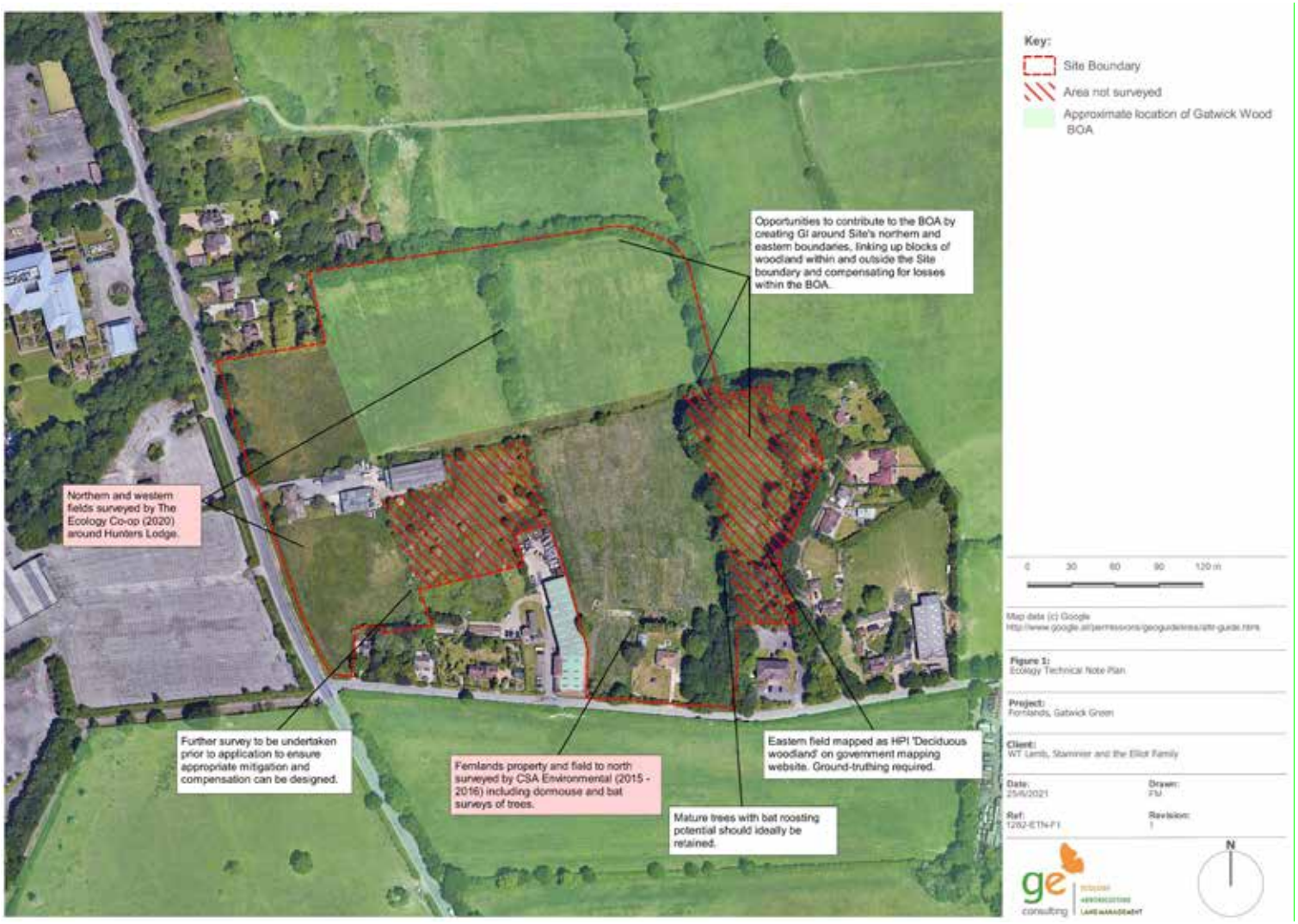
No other HPIs are indicated on MAGIC within or adjacent to the Site boundary, however the network of hedgerows within the Site are likely to meet HPI criteria.

Onsite Habitats

The Site comprises six distinct fields, properties with associated gardens, small areas of woodland and boundary trees and hedgerows.

Fields within the north and west of the Site comprise poor semi-improved

Fig 29: ecological work summary



grassland, managed by cutting (The Ecology Co-op, 2020). A central field, not surveyed as part of previous work, appears to comprise rough grassland and scattered trees, possibly a former orchard. Seasonally wet ditches are present including along the northern, southern and western boundaries of the Site.

Two residential properties are present; 'Hunters Lodge' along the eastern boundary accessible from Balcombe Road and 'Fernlands' along southern boundary accessible from Fernhill Road, along with associated outbuildings. Gardens comprised ornamental planting, scattered ornamental and coniferous trees and regularly mown, species-poor lawns. A further property, 'Fernhill House' is found to the east of Fernlands in an area of unsurveyed land. It is surrounded by car parking, amenity grassland and semi- mature trees.

During previous survey work, the field north of Fernlands bungalow has been cleared and comprised bare, disturbed soil with limited areas of poor semi-improved grassland following clearance of waste and former glasshouses (CSA Environmental, 2017). Aerial imagery suggests this previously comprised a mosaic of grassland, trees and scattered scrub and is now likely to comprise grassland habitat. Similarly, the eastern field (mapped as woodland on MAGIC) appears to have been felled since 2015 as indicated on historical imagery, however mature boundaries have been retained.

The field boundaries are marked by species-poor hedgerows, many with banks, dominated by blackthorn and hawthorn with occasional standard trees. Some of the inner boundaries of the Site are marked by mature tree lines, scrub, fences or walls. North of Fernlands is a line of mature oak and ash trees.

Broadleaved woodland is present to the east of Fernlands, comprising mostly immature/semi-mature oak and silver birch, with occasional ash, hazel, holly and conifer species.

In terms of value, hedgerows (and their associated trees) and broadleaved woodland are Habitats of Principal Importance listed on Section 41 of the NERC Act 2006.

Flora

Previous survey work has not identified any notable or invasive plants within the Site.

Protected and Notable Fauna

Based on the desk-based study and walkover surveys, the following protected and notable faunal species were considered to be present/have potential to be present:

- Badger – no setts found however footprints and dead badger recorded at Balcombe Road in 2020 indicates local presence. There may be setts in unsurveyed parts of the Site and the fields offer foraging potential.

- Bats – A residential bungalow (Hunters Lodge) and agricultural barn off Balcombe Road provide moderate and low potential for roosting bats respectively (The Ecology Co-op, 2020). Fernlands bungalow and outbuildings

offer negligible/low potential (CSA Environmental, 2017) and the property in the south-east corner has not been assessed. These categories are based on external assessments only, therefore internal assessments would be required to confirm. Numerous trees within the Site offer roosting potential, including mature oaks with high potential towards the eastern end of the Site. Previous emergence surveys did not record roosts within trees north of Fernlands. Local records (all over 1km from Site) indicate the presence of common pipistrelle, noctule, brown long-eared bat, whiskered bat, Natterer's bat and the rare barbastelle and Bechstein's bat. Both the latter species favour woodland habitats, but could utilise the mature hedge/tree lines particularly around the peripheries of the Site. Additionally, foraging soprano pipistrelle, serotine, myotis and big bats (Nyctalus or Eptesicus sp.) have been recorded along a mature tree line within the east of the Site and it is considered that the network of hedgerows and woodland edge throughout the Site is likely to be of value for local bat species for both commuting and foraging.

• Birds – Hedgerows, scrub, trees, woodland and buildings within the Site provide suitable habitat for a variety of widespread birds to nest and forage, including priority species under the NERC Act 2006 and Birds of Conservation Concern (BoCC)9.

• Dormouse – There are records within 1km of the Site, including three Natural England dormouse mitigation licences c.200m north-west. 2016 surveys of the southern part of the site did not record dormice, however given the age of data and small area surveyed it is recommended that update surveys are undertaken. Woodland, hedgerows and dense scrub provide suitable habitat for dormice and are connected to more extensive habitat beyond the Site boundary.

• Great crested newt (GCN) – There are two Natural England GCN mitigation licences c.850m south- west and there are older records (before 1996) from within 300m. There are at least two ponds within 250m of the Site, and a further three within 500m (excluding any north of the M23 motorway), but none within the Site itself. Should great crested newts be present in surrounding ponds, it is considered relatively unlikely that they would utilise the Site due to the relatively large dispersal distances between ponds, the presence of major roads acting as barriers to dispersal and the presence of suitable terrestrial habitat in closer proximity to off-site ponds.

• Invertebrates - Habitats on Site present opportunities for a broad range of common invertebrates with some notable species possible, such as brown hairstreak due to the presence of suckering blackthorn. Mature trees may also support notable deadwood invertebrates.

• Riparian mammals – No records of water vole within 2km were returned as part of the data search in 2015. Possible evidence of burrows along the banks of the western watercourse suggest that water vole could be present, although the lack of emergent vegetation makes the Site sub-optimal. Other surveyed ditches were considered unsuitable due to size, lack of flowing water and isolation. No suitable habitat for otter is present.

• Reptiles - Suitable terrestrial habitat for common reptiles is present, particularly for common lizard and slow-worm. The dense tussocky sward structure and deep thatch within the western fields, and likely within the unsurveyed central and eastern fields, combined with bordering scrub and

woodland, provide suitable refuge and invertebrate food resource.

• Hedgehog – The fields, scrub, woodland and garden habitats on Site provide good habitat for hedgehog and records are present within the area.

Constraints and Opportunities

This section seeks to identify where the presence of designated areas, habitats or the potential for protected or notable species to be present will be a material consideration for the LPA when considering future development proposals. It is based on the assumption that detailed further survey work would be completed to inform detailed design and accompany any future planning application for development of the Site (see Section 6).

Designated Sites

A screening assessment of Likely Significant Effects (LSEs) within the Draft HRA of the Crawley Local Plan (Lepus Consulting, 2021) indicates alone and in-combination effects of the Gatwick Green development on air quality, potentially impacting:

- Ashdown Forest SAC and SPA; and
- Mole Gap to Reigate Escarpment SAC.

In addition, in relation to hydrology, it may increase discharges to Wastewater Treatments Works or increase pressure on public water supply abstraction. The HRA predicts changes in water quality and water quantity at:

- Mole Gap to Reigate Escarpment SAC;
- Arun Valley SPA/ SAC/ Ramsar; and
- The Mens SAC.

The HRA indicates that detailed air quality modelling, water quality and water quantity assessments are currently underway to further define impacts associated with increased traffic movements. It is anticipated that policy wording may require expanding to include sustainability measures, measures for water efficiency and protection of water quality to reduce impacts to negligible. Given the distances of these designations from the Site, it is anticipated that this will be achievable.

Local Priorities/ BAP/ Conservation Strategies

Whilst the Biodiversity Opportunity Area which covers part of the Site receives no statutory protection, it indicates where there are opportunities to provide net gains for biodiversity and can be used to inform opportunities for habitat creation and restoration. In addition, BOA's are recognised within the Crawley Green Infrastructure SPD and for 'impacts which reduce, block or harm green infrastructure, the applicant should clearly explain this, why it can't be avoided and how they have been mitigated and/or compensated for'.

Development of this Site could therefore offer opportunities to contribute to the Gatwick Woods BOA, ensuring that ecological (habitat) networks are maintained and enhanced. For example, the existing network of outgrown hedges/ treelines around the north and east of the Site could be expanded

and enhanced, linking to small blocks of woodland in the south-east corner, north and west of the Site. The ecological network can be multi-functional, providing ecological benefits as well as creating an attractive setting for the development, providing space for recreation and encouraging sustainable travel e.g. cycle paths.

Habitats and Flora

In order to be compliant with planning policy and protect features of ecological value, the 'Mitigation Hierarchy' needs to be applied during development of proposals. This is a set of principals which are followed in sequential order: avoidance, mitigation and, as a last resort, compensation.

HPIs should form the basis of habitat retention where possible. At this Site, retention should therefore focus on:

- Hedgerows;
- Woodland; and
- Mature trees.

These habitats, with suitable buffer zones could form wildlife networks as well as Green Infrastructure (GI) through the Site. As these habitats are mainly focused around the Site peripheries and eastern areas, this offers good opportunities to tie in with the BOA enhancements discussed above. A full survey of the Site will be required to identify the habitats outside the previously surveyed areas and identify their value.

If ancient woodland is present, a minimum 15m buffer will required between the development and the ancient woodland, including through the construction phase. A comprehensive Arboricultural survey should be undertaken prior to the detailed design stage.

Unavoidable losses of habitats will need to be adequately compensated for in accordance with national and local policy.

New habitat creation should focus on areas with high biodiversity value. This could include new woodland and hedgerows, orchards, species-rich grassland and wildlife-friendly SuDS schemes/ wetlands (bearing in mind potential constraints relating to Gatwick Airport and bird strike).

Ditches, including those adjacent to Site should be buffered and measures employed to prevent pollution.

Protected and Notable Fauna

Appropriate design opportunities and constraints relating to fauna will be based on up-to-date survey work for these species; however, a summary of possible design considerations is provided below.

- As a preliminary assessment, hedgerows, trees and woodland edge may form important bat, bird and dormouse habitat. Mature trees may be important for notable deadwood invertebrates. These habitats should be retained where possible. Retained and created habitat should be designed to provide connectivity across the landscape (e.g. north to south and east to west);

- Wildlife corridors should be protected from light-spill. As a guide, a buffer of 10 – 15m between important habitat and built development is usually sufficient to mitigate light-spill;Buildings and suitable trees within the Site have the potential to support roosting bats and will require an assessment to determine presence/likely absence. If roosts are found, retention of the roost or a like-for-like replacement roosts will be required (in accordance with the conditions of a suitable Natural England EPS derogation licence);

- If reptiles are found to be present, GI can be designed to act as a 'receptor area' for populations found within the build area. The habitat within GI can be enhanced through the creation of tussocky grassland, sunny banks and habitat piles for refuge;

- Planting schemes should incorporate plants that support invertebrates. There are opportunities to support the West Sussex Pollinator Action Plan 2019 – 2022 by protecting and enhancing important pollinator habitat (e.g. trees and hedgerows) and creating pollinator-friendly environments as part of GI. To include native plants or those listed on RHS Plants for Pollinators, habitat piles, structurally diverse habitats and reduced cutting regimes via long-term management principles;

- Include integrated or surface mounted boxes for bats, birds and invertebrates on new buildings;

- Given the proximity to Gatwick Airport consideration will need to be given to bird species that could be attracted to new buildings (such as gulls which nest on flat roofs) and appropriate mitigation/ management designed in;

- The presence of badger setts on the Site (to be confirmed within unsurveyed areas) will require minimum 20m buffers in which no construction/excavation occurs. If present, adequate wildlife

- Corridors and foraging habitat will need to be provided. These spaces can form part of landscaping/open space/green infrastructure. It may be possible to close setts if required, although new artificial setts may be required (e.g. for main breeding setts)

- A planning application is likely to require a Landscape and Ecology Management Plan (LEMP) and Construction Environmental Management Plan (CEMP) prior to works/ occupation.

Biodiversity Net Gain

There is already policy requirement to enhance nature conservation and the Government are planning to roll out a legislative requirement for achieving a net gain in biodiversity for all developments. This gain relates to both linear habitats (e.g. hedgerows) and non-linear habitats (e.g. grassland/woodland) and requires the use of a 'metric' to calculate the required biodiversity units.

It is important that BNG is considered early in the design stage to ensure that proposals can meet this requirement.

High distinctiveness habitats (woodland, mature trees, hedgerows) should be favoured for retention as opposed to low distinctiveness habitats (hard standing and improved grassland), which are easier to replace. New habitat

creation should focus on those with high biodiversity value, for example wetlands, ponds, meadows and orchards.

Conclusions

In summary it is concluded that there are no in principle ecological constraints preventing allocation of this Site for future development. Furthermore;

- The Site is unlikely to be constrained by the presence of statutory designated sites for nature conservation in the local area, subject to further assessment and possible mitigation;
- Habitat retention should focus on those features of highest ecological value, contributing to local conservation strategies/priorities where possible;
- Development should aim to retain and incorporate features for protected and notable species, including a network of wildlife corridors through and around the Site;
- Development proposals should ensure biodiversity net gain can be achieved; and
- Detailed design and any future planning applications should be informed by further ecological survey work

Transport

Miles White Transport (MWT) have been appointed to provide traffic and transportation advice in relation to the proposed development of land close to Gatwick Airport between Crawley and Horley in West Sussex. MWT have formulated a proposed Transport Strategy that will enable the site to be developed as part of the adjacent Gatwick Green Strategic Employment Location.

Local Highway Network

The wider Gatwick Green site area, within which the Fernlands site sits, is located east of the B2036 Balcombe Road and west of Peeks Brook Lane. The site area is bounded to the north by the M23 Spur and the south by the B2037 Antlands Lane.

The B2036 Balcombe Road provides a broadly north-south link between the A23 to the north of Horley town centre and Balcombe to the south, and beyond as London Road/Brook Street to the A272 close to Cuckfield.

In the vicinity of the Fernlands site, Balcombe Road is a single carriageway road and is subject to the national speed limit (60mph). The speed limit decreases to 40mph approximately 400m south and 450m north of the site frontage.

Balcombe Road is unlit and provides a footway on the western side of the road only in the vicinity of the site.

Traffic Volumes

Traffic survey information was collected for the Transport Assessment (TA) prepared by PJA to support the now withdrawn planning application at the former Fernlands Nursery site located north of Fernhill Road (CR/2017/0810/FUL).

This data was collected in December 2015 and January 2016 and includes an Automatic Traffic Count (ATC) on Balcombe Road, a turning count at the Balcombe Road/Fernhill Road junction and a speed survey on Balcombe Road.

The recorded vehicle speeds on Balcombe Road in the vicinity of the Fernlands site were well below the existing 60mph speed limit.

Road Safety

'Crashmap' data identifies that 4 personal injury accidents have occurred on Balcombe Road in the vicinity of the Fernlands site during the most recent five-year period where data is available (2016 to 2020).

Overall, this section of Balcombe Road has a relatively good safety record.

Public Transport

Bus stops are located and operate on Balcombe Road to the north of the site and on Antlands Road to the south of the site. These bus stops provide different opportunities to travel to a range of destinations including Horley,

Crawley, Reigate and Redhill.

However, whilst there are bus services which operate within the local area, the existing level of local bus infrastructure is relatively poor due to limited development in the immediate vicinity of the proposed site.

The site is located within the vicinity of three local railway stations, with the closest being Gatwick Airport to the west. Horley Railway Station is located to the north, whilst Three Bridges Railway Station is located to the south.

As identified within the Local Plan supporting evidence, station improvements at Crawley and Three Bridges stations are already identified within the Crawley Growth Programmes, while Gatwick Airport station is to be significantly improved, and upgraded alongside improved access to local Fastway bus services. The identified improvements will enhance these transport interchanges and help achieve modal shift away from the private car.

Gatwick Airport station is located some 1.7km from the centre of the site and provides an opportunity to travel to key destinations including London Victoria, Brighton, Horsham, Cambridge, Peterborough and Reading.

Walking and Cycling

The site is well located to the existing centre of Crawley and its northern suburbs, central Horley, the emerging residential areas such as Forge Wood, and complementary employment areas of Manor Royal and Gatwick Airport.

It is generally accepted that walking offers the potential to substitute short car journeys, in particular those that are less than 2 kilometres. The location of existing residences (potential workforce) and day to day services and facilities in relation to a proposed site is therefore of key consideration.

All of Horley, Gatwick Airport and the northeastern parts of Crawley are well within the 5km cycling distance widely considered to be appropriate to encourage day to day use and can be easily reached by bicycle. Cycling is therefore considered to be a viable travel choice for future employees at the site.

All three railway stations referred to earlier are within a 10 to 20 minute bicycle ride, making cycling a favourable option as part of a multi-modal journey when travelling from the wider area.

Summary

Therefore, it is evident that the proposed Fernlands site is accessible by non-car modes of travel including walking, cycling, bus and train.

GATWICK GREEN

TWG controls 48ha of land east of Gatwick Airport and south of the M23 spur road between Junctions 9 and 9a. This forms part of a larger site of 59ha which is being promoted by TWG for employment.

TWG propose to bring forward an integrated mixed-use development with co-ordinated infrastructure solution to deliver the site, which currently forms part of the land that is proposed to be allocated as a Strategic Employment Location under Policy EC4 in the CBLP.

The TS identifies that it is anticipated that the development could comprise 265,000 sq.m split between B8 (Warehousing, distribution and logistics), B1 (Office) and C1 (Hotel) uses.

However, it remains to be proven if this is realistic or not and, in any event, is at odds with the quantum of development identified in the CBLP/CTS and our representations on the capacity of the site, which we would suggest is vastly over estimated by TWG.

TWG also state that Gatwick Green provides the opportunity to plan development and sustainable transport **comprehensively** (our emphasis) with new employment and residential locations linked, to avoid "piecemeal" growth which focusses on the exclusive needs of individual sites and occupiers.

TWG propose to access the site from two locations on Balcombe Road with no direct access to the M23, M23 spur or Junction 9A. The northern land parcel is proposed to be accessed from a new traffic signal controlled junction and the southern land parcel from a new three arm roundabout.

The two junctions would be linked by an internal spine road via Fernhill Road providing a multi-modal corridor through the site. This will deliver a permeable access solution as well as the opportunity to provide Fastway penetration through the site.

Along with the potential to provide non-car mode access as part of the two vehicular access points identified, additional dedicated pedestrian and cycle points of access, and associated crossing points will be provided.

TWG are also exploring access opportunities using the frontage of Balcombe Road, Fernhill Road, Peeks Brook Lane (emergency only) and Antlands Road.

The overarching transport strategy for Gatwick Green is to ensure people can reach the new facilities by appropriate transport modes, promoting sustainable travel as part of a lifestyle choice allowing employees and visitors to access the site by foot, cycle and public transport. The aim is to reduce the use of private cars for shorter journeys from the neighbouring residential areas and those further afield through high quality public transport (transit system), including Fastway.

TWG consider that the size of the site and the approach to providing twin accesses onto Balcombe Road there is opportunity to divert existing services or provide a new Fastway/bus route which will penetrate the site.

The Crawley Transport Study (2021)

Stantec were commissioned by Crawley Borough Council (CBC) to undertake a transport study to inform the Draft Crawley Local Plan Review for the Crawley Borough Area.

The resultant Crawley Transport Study: Transport Study of Strategic Development Options and Sustainable Transport Measures was published in May 2021 to inform the Draft Crawley Local Plan 2021 – 2037.

This document reports on the transport modelling undertaken to inform the potential impacts of three Draft Crawley Local Plan Scenarios for Crawley Borough for the period 2020 to 2035. The Local Plan period has since been extended to 2037.

Stantec consider that the modelling is sufficiently robust to be representative of impacts to 2037, the end of the draft Local Plan period. The quantum of development tested matches that proposed in the Local Plan period to 2037.

The Crawley SATURN Transport Model, which has a base year of 2015, has been used to undertake the transport modelling. The Local Plan development for each scenario has been added on top of the Reference Case and the resultant demands assigned to a future Crawley network of Crawley that included committed schemes.

By comparing the performance of the network with the Local Plan proposals in place against the Reference Case, overcapacity junctions potentially requiring mitigation were identified.

The emphasis has been to consider sustainable mitigation to support the Draft Crawley Local Plan rather than prioritise highway capacity mitigation.

The emphasis away from physical mitigation, marks a shift towards managing demand by prioritising sustainable travel including recognising the potential that virtual mobility will increasingly play alongside active modes, walking and cycling, public transport, rail and buses and car sharing and hence help in tackling the Climate Change emergency

Gatwick Green is an industrial-led Strategic Employment Location located to the east of Gatwick Airport. Additional information was also provided in relation to this, from the landowner's consultant (TWG) and was used to inform the transport modelling in respect of access arrangements to the wider network off Balcombe Road.

Development quanta assumptions provided by CBC were used for the Gatwick Green site. The Gatwick Green assumptions comprise 77,500 sq.m (GFA) split into:

- B8 Parcels Distribution (10%) or 7,750 sq.m
- B8 Commercial Warehousing (60%) or 46,500 sq.m
- B2 Industrial estate (30%) or 23,250 sq.m

It is noted that the quantum of development suggested by CBC is significantly below that identified by TWG in March 2020.

In order to meet the shortfall in employment land, our clients land could contribute a further 8.8 ha (gross) towards the shortfall. For the purposes of traffic modelling it is assumed that this could contribute between14,780 sq.m and 46,290 sqm. The lower figure is based on the CBC asumptions and the higher level is in line with the density assumptions of TWG (46,290 sqm).

If the 14,780 sqm is split into the three land uses identified in the CTS and in the same proportions, this equates to the following additional floorspace potentially being provided on the 'Gatwick Green Missing Section' site:

Fig 30: proposed access arrangements onto Balcombe Road

- B8 Parcels 1,478 sq.m
- B8 Warehousing 8,868 sq.m
- B2 Industrial Estate 4,434 sq.m

Prior to the CTS being published, MWT undertook an assessment of the access requirements of the 'Gatwick Green Missing Section' site using a similar range and proportion of employment land uses as TWG proposed for the wider Gatwick Green area. This approach resulted in the site providing circa 46,290 sq.m of floor space, which was split as per the TWG TS.

- B8 uses 27,960 sq.m
- B1 uses 9,165 sq.m
- C1 uses 9, 165 sq.m

The approach taken therefore provides an extremely robust assessment as if the proposed access arrangements can cater for the high level of development assessed then it will be more than capable of accommodating the lower level of trips associated with any lower level.

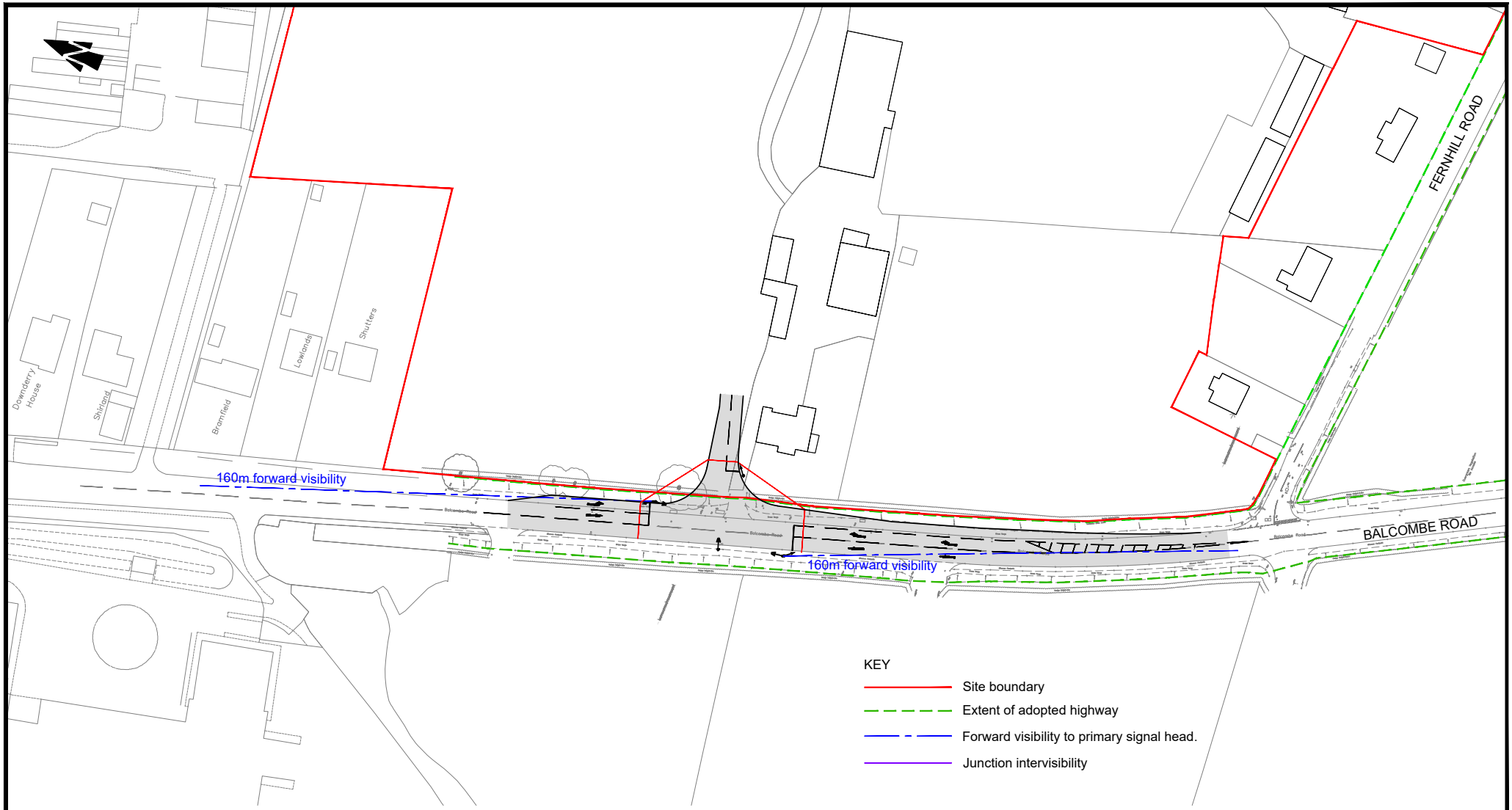
Scenarios Modelled

The CTS models 3 development scenarios as detailed on pages 27-30 of the report.

Scenarios 2 and 3 both include the Gatwick Green site but Scenario 3 includes additional floorspace in Horley district and so Scenario 2 is the best scenario to look at further to understand the potential traffic effects of the employment land shortfall.

The CTS firstly assesses the impact of the three scenarios upon the surrounding transport network without any mitigation and then applies "sustainable mitigation" measures (a shift away from single occupancy vehicle trips to more sustainable modes of transport) to identify any junctions of concern prior to considering any physical mitigation (junction improvements).

Under Scenario 2, the CTS identifies that only one junction requires physical mitigation, i.e. the Ifield Avenue/A23 Crawley Road roundabout on the northwestern side of the town.



REV	DETAILS	DRAWN	CHECKED	DATE
-	First issue.	NH	RW	28.02.2021

NOTES:
1. Do not scale from this drawing.
2. This drawing is for illustrative purposes only and not for construction.
3. This drawing is to be read and printed in colour.
4. All dimensions are shown in metres, unless specified otherwise.

PROJECT: FERNLANDS, GATWICK

CLIENT: WT LAMB HOLDINGS

DRAWING TITLE: TRAFFIC SIGNALISED ARRANGEMENT (WITH RIGHT TURN LANE)

MILES WHITE TRANSPORT

DRAWN:	CHECKED:	DATE:	SCALES:	SHEET SIZE:	DRAWING NUMBER:	REVISION:
NH	RW	28.02.2021	1:1,000	A3	19102-SK10	-

Vehicular Access

The 'Gatwick Green Missing Section' site is proposed to be accessed from a new traffic signal controlled junction on Balcombe Road approximately 150m north of Fernhill Road.

The proposed signal controlled junction would provide two lanes on Balcombe Road on the approaches to the junction and accords with highway design guidance for the speeds recorded on this part of Balcombe Road.

The provision of a new signal controlled junction in this location will help reduce vehicle speeds (possibly in conjunction with a Traffic Regulation Order to formally reduce the speed limit) and improve road safety on this part of Balcombe Road.

Pedestrians and Cyclists

New footway and cycleway infrastructure and facilities will be provided as part of the development of the site that will seek to maximise pedestrian and cycling links to the existing transport network and also to the wider Gatwick Green site area.

Trip rates

The potential number of trips predicted to be generated by the assumed composition of the 'Gatwick Green Missing Section' site has been calculated using the TRICS trip rate database for up to 46,290 sqm of floor space.

The TRICS database has been interrogated to identify the likely vehicle trip generation associated with B1, B8 and C1 uses in a similar location to the site. The TRICS category Business Park best relates to the B1 (now E class) uses that were proposed on the TWG site.

The assessed level of development on the 'Gatwick Green Missing Section' site will generate 277 and 236 vehicle movements in the morning and evening peak hours respectively.

These additional trips have been assigned onto Balcombe Road assuming a distribution of 70% of trips to/from the north and 30% to/from the south.

Junction Capacity Analysis

The proposed signal controlled access junction has been assessed using the LINSIG computer program, which is the industry standard tool used to assess the operational performance of traffic signal controlled junctions.

The proposed junction has been assessed in 2026, i.e. five years into the future, in the morning and evening peaks hours with the trips associated with the development of the 'Gatwick Green Missing Section' site added.

Traffic growth has been calculated using TEMPRO Version 7.2 adjusted regional and local traffic growth forecasts based on National Traffic Model (NTM) AF15 Dataset using the 'Origin and Destination' trip end type. The PJA TA contains 2022 traffic volumes, which were acceptable to West Sussex County Council (WSCC), and so these have been used as the base traffic flows upon which traffic growth has been added.

No specific committed development traffic has been added but the TEMPRO

data (unadjusted for local development) will include some traffic associated with future development in the local area. It is assumed that the allocation for employment use in the Reigate and Banstead Development Management Plan under HOR9 (Horley Business Park) adjacent to Junction 9A, north of the M23 spur will only have limited access onto Balcombe Road. This is consistent with the adopted Local Plan which states that "the Balcombe Road junction can only be used for emergency services, public transport, other sustainable transport modes and a 'limited' number of registered vehicles for employees".

The proposed site access will operate well within capacity with minimal delays and queues in the 2026 design year with the application of extremely robust levels of traffic associated with the 'Gatwick Green Missing Section' site. The maximum Degree of Saturation (DoS) for traffic signal controlled junctions is normally taken as 90%. The proposed junction operates with a maximum DoS of just over 60%, which demonstrates that there is plenty of spare capacity in this junction even with significantly more development using the junction than required by the employment land shortfall.

Given this level of spare capacity, the 'Gatwick Green Missing Section' site access junction could be used to provide an additional access to the TWG site, if desired.

Integration with Wider Gatwick Green Site

The proposed access to the 'Gatwick Green Missing Section' site could provide one of the additional access points that TWG are considering.

The internal access road within the 'Gatwick Green Missing Section' site could link directly into the TWG land or connect via the north-south multi-modal transport link shown in TWG's development framework).

Such an approach would enable the development and sustainable transport infrastructure at Gatwick Green to be provided in a comprehensive manner as suggested by TWG and identified in the TS.

Mobility Strategy

A package of travel planning measures and initiatives will be formulated to reduce the need to travel using the private car (single occupancy trips) and maximise travel by sustainable modes of transport.

This could include the following:

• Provision of a Mobility Station/Hub to integrate the various forms of transport proposed to/from/within the site and provide “first and last mile solutions” to connect communities to frequent public transport services.

• Provision of hire schemes (electric bike, pedal cycle, e-scooter, e-cargo bike etc).

• Electric car club and car sharing scheme.

• Dynamic Demand Responsive Transport (DDRT) using advanced and real time requests (dial-a-ride, shared taxis).

• Use of new mobility technology (e.g. Mobility as a Service – Maas – platform).

These travel planning measures would be formulated in conjunction with others (TWG, Crawley Borough Council, West Sussex County Council etc) to ensure they fully align with the desired mobility strategy for the wider Gatwick Green area.

Hydrology

PHG Consulting Engineers have reviewed the available information to assess the hydrology in the area of the proposed development site. It has been concluded that there is a very low risk of fluvial flooding and the low risk of surface water flooding can be reduced with the introduction of site-specific positive drainage.

An existing drainage ditch is shown on online mapping flowing east to west along the northern boundary of the site. Due to the topography of the site any greenfield runoff from the development will flow to this existing ditch. Available Lidar data has been reviewed to determine the topography of the site and fall arrows indicate that further smaller ditches may be present onsite, a detailed topographical survey will be required to determine where any existing drainage ditches flow. The drainage ditch system also runs along the eastern kerbline of Balcombe Road and is culverted under the existing private accesses, any future crossing of this ditch would require a new culvert and Ordinary Watercourse Consent.

Flood Risk

Flood maps available at Gov.UK have been reviewed to determine the risk of flooding from various source within the site. Figure 32 below shows the extent of fluvial flooding from rivers and shows the development site to be away from the extents of fluvial flooding.

Flood maps also show the risk of surface water flooding within an area, at the development site there is a large area at 'low' risk of surface water flooding as shown in figure 33. Areas of low flood risk have a likelihood of flooding between 0.1% and 1%. The depth of surface water flooding in this area ranges between 0-300mm and 300mm-900mm as shown in figure 34, The velocities of the are generally below 0.25m/s (figure 35) and therefore are not deemed to pose a major hazard.

Flooding from surface water can be difficult to forecast due to small differences in rainfall intensity and volumes, local features can also affect the likelihood and severity of flooding. Surface water flooding within the site is mainly contained in the low-lying area at the north western corner.

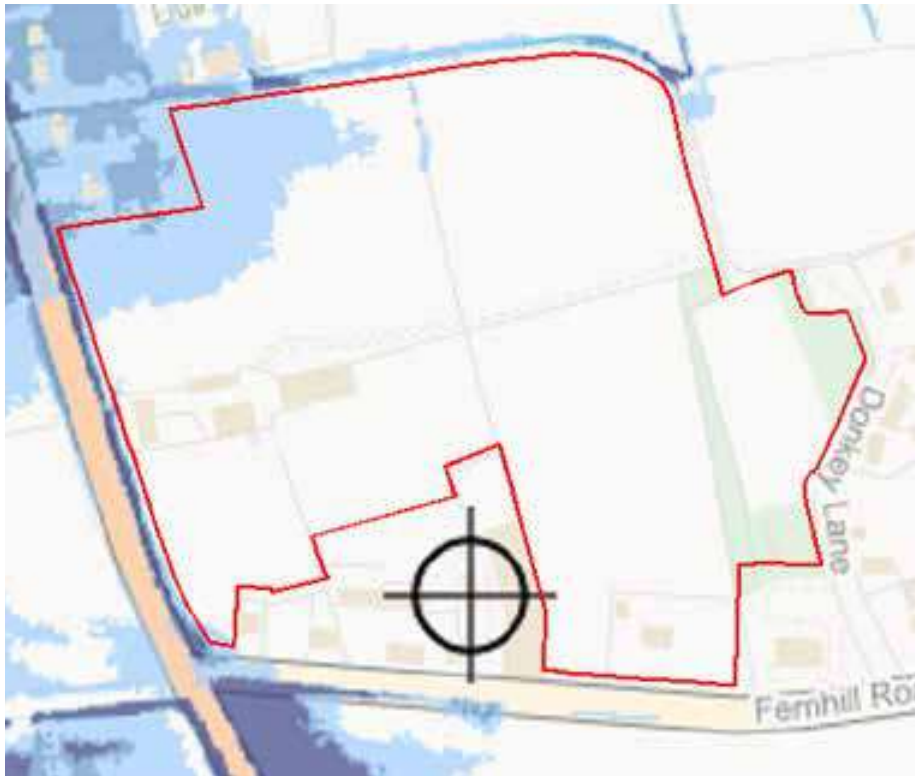
Surface water runoff from the greenfield will add to any surface water flooding shown on the below maps. Therefore, the development of the site can reduce the extent of surface water flooding by reducing rate and volumes of runoff to this area. Given the likelihood of surface water flooding is minimal and anticipated depths are low, the overall risk of surface water flooding post development will be negatable. The proposed drainage strategy should reduce flow rates and volumes and make space for water.

Reservoir Flooding

Part of the northern section of the site is within the extent of reservoir flooding with maximum depths between 300mm-1m. Generally, reservoir flood risk maps are produced to inform reservoir owners and help produce evacuation and early warning plans. The likelihood of reservoir flooding is considered to be minimal and should not affect the use of land.

Fig 31: fluvial extents from www.gov.uk

Fig 32: Surface water flood extents from www.gov.uk



Historic Flooding

The West Sussex SFRA provides an outline of historical flood events, however this information is limited and, in many cases, does not include the type of flooding. There are no known flood events within the site.

Groundwater Flooding

The West Sussex SFRA shows the geology of West Sussex and shows the site to be in an area underlain by Clays. Therefore, groundwater flooding may occur from perched water flowing above more impermeable soils. A site-specific site investigation will be required and this should determine whether groundwater is encountered during works.

Surface Water Drainage

The surface water drainage strategy for the site should restrict discharge to the calculated QBAR greenfield runoff rate, this would ensure that during rainfall events greater than the predicted 1 in 2 year event discharge from the site post-development would be reduced. Base on the site area consisting of 60% impermeable surfacing the QBAR greenfield runoff rate has been calculated to be 28.6l/s. To maximise the benefits of a SuDS approach to surface water management, the use of swales to convey water should be considered and the final attenuation should be provided in a landscaped basin (or basins). This will ensure the surface water drainage network maximises amenity and biodiversity benefits whilst reducing the volume and rates of runoff. The masterplan should allow space within landscaped areas for attenuation basins to be provided. Any attenuation feature within the site

Fig 33: surface water depths from www.gov.uk

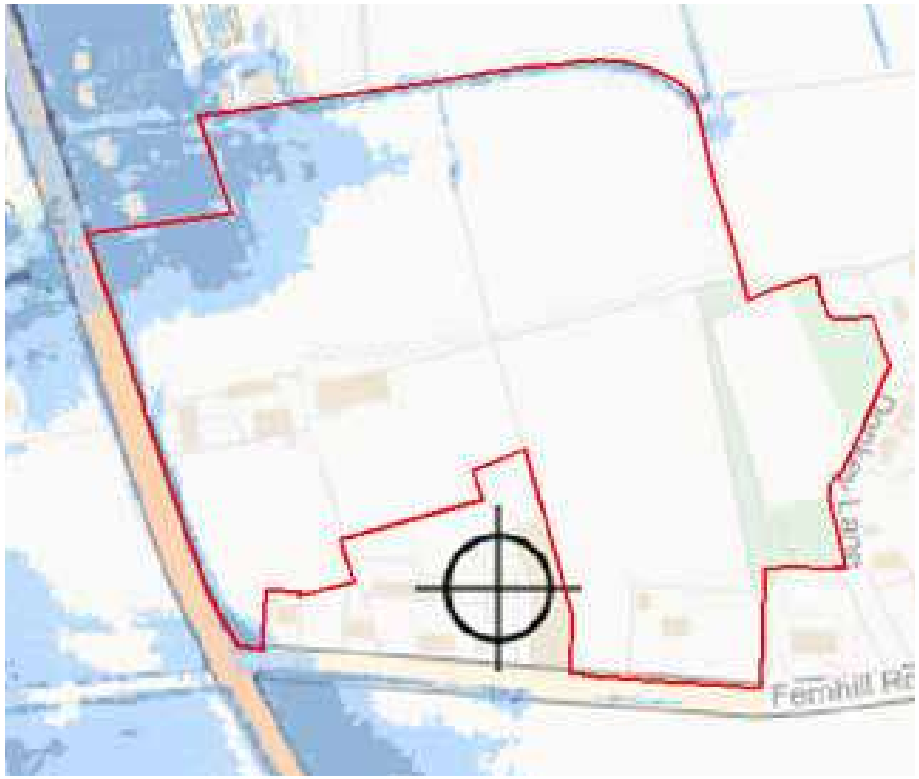


Fig 34: surface water flood velicities from www.gov.uk

should be designed to accommodate flows up to and including the 1 in 100 year with a 40% increased for climate change. To ensure exceedance can be managed, a minimum freeboard of 300mm should be included. Given the above parameters, a 1.5m deep basin with 1 in 3 banks covering a surface area of approximately 3,670m2 and providing 4,500m3 storage would be required. Further SuDS techniques such as porous surfaces can be utilised to reduce the overall size of surface water attenuation required.

Foul Water Drainage

Sewer records have been obtained from Thames Water and show few existing foul sewers with the vicinity of the development. The development is surrounded by greenfield, Gatwick Airport and some smaller development/ dwellings. The dwellings in the vicinity of the site are likely to have individual treatment plants and Gatwick Airport would be served by a private drainage system. The nearest Public Sewers are located approximately 600m south of the development in Balcombe Road. Sewer records show that the existing manhole (7801) at the start of this run has an invert level of 57.54m and the public sewer discharges to a pumping station. The pumping station is assumed to have a direct discharge to Crawley Sewerage Treatment Works located 300m to the west. Due site levels and the invert level of the existing manhole, a pumping station will be required to discharge to the Thames Water network. The pumping station would also include an offsite rising main being laid in Balcombe Road, approximately 500m long. Once the development scale and uses are determined early discussion should take place with Thames Water to ensure sufficient capacity within the existing network.

Water Neutrality

Quantum CE have prepared a strategy to demonstrate how the proposal can achieve water neutrality and potentially contribute towards the wider solution in Crawley Borough.

Whilst the site itself is outside of the Water Neutrality zone, it is considered best practice to seek to achieve low water use and .if possible contribute towards the wider solution.

Accordingly, it is noted in the first instance that the proposed missing section of Gatwick Green will utilise greywater recycling in order to drastically reduce the amount of potable water demand. This intervention results in the new water demand associated with the proposed B8 development site being 40% less than that of the proposed light industrial use.

The report prepared by Quantum CE also demonstrates that it is viable to support 14,780 m2 of industrial floor space, based on the consumption of a typical Final Mile Distribution Centre employing 211 full-time members of staff with an average water demand of 10,550 litres per day. Through the use of water neutrality principles, this water demand can be reduced to 6,330 litres per day, by installing greywater recycling technology. Initial well yield tests have indicated that potentially there may be additional yield capacity than the initial 8,000 litres per day that has currently been confirmed on site. It can be therefore concluded that the requirements for water neutrality at the proposed site for allocation are met. Thus, clearly demonstrating the developing/allocating of the site would facilitate a much more sustainable development on this much-needed employment site.

Additional well testing together with a detailed hydro-geological prognosis report will be undertaken in order to ascertain the maximum well yield that could be available to the site. It is also noted that the historic demand for the site was at 130,330 litres per day associated with the horticultural water demand of the site, which would suggest that potentially there may be additional yield capacity than the initial 8,000 litres per day that has currently been confirmed on site.

The annual rainfall figures for the area is 25,844,390 litres/year. Whilst the current yield of 8,000 litres/day results in an annual yield of 2,920,000 litres/year. However, the annual water consumption from the well for these crops would have been approximately 77,650,000 litres/year (25,100,000 x 3.1). This would result in a significant deficit of 51,805,610 litres/year. Most of which is considered to have been historically supplied by the well, which is currently impeded by detritus, heavy silting and the presence of organic matter.

Quantum CE conside that it can be reasonably concluded that there is sound ground to expect much greater yields which could be made available to service the allocated Gatwick Green employment site, together with some other offsite opportunities that may need water offsetting credits.

Fig 35: existing well on site

6 Conclusion

6.1 Introduction

This document has been prepared by LRM Planning on behalf of WT Lamb, the Dye Family and Elliott Metals/The Simmonds Family and sets out how their combined landholdings can contribute towards the Gatwick Green proposals.

Between them, our clients own 8.8ha of land that in effect form the missing section of the Gatwick Green proposals. Our clients consider that there is an opportunity to plan comprehensively for the entire Gatwick Green area not just elements of it thereby assisting the local economy to transition from the previous reliance upon airport related activities and diversify the economic base in accordance with emerging trends and requirements. In this regard they would be committed to working in partnership with TWG and Council in order to deliver the vision for the strategic site and contribute towards needs.

Our clients land forms a vital missing section of the allocation that forms the central and focal parts of the area with an opportunity for an access at the very heart of the site and to create a truly unique employment area.

Together with the existing 48ha within the ownership of the Wilky Group our clients land provides a significant opportunity to provide a comprehensive approach to the future of Gatwick Green for employment purposes.

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Appendix 4. Transport Note Prepared by Miles White Transport

Appendix 5. Ecology Note Prepared by GE

Fernlands, Gatwick Green, Fernhill Road, West Sussex

Technical Note - Ecology

June 2023

A report on behalf of Jonathan Lamb

Ref: 1282-ETN-FM

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Site Details

Site Name	Fernlands
Site Location	Gatwick Green, Fernhill Road, West Sussex
Central OS Grid Reference	TQ 296 413
Client	Jonathan Lamb

Quality Assurance

Report Title	Technical Note - Ecology
Report Reference	1282-ETN-FM
Author	Faye Midmore BSc MSc MCIEEM
Checked By	Richard Pash BSc MCIEEM
Approved By	Richard Pash BSc MCIEEM
Revision No.	FINAL
Issue Date	13 June 2023
Summary of Changes	N/A
Revised By	N/A
Approved By	N/A

The content of this report that has been provided by GE Consulting is true, and has been prepared and submitted in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. Its contents are compliant with British Standard BS42020: 2013 Biodiversity Code of Practice for Planning and Development.

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A Glossary of the terms used in this report is provided in **Appendix 1**.

Contents

Figures

Appendices

1 INTRODUCTION

GE Consulting has been commissioned by Jonathan Lamb to prepare this Ecology Technical Note to accompany representations to the draft local plan consultation in relation to land at Fernlands, Gatwick Green, Fernhill Road, West Sussex (central OS grid reference: TQ 296 413) hereafter referred to as the 'Site'.

The purpose of the report is to determine the ecological constraints and to assess the suitability of the Site for allocation within the emerging Local Plan for future employment development.

The area within the application boundary is hereafter referred to as the 'Site'.

2 SCOPE AND AIMS

The aims of this report are to:

- Draw together previous ecological survey work and provide an overview of baseline conditions;
- Evaluate the requirements of a proposal in terms of biodiversity planning policy and legislation;
- Review initial constraints and opportunities for the Site and propose likely mitigation measures/ design considerations; and
- Detail further ecological survey work required to inform detailed proposals and a future planning application.

3 METHODS

3.1 Desk Study and Previous Surveys

A Preliminary Ecological Appraisal (PEA) and Ecological Impact Assessment (EcIA) have been undertaken which form the basis of this technical note. This work comprises:

- A PEA of land east of Balcombe Road (The Ecology Co-op, 2020) covering three western fields and two buildings. This work comprised an online desk-based study and walkover survey, including a high-level, external preliminary bat root assessment of buildings and trees.
- An EcIA of the Former Fernlands Nursery (CSA Environmental, 2017) covering a field, property and woodland north of Fernhill Road. This work included a desk-based study comprising internet searches and data from Sussex Biological Records Centre (SxBRC) and Surrey Biodiversity Information Centre (SBIC) in November 2015. A Phase 1 Habitat Survey was undertaken in 2015, a dormouse presence/ absence survey and an emergence/ re-entry survey of trees with bat roost potential in 2016.

An updated desk-based internet study has been undertaken in March 2021 including:

- A search of the government environmental mapping tool MAGIC[1] for statutory sites within 2km, European sites within 10km, Priority Habitats and European Protected Species (EPS) licences issued by Natural England within 2km of the Site and the National Habitat Network within the Site;
- A review of aerial imagery and OS maps to identify possible important habitat features;
- A search of Natural England Open Data Geoportal for records of great crested newt eDNA[2] in ponds within 1km of the Site;

[1] www.magic.gov.uk

[2] https://naturalengland-defra.opendata.arcgis.com/datasets/great-crested-newts-edna-pond-surveys-for-district-level-licencing-england

- The Sussex Local Nature Partnership website[3] for information on Biodiversity Opportunity Areas (BOAs)[4];
- Biodiversity policies within the Draft Crawley Local Plan 2021 – 2037 (January 2021), plus Policy EC4 Strategic Employment Location (Gatwick Green), were reviewed in relation to the proposed development. The existing Green Infrastructure SPD[5] (2016) was also reviewed.

3.2 Limitations

The aforementioned survey work was largely undertaken in accordance with best practice guidance, however, it should be noted that some of the work is now 5 – 6 years old. Therefore, whilst care has been taken to ensure that balanced advice is provided based on the information available, the possibility of important ecological features being missed cannot be ruled out (e.g. due to survey timings, changes in conditions, absence during surveys or the year of survey). The lack of evidence or records of protected species documented within this report does not preclude their presence from Site.

The survey work undertaken above does not cover all areas of the Site; it excludes a field north of Elliott Metals (central grid reference TQ 296 412) along with a property and field at the eastern edge of the Site (central grid reference TQ 298 413) (see **Figure 1**). Whilst assumptions can be made based on survey work of adjacent land, no ground-truthing or protected species surveys have been undertaken within these areas.

4 BASELINE CONDITIONS

4.1 Statutory Designated Sites

There are no National Site Network sites, which includes SACs and SPAs, within 10km. However, a Draft Habitat Regulations Assessment[6] of the Draft Crawley Borough Council Local Plan (Lepus Consulting, January 2021) has screened in specific impacts relating to development at Gatwick Green on:

- Mole Gap to Reigate Escarpment SAC, 11.3km north-west
- Ashdown Forest SAC/ SPA, 12.5km south-east;
- The Mens SAC, 30km south-west; and
- Arun Valley SAC/ SPA/ Ramsar, 33km south-west.

There are no statutory sites (such as SSSIs or LNRs) within 2km of the Site. Furthermore, the Site does not lie within any Natural England SSSI Impact Risk Zone (IRZs) for residential or commercial/ industrial development.

4.2 Non-statutory Sites

There are two non-statutory sites of **County** importance located within 1km:

- Horleyland Wood Local Wildlife Site (LWS), 0.8km south-west, important for ancient coppice-with-standards bluebell woodland; and
- The Roughs LWS, 0.9km north-east, important for ancient semi-natural woodland and locally rare fine-leaved water-dropwort.

[3] http://sussexlnp.org.uk/
[4] https://ww3.brighton-hove.gov.uk/sites/brighton-hove.gov.uk/files/SP060%20Sussex%20Biodvsty%20Opp%20Areas.pdf
[5] https://crawley.gov.uk/sites/default/files/documents/PUB285867.pdf
[6] https://crawley.gov.uk/sites/default/files/2021-01/Draft%20Habitats%20Regulations%20Assessment%20of%20Crawley%20Local%20Plan%20January%202021.pdf

4.3 Local Priorities/ BAP/ Conservation Strategies

4.3.1 Biodiversity Opportunity Areas

Biodiversity Opportunity Areas (BOAs) are landscape scale areas which have been identified as supporting high concentrations of Habitats and Species of Principal Importance[7] (HPI/ SPI) and/or have the potential/ greatest opportunities for restoration and creation of habitats. They seek to expand, link and buffer important biodiversity sites to provide an ecological network.

The Gatwick Wood BOA[8] lies partially within the Site boundary, excluding the southern and western fields (see **Figure 1** and **Appendix 3**). This area is described within the Crawley Green Infrastructure SPD (2016) as:

"dominated by the Gatwick Airport landscape but contains a small amount of ancient woodland amongst agricultural land where the opportunities for biodiversity gain and landowner liaison are tangible.

• *Woodland management and restoration;*

• *Education and community engagement, including links to health;*

• *Increased site designation;*

• *Working with and attracting new businesses;*

• *Ecological networks;*

• *Visitor facilities."*

4.3.2 Natural England National Habitat Network

Natural England have developed an England-wide dataset of zones where action may be undertaken to build greater ecological resilience. These zones are based around existing HPIs, or 'primary habitats' and comprise:

- Network Zone 1: land within close proximity to the primary habitat what are more likely to be suitable for creation of the same habitat type.
- Network Zone 2: land within close proximity to the primary habitat that are unlikely to be suitable for creation of the primary habitat, but where other types of habitat may be created or green infrastructure delivered.
- Fragmentation Action Zone: land immediately adjoining primary habitat patches that are small or have excessive edge to area ratio where habitat creation is likely to help reduce the effects of habitat fragmentation.
- Network Expansion Zone: land within relatively close proximity to Zones 1 & 2 identified as possible locations for connecting and linking up networks across a landscape.

The Site does not lie within any National Habitat Network zones.

[7] In England, listed under Section 41 of the NERC Act 2006

[8] https://crawley.gov.uk/sites/default/files/2021-01/Local_plan_map_January_2021.pdf

4.4 Habitats & Flora

4.4.1 Priority Habitats

A review of MAGIC shows HPI 'Deciduous Woodland' occupying the eastern field and surrounding the property off Fernhill Road (see **Appendix 4**). The field appears from aerial imagery to comprise grassland and would therefore require ground-truthing.

No other HPIs are indicated on MAGIC within or adjacent to the Site boundary, however the network of hedgerows within the Site are likely to meet HPI criteria.

4.4.2 Onsite Habitats

The Site comprises six distinct fields, properties with associated gardens, small areas of woodland and boundary trees and hedgerows.

Fields within the north and west of the Site comprise poor semi-improved grassland, managed by cutting (The Ecology Co-op, 2020). A central field, not surveyed as part of previous work, appears to comprise rough grassland and scattered trees, possibly a former orchard. Seasonally wet ditches are present including along the northern, southern and western boundaries of the Site.

Two residential properties are present; 'Hunters Lodge' along the eastern boundary accessible from Balcombe Road and 'Fernlands' along southern boundary accessible from Fernhill Road, along with associated outbuildings. Gardens comprised ornamental planting, scattered ornamental and coniferous trees and regularly mown, species-poor lawns. A further property, 'Flight House' is found to the east of Fernlands in an area of unsurveyed land. It is surrounded by car parking, amenity grassland and semi-mature trees.

During previous survey work, the field north of Fernlands bungalow has been cleared and comprised bare, disturbed soil with limited areas of poor semi-improved grassland following clearance of waste and former glasshouses (CSA Environmental, 2017). Aerial imagery suggests this previously comprised a mosaic of grassland, trees and scattered scrub and is now likely to comprise grassland habitat. Similarly, the eastern field (mapped as woodland on MAGIC) appears to have been felled since 2015 as indicated on historical imagery, however mature boundaries have been retained.

The field boundaries are marked by species-poor hedgerows, many with banks, dominated by blackthorn and hawthorn with occasional standard trees. Some of the inner boundaries of the Site are marked by mature tree lines, scrub, fences or walls. North of Fernlands is a line of mature oak and ash trees.

Broadleaved woodland is present to the east of Fernlands, comprising mostly immature/semi-mature oak and silver birch, with occasional ash, hazel, holly and conifer species.

In terms of value, hedgerows (and their associated trees) and broadleaved woodland are Habitats of Principal Importance listed on Section 41 of the NERC Act 2006.

4.4.3 Flora

Previous survey work has not identified any notable or invasive plants within the Site.

4.5 Protected and Notable Fauna

Based on the desk-based study and walkover surveys, the following protected and notable faunal species were considered to be present/ have potential to be present:

- **Badger** – no setts found however footprints and dead badger recorded at Balcombe Road in 2020 indicates local presence. There may be setts in unsurveyed parts of the Site and the fields offer foraging potential.
- **Bats** – A residential bungalow (Hunters Lodge) and agricultural barn off Balcombe Road provide moderate and low potential for roosting bats respectively (The Ecology Co-op, 2020). Fernlands bungalow and outbuildings offer negligible/ low potential (CSA Environmental, 2017) and the property in the south-east corner has not been assessed. These categories are based on external assessments only, therefore internal assessments would be required to confirm. Numerous trees within the Site offer roosting potential, including mature oaks with high potential towards the eastern end of the Site. Previous emergence surveys did not record roosts within trees north of Fernlands. Local records (all over 1km from Site) indicate the presence of common pipistrelle, noctule, brown long-eared bat, whiskered bat, Natterer's bat and the rare barbastelle and Bechstein's bat. Both the latter species favour woodland habitats, but could utilise the mature hedge/ tree lines particularly around the peripheries of the Site. Additionally, foraging soprano pipistrelle, serotine, myotis and big bats (*Nyctalus* or *Eptesicus* sp.) have been recorded along a mature tree line within the east of the Site and it is considered that the network of hedgerows and woodland edge throughout the Site is likely to be of value for local bat species for both commuting and foraging.
- **Birds** – Hedgerows, scrub, trees, woodland and buildings within the Site provide suitable habitat for a variety of widespread birds to nest and forage, including priority species under the NERC Act 2006 and Birds of Conservation Concern (BoCC)[9].
- **Dormouse** – There are records within 1km of the Site, including three Natural England dormouse mitigation licences c.200m north-west. 2016 surveys of the southern part of the site did not record dormice, however given the age of data and small area surveyed it is recommended that update surveys are undertaken. Woodland, hedgerows and dense scrub provide suitable habitat for dormice and are connected to more extensive habitat beyond the Site boundary.
- **Great crested newt (GCN)** – There are two Natural England GCN mitigation licences c.850m south-west and there are older records (before 1996) from within 300m. There are at least two ponds within 250m of the Site, and a further three within 500m (excluding any north of the M23 motorway), but none within the Site itself. Should great crested newts be present in surrounding ponds, it is considered relatively unlikely that they would utilise the Site due to the relatively large dispersal distances between ponds, the presence of major roads acting as barriers to dispersal and the presence of suitable terrestrial habitat in closer proximity to off-site ponds.
- **Invertebrates** - Habitats on Site present opportunities for a broad range of common invertebrates with some notable species possible, such as brown hairstreak due to the presence of suckering blackthorn. Mature trees may also support notable deadwood invertebrates.
- **Riparian mammals** – No records of water vole within 2km were returned as part of the data search in 2015. Possible evidence of burrows along the banks of the western watercourse suggest that water vole could be present, although the lack of emergent vegetation makes the Site sub-optimal. Other surveyed ditches were considered unsuitable due to size, lack of flowing water and isolation. No suitable habitat for otter is present.
- **Reptiles** - Suitable terrestrial habitat for common reptiles is present, particularly for common lizard and slow-worm. The dense tussocky sward structure and deep thatch within the western fields, and likely within the unsurveyed central and eastern fields, combined with bordering scrub and woodland, provide suitable refuge and invertebrate food resource.
- **Hedgehog** – The fields, scrub, woodland and garden habitats on Site provide good habitat for hedgehog and records are present within the area.

[9] Eaton M., Aebischer N., Brown A., Hearn R., Lock L., Musgrove A., Noble D., Stroud D. and Gregory R. (2015) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108: 708-746.

5 CONSTRAINTS AND DESIGN OPPORTUNITIES

This section seeks to identify where the presence of designated areas, habitats or the potential for protected or notable species to be present will be a material consideration for the LPA when considering future development proposals. It is based on the assumption that detailed further survey work would be completed to inform detailed design and accompany any future planning application for development of the Site (see **Section 6**).

5.1 Designated Sites

A screening assessment of Likely Significant Effects (LSEs) within the Draft HRA of the Crawley Local Plan (Lepus Consulting, 2021) indicates alone and in-combination effects of the Gatwick Green development on air quality, potentially impacting:

- Ashdown Forest SAC and SPA; and
- Mole Gap to Reigate Escarpment SAC.

In addition, in relation to hydrology, it may increase discharges to Wastewater Treatments Works or increase pressure on public water supply abstraction. The HRA predicts changes in water quality and water quantity at:

- Mole Gap to Reigate Escarpment SAC;
- Arun Valley SPA/ SAC/ Ramsar; and
- The Mens SAC.

The HRA indicates that detailed air quality modelling, water quality and water quantity assessments are currently underway to further define impacts associated with increased traffic movements. It is anticipated that policy wording may require expanding to include sustainability measures, measures for water efficiency and protection of water quality to reduce impacts to negligible. Given the distances of these designations from the Site, it is anticipated that this will be achievable.

5.2 Local Priorities/ BAP/ Conservation Strategies

Whilst the Biodiversity Opportunity Area which covers part of the Site receives no statutory protection, it indicates where there are opportunities to provide net gains for biodiversity and can be used to inform opportunities for habitat creation and restoration. In addition, BOA's are recognised within the Crawley Green Infrastructure SPD and for *'impacts which reduce, block or harm green infrastructure, the applicant should clearly explain this, why it can't be avoided and how they have been mitigated and/or compensated for'.*

Development of this Site could therefore offer opportunities to contribute to the Gatwick Woods BOA, ensuring that ecological (habitat) networks are maintained and enhanced. For example, the existing network of outgrown hedges/ treelines around the north and east of the Site could be expanded and enhanced, linking to small blocks of woodland in the south-east corner, north and west of the Site. The ecological network can be multi-functional, providing ecological benefits as well as creating an attractive setting for the development, providing space for recreation and encouraging sustainable travel e.g. cycle paths.

5.3 Habitats and Flora

In order to be compliant with planning policy and protect features of ecological value, the 'Mitigation Hierarchy' needs to be applied during development of proposals. This is a set of principals which are followed in sequential order: **avoidance, mitigation** and, as a last resort, **compensation**.

HPIs should form the basis of habitat retention where possible. At this Site, retention should therefore focus on:

- Hedgerows;
- Woodland; and
- Mature trees.

These habitats, with suitable buffer zones could form wildlife networks as well as Green Infrastructure (GI) through the Site. As these habitats are mainly focused around the Site peripheries and eastern areas, this offers good opportunities to tie in with the BOA enhancements discussed above. A full survey of the Site will be required to identify the habitats outside the previously surveyed areas and identify their value.

If ancient woodland is present, a minimum 15m buffer will required between the development and the ancient woodland, including through the construction phase. A comprehensive Arboricultural survey should be undertaken prior to the detailed design stage.

Unavoidable losses of habitats will need to be adequately compensated for in accordance with national and local policy.

New habitat creation should focus on areas with high biodiversity value. This could include new woodland and hedgerows, orchards, species-rich grassland and wildlife-friendly SuDS schemes/ wetlands (bearing in mind potential constraints relating to Gatwick Airport and bird strike).

Ditches, including those adjacent to Site should be buffered and measures employed to prevent pollution.

5.4 Protected and Notable Fauna

Appropriate design opportunities and constraints relating to fauna will be based on up-to-date survey work for these species; however, a summary of possible design considerations is provided below.

- As a preliminary assessment, hedgerows, trees and woodland edge may form important bat, bird and dormouse habitat. Mature trees may be important for notable deadwood invertebrates. These habitats should be retained where possible. Retained and created habitat should be designed to provide connectivity across the landscape (e.g. north to south and east to west);
- Wildlife corridors should be protected from light-spill. As a guide, a buffer of 10 – 15m between important habitat and built development is usually sufficient to mitigate light-spill;
- Buildings and suitable trees within the Site have the potential to support roosting bats and will require an assessment to determine presence/ likely absence. If roosts are found, retention of the roost or a like-for-like replacement roosts will be required (in accordance with the conditions of a suitable Natural England EPS derogation licence);
- If reptiles are found to be present, GI can be designed to act as a ‘receptor area’ for populations found within the build area. The habitat within GI can be enhanced through the creation of tussocky grassland, sunny banks and habitat piles for refuge;
- Planting schemes should incorporate plants that support invertebrates. There are opportunities to support the West Sussex Pollinator Action Plan 2019 – 2022 by protecting and enhancing important pollinator habitat (e.g. trees and hedgerows) and creating pollinator-friendly environments as part of GI. To include native plants or those listed on RHS Plants for Pollinators, habitat piles, structurally diverse habitats and reduced cutting regimes via long-term management principles;
- Include integrated or surface mounted boxes for bats, birds and invertebrates on new buildings;
- Given the proximity to Gatwick Airport consideration will need to be given to bird species that could be attracted to new buildings (such as gulls which nest on flat roofs) and appropriate mitigation/ management designed in;
- The presence of badger setts on the Site (to be confirmed within unsurveyed areas) will require minimum 20m buffers in which no construction/ excavation occurs. If present, adequate wildlife

corridors and foraging habitat will need to be provided. These spaces can form part of landscaping/ open space/ green infrastructure. It may be possible to close setts if required, although new artificial setts may be required (e.g. for main breeding setts);

- A planning application is likely to require a Landscape and Ecology Management Plan (LEMP) and Construction Environmental Management Plan (CEMP) prior to works/ occupation.

6 BIODIVERSITY NET GAIN

There is already policy requirement to enhance nature conservation and the Government are planning to roll out a legislative requirement for achieving a 10% net gain in biodiversity for all developments. This 10% gain relates to both linear habitats (e.g. hedgerows) and non-linear habitats (e.g. grassland/woodland) and requires the use of a 'metric' to calculate the required biodiversity units.

It is important that BNG is considered early in the design stage to ensure that proposals can meet this requirement, or identify whether biodiversity offsetting payments will be required, i.e. paying for BNG offsite.

High distinctiveness habitats (woodland, mature trees, hedgerows) should be favoured for retention as opposed to low distinctiveness habitats (hard standing and improved grassland), which are easier to replace. New habitat creation should focus on those with high biodiversity value, for example wetlands, ponds, meadows and orchards.

7 FURTHER SURVEY WORK

The following timeline details the surveys that should accompany a planning application, along with key timings. Results and appropriate mitigation would be reported within an Ecological Impact Assessment.

Table 2: Further Survey Work Required

TASK	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Phase 1 Habitat Survey and Condition Assessment for BNG												
Badger survey												
Breeding bird survey												
Great crested newt survey												
Roosting bats – daytime building & tree inspections												
Bat emergence survey (dependent on results of above) (up to 3 visits)												
Commuting/ foraging bats												
Reptile survey												
Dormouse survey												
Water vole survey												
	Optimal					**Sub-optimal**						

8 CONCLUSIONS

In summary it is concluded that there are no in principle ecological constraints preventing allocation of this Site for future development. Furthermore;

- The Site is unlikely to be constrained by the presence of statutory designated sites for nature conservation in the local area, subject to further assessment and possible mitigation;

- Habitat retention should focus on those features of highest ecological value, contributing to local conservation strategies/ priorities where possible;
- Development should aim to retain and incorporate features for protected and notable species, including a network of wildlife corridors through and around the Site;
- Development proposals may require offsetting to ensure biodiversity net gain can be achieved.
- Detailed design and any future planning application should be informed by further ecological survey work.

9 REFERENCES

BSI (2013) BS42020: 2013 Biodiversity. Code of practice for planning and development. British Standards Institution, London, UK.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.

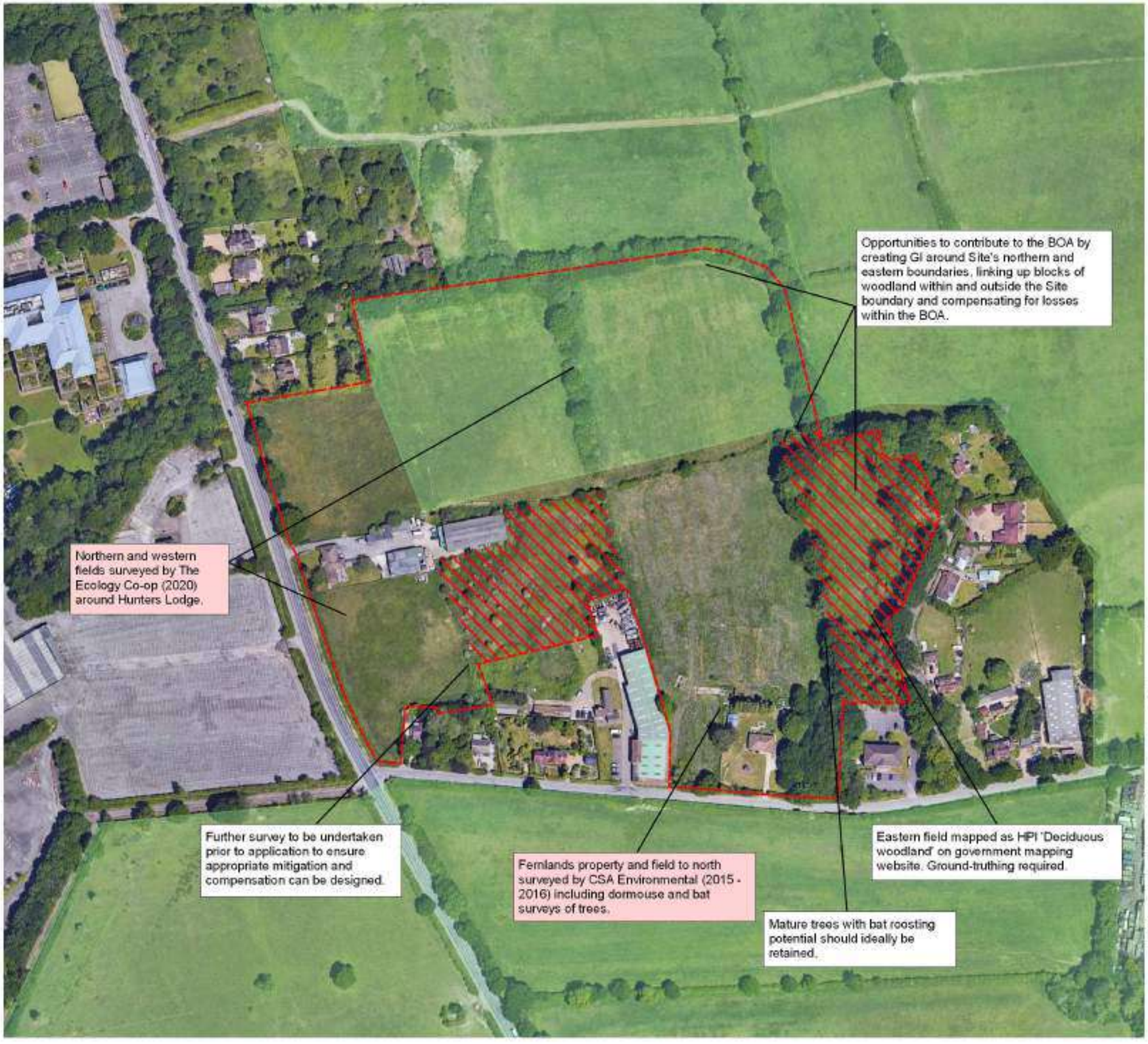
CSA Environmental (2017) *Former Fernlands Nursery, Fernhill Road, Horley – Ecological Impact Assessment.* Report ref: CSA/2776/05.

Eaton M., Aebischer N., Brown A., Hearn R., Lock L., Musgrove A., Noble D., Stroud D. and Gregory R. (2015) *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man.* British Birds 108: 708-746.

Lepus Consulting (2021) *Habitats Regulations Assessment of the Crawley Borough Council Local Plan – DRAFT Report to Inform the HRA*.

The Ecology Co-op (2020) *Preliminary Ecological Assessment – Land East of Balcombe Road, Horley.*

West Sussex County Council (2018) Pollinator Action Plan 2019 – 2022. Available at https://www.westsussex.gov.uk/media/12616/pollinator_action_plan.pdf



Key:

- Site Boundary
- Area not surveyed
- Approximate location of Gatwick Wood BOA

0 30 60 90 120 m

Map data (c) Google
http://www.google.at/permissions/geoguidelines/attr-guide.html

Figure 1:
Ecology Technical Note Plan

Project:
Fernlands, Gatwick Green

Client:
Jonathan Lamb

Date:
13/6/2023

Drawn:
FM

Ref:
1262-ETN-F1

Revision:
2

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Appendix 1 – General Glossary of Terms

Annex I	Threatened bird listed on Annex I of the EC Birds Directive
Annex II	Habitats and species of community interest whose conservation requires the designation of SACs
BAP	Biodiversity Action Plan
BNG	Biodiversity Net Gain
BoCC	Bird of Conservation Concern (published by Eaton *et al*., 2015).
CEMP	Construction Environmental Management Plan
EPS	European Protected Species
HPI	Habitat of Principal Importance required under Section 41 of the NERC Act 2006
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LEMP	Landscape and Ecology Management Plan
NERC Act	Natural Environment and Rural Communities Act 2006
NVC	National Vegetation Classification Survey
SAC	Special Area of Conservation
SPA	Special Protection Area
SPI	Species of Principal Importance required under Section 41 of the NERC Act 2006
SSSI	Site of Special Scientific Interest
WCA	Wildlife and Countryside Act 1981(as amended)

Appendix 2 – Planning Policy and Legislation

Habitat and Species Legislation

Species and habitats receive legal protection in the UK under various legislation, including:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitat and Species Regulations 2017 (as amended);
- The Countryside Rights of Way (CRoW) Act 2000;
- The Hedgerows Regulations 1997;
- The Protection of Badgers Act 1992; and
- The Natural Environment and Rural Communities (NERC) Act 2006.

Where relevant, this report takes into account the legislative protection afforded to specific habitats and species.

National Planning Policy Framework 2019

The National Planning Policy Framework (NPPF) sets out the Governments planning policies for England and how local planning authorities should incorporate them into their own policies and plans. Chapter 15 of the NPPF contains several policies targeted at enhancing the natural environment and requires local authorities to consider how impacts on biodiversity can be minimised and provide net gains in biodiversity. Paragraph 170 states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

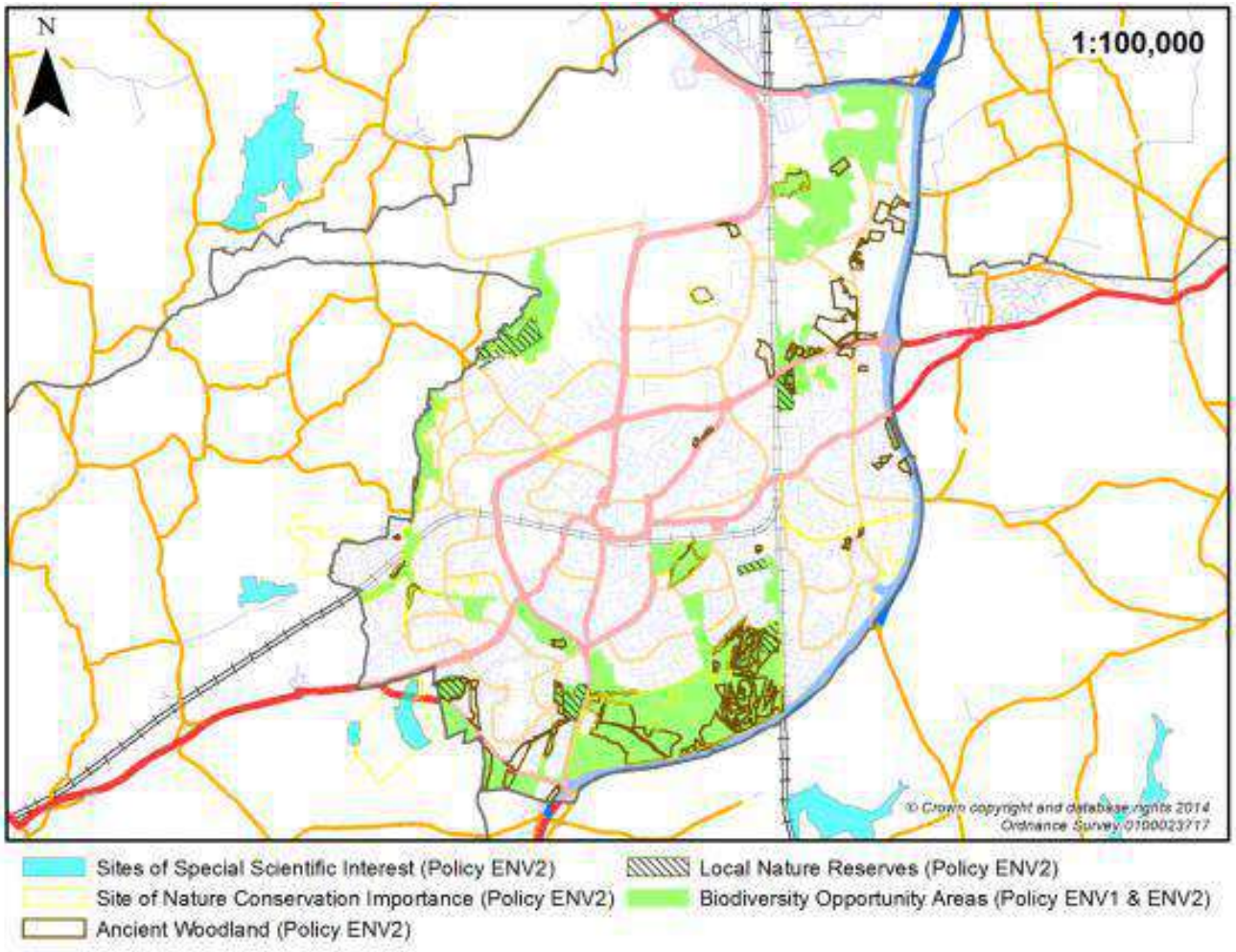
e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."

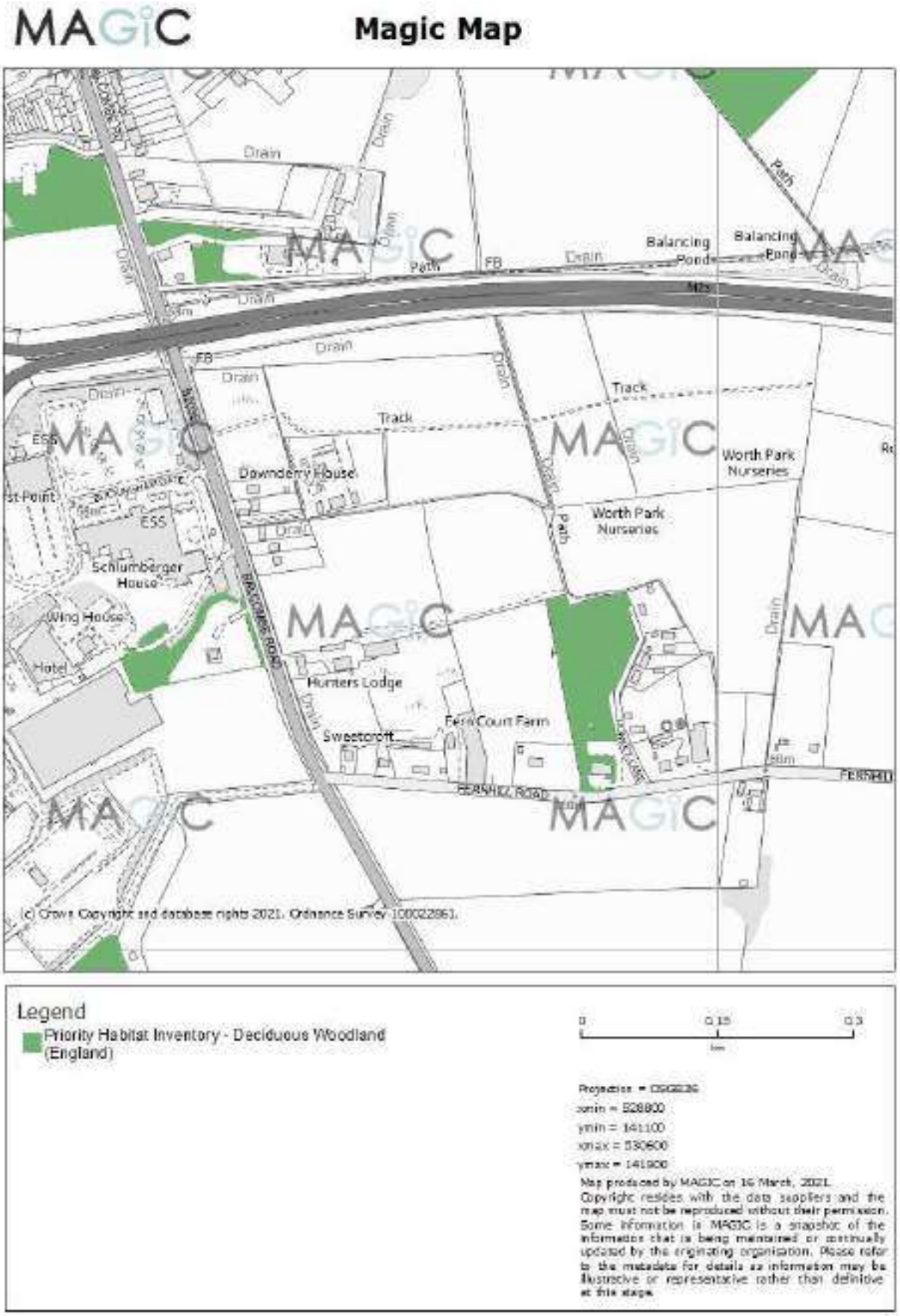
Additional Planning Practice Guidance (PPGs) supports the NPPF and includes guidance on:

- Landscape;
- Biodiversity, ecosystems and green infrastructure; and
- Brownfield land, soils and agricultural land.

Appendix 3 – Designated Sites in Crawley (extract from current Local Plan)



Appendix 4 – Habitats of Principal Importance in Relation to Site (MAGIC map)



Appendix 6. Landscape Note prepared by Pegasus

GATWICK GREEN

INPUT INTO DEVELOPMENT FRAMEWORK DOCUMENT – LANDSCAPE AND VISUAL MATTERS

March 2021

Landscape Designations and Planning

1. The site is not covered by any designation at a national or regional level that recognises a specific landscape importance.

2. The site lies within the corridor of a long distance view from Target Hill Park to the south-west of Crawley, as identified under Policy CH8 of Crawley District Council's Local Plan. The aim of the policy is to ensure the view remains unobstructed by development in the foreground, however, it is noted that the site is approximately 8km to the north-east of the corridor.

3. The site is located within an area defined as the North East Crawley Rural Fringe, as identified under Policy CH9 of Crawley District Council's Local Plan. The policy states:

> *'To ensure that Crawley's compact nature and attractive setting is maintained, development should:*
> *i. Be grouped where possible with existing buildings to minimise impact on visual amenity;*
> *ii. Be located to avoid the loss of important on-site views and off-site views towards important landscape features;*
> *iii. Reflect local character and distinctiveness in terms of form, height, scale, plot shape and size, elevations, roofline and pitch, overall colour, texture and boundary treatment (walls, hedges, fences and gates);*
> *iv. Minimise the impact of lighting to avoid blurring the distinction between urban and rural areas and in areas which are intrinsically dark to avoid light pollution to the night sky;*
> *v. Ensure the building and any outdoor storage and parking areas are not visually prominent in the landscape;*
> *vi. Does not generate an unacceptable level and/or frequency of noise in areas relatively undisturbed by noise and valued for their recreational or amenity value;*
> *vii. Does not generate traffic of a type or amount inappropriate to the rural roads; and*
> *viii. Does not introduce a use which by virtue of its operation is not compatible with the countryside.*
>
> *Where harm to the landscape character cannot be avoided appropriate mitigation and, as a last resort, compensation, will be required as part of a planning application. Applicants are advised to consider the enhancement opportunities identified in the Crawley Borough Council Landscape Character Assessment.'*

4. Under Policy CH9, it specifically states in relation to North East Crawley Rural Fringe that *'Proposals which do not create or are able to adequately mitigate visual/noise intrusion are generally supported. This area has an important role in maintaining the separation of the distinct identities of Gatwick Airport, Crawley and Horley.'*

5. Northern most fields within the site are located within a Biodiversity Opportunity Area as defined by Policy ENV2 of Crawley District Council's Local Plan. The policy states that *'All development proposals will be expected to incorporate features to encourage biodiversity where appropriate, and where possible enhance existing features of nature conservation value within and around the development.'.*

Landscape Character

6. The site lies within National Character Area 121: Low Weald. At a regional level, the site is located to the north-east of the Northern Vales Landscape Character Area as set out in the West Sussex County Council Landscape Character Assessment. The land management guidelines overarching goal is to '*Conserve the mostly rural character of the area'*, with specific guidelines of relevance to the site as follows:

- *'Conserve, manage and restore woodlands, hedgerows, hedgerow trees, field ponds, species rich grassland and meadows, unimproved grassland and meadows.*
- *Maintain historic character including small scale field patterns, earthworks and historic parkland.*
- *Establish a framework of new woodland and hedgerow planting.*
- *Promote the establishment of field margins in arable areas.*
- *Conserve historic lanes with their ancient oaks and unimproved roadside verges.*
- *Focus on the enhancement of the major transport corridors, seeking better integration into the existing field pattern of the*
- *wider landscape.*
- *Ensure any small scale development responds to the historic dispersed settlement pattern and local design and materials.*
- *Ensure any new development around the urban edges, in particular …Crawley…is well integrated with the wider landscape pattern. Encourage bold native woodland and hedgerow planting. Buildings should also blend in with the landscape in scale, form, colour and design.*
- *Encourage screen planting of native trees and woodland around roadside buildings and service areas, and industrial and commercial development, including Gatwick Airport.'*

7. At a local level, the site is located within Area 6 – High Woodland Fringes Landscape Character Area. The area is identified as having high landscape value, but a moderate sensitivity to change, being sensitive to elements such as large scale commercial and residential development and the condition of the landscape is considered to be declining due to increasing visual/noise intrusion in some parts. The planning guidelines for the landscape character area are as follows:

- Proposals must respect the important role of the area to maintaining the separate identities of Gatwick Airport, Crawley and Horley.
- Incremental development should be resisted to prevent the actual and perceived reduction in the highly valued open character of this area.
- Proposals should follow the wider planning and land management guidelines of the Low Weald Northern Vales character area.

Context

8. The site is located between Fernhill Road and Balcombe Road, to the east of Gatwick Airport and close to the M23 motorway, including a spur which provides a connection to the airport. The site is made up of a series of mostly irregular shaped agricultural fields, with the inclusion of a number of buildings including Hunters Lodge and an agricultural outbuilding to the west and Fernlands and an office building between Fernhill Road and Donkey Lane to the south-east.

9. The site is surrounded by a number of residential, farm and employment buildings off the surrounding road network. Land to the north and south of Fernhill Road is predominantly agricultural, with the M23 forming a prominent visual detractor in the surrounding landscape. The landscape to the west is dominated by car parking, employment buildings, hotels and retail uses.

10. A public right of way (3675Sy) is located adjacent to the eastern site boundary, which provide a rural link between Fernhill Road and Balcombe Road to the north-west of the site. Close to the south-east corner of the site, another public right of way (359sy) follows a fenced off track adjacent to car parking associated with Gatwick Airport, before heading further southward and connecting to Radford Road. The Sussex Border Path long distance footpath is located to the east and north of the site, where it follows Peeks Brook Lane to the east before crossing the M23 and heading westward adjacent to the motorway. The Tandridge Border Path long distance footpath links with the Sussex Border Path east of the M23 and to the north-east of the site.

11. A dense network of mature trees surrounds Fernlands and the office building to the south-east, which follow Donkey Lane and the public right of way. A tree lined hedgerow aligns most of Fernhill Road, coupled with residential properties and their associated garden vegetation, limits visibility into the site. Where the site abuts Balcombe Road (B2036) the site is defined by clipped field boundary hedgerows, with occasional matures trees within the hedgerows further to the south, which provides a more open aspect from the road. A mature tree belt defines the north-eastern and northern boundaries, which provides visual enclosure. The internal field boundaries are of variable quality, with those most established appearing to the north.

12. Views towards the site from surrounding areas are well contained by the surrounding network of mature vegetation. Therefore, views are limited to the network of roads and footpaths either adjacent to or in the vicinity of the site, and do not extend beyond the M23 or the areas of woodland to the south and south-west.

Opportunities and Constraints

13. The following landscape and visual opportunities and constraints are shown on the supporting plan and set out below.

Opportunities

14. The principal landscape and visual opportunities for the site comprise:
    - the potential to manage and enhance the existing field boundaries and mature trees, to provide visual enclosure and to enhance wildlife benefits;
    - the potential to manage and enhance the internal network of field boundary hedgerows;
    - the potential to enhance the local wildlife and biodiversity through new planting and the introduction of new landscape features;
    - the potential to provide improved connections to the surrounding roads and public footpaths; and
    - the potential to enhance the intimate landscape area to the south-east for recreation and/or local wildlife.

Constraints

15. The principal landscape and visual constraints for the site comprise:
    - Openness of Balcombe Road with clear and unobstructed views over wetern parts of the site;
    - The potential for the area of biodiversity enhancement to the north of the site to restrict development;
    - potential loss of existing site features including trees and hedgerows, in particular, to the south-east;
    - potential to adversely affect the visual amenity of local residences, particularly those abutting the site along Fernhill Road and Balcombe Road; and
    - potential to adversely affect the visual amenity of vehicles and walkers using surrounding rural roads and the network of public footpaths.

Design Considerations

16. To assist the design development of future design proposals that mitigate the landscape and visual constraints identified, a number of design considerations are set out below.

Vegetation Pattern

17. Existing vegetation to the north and east and adjacent to Fernhill Road must be retained and respected, as well as augmented wherever possible.

18. The internal network of field boundary vegetation must be respected by any development layout and enhanced.

19. Any development needs to be set back from Balcombe Road (B2036), to allow for the addition of new structural planting along the western and south-western edges of the site.

20. Development proposals must adhere to the guidance set out in the county and local landscape character assessments, as set out in paragraphs 6 and 7 above.

21. The creation of a recreational or wildlife area to the south-east should be considered in order to respect the existing trees and vegetation and respect the intimate setting of the landscape.

22. Any new planting or landscape features should aim to enhance the value of the site to local wildlife, in particular, where located within Biodiversity Opportunity Areas to the north as defined by Policy ENV2 of the local plan and shown on the landscape and visual opportunities and constraints plan.

23. Any trees lost as a result of the development must adhere to tree replacement in accordance with Crawley District Councils Policy CH6, based upon tree replacement tree planting in relation to trunk diameter of the tree lost.

24. Development should avoid any impacts upon trees and vegetation within adjacent properties.

25. All landscape proposals must adhere to the guidance in relation to planting in proximity to airports, and in accordance with CAP 772: Wildlife Hazard Management at Aerodromes.

Built Form

26. The development should reflect the height, scale and massing of similar surrounding buildings in the vicinity of the site and be minimised wherever possible.

27. The development should allow for sustainable movement around the site and look for opportunities to improve pedestrian and cycle links in the local area.

Surrounding Land Uses

28. Any development must be appropriately offset from the adjacent residential properties to respect their visual amenity.

29. The development must respect the setting of the listed buildings to the east of the site, as well as other surrounding locally listed buildings further to the east and those listed buildings to the west.

30. Any development must ensure that the setting of the public right of way is respected, with mitigation within the site to limit views toward development proposals.

1. Open views into site. Opportunity to enhance the setting of Balcombe Road through additional planting appropriate to the character of the area.
2. Views from nearby residential properties to be respected.
3. The setting of listed buildings to be respected.
4. Views from the public right of way to the east of the site filtered by existing intervening vegetation along site boundaries.
5. Intimate setting of trees surrounding irregular shaped field to be respected.
6. Opportunity for strong network of tree lined field boundary hedgerows to the north and east of the site to be augmented with suitable native species.
7. Existing internal tree lined boundaries to be retained, respected and augmented where possible.
8. Vegetation along the road to be retained and augmented to retain the rural nature of Fernhill Road.

KEY

- Site Boundary
- Land under client's ownership
- Listed Buildings
- Area of Biodiversity Opportunity Area (Policy ENV2)
- Residential receptors adjacent to site
- Existing Vegetation with strong visual enclosure
- Existing vegetation with weak visual enclosure
- Direct Views
- Indirect Views
- Setting to be respected

Balcombe Road (B2036)

Fernhill Road

Donkey Lane

GATWICK GREEN - LANDSCAPE AND VISUAL OPPORTUNITIES AND CONSTRAINTS

Drawing No: P21-0684-001 June 2021 Rev: A

PLANNING | DESIGN | ENVIRONMENT | ECONOMICS | HERITAGE

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Pegasus Environment

Appendix 7. Drainage Strategy prepared by PHG

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HYDROLOGICAL ASSESSMENT – LAND OFF FERNHILL ROAD, HORLEY

PHG Consulting Engineers have reviewed the available information to assess the hydrology in the area of the proposed development site. It has been concluded that there is a very low risk of fluvial flooding and the low risk of surface water flooding can be reduced with the introduction of site-specific positive drainage.

The site is located at grid reference TQ296413 (E529659, N141326) and bound to the south by Fernhill Road, to the west by Balcombe Road, to the north by greenfield land and to the east by Donkey Lane and further greenfield, the site location is shown in figure 1. The existing ground levels range from approximately 60.00m AOD to 58.00m AOD and fall typically south to north and in parts east to west.

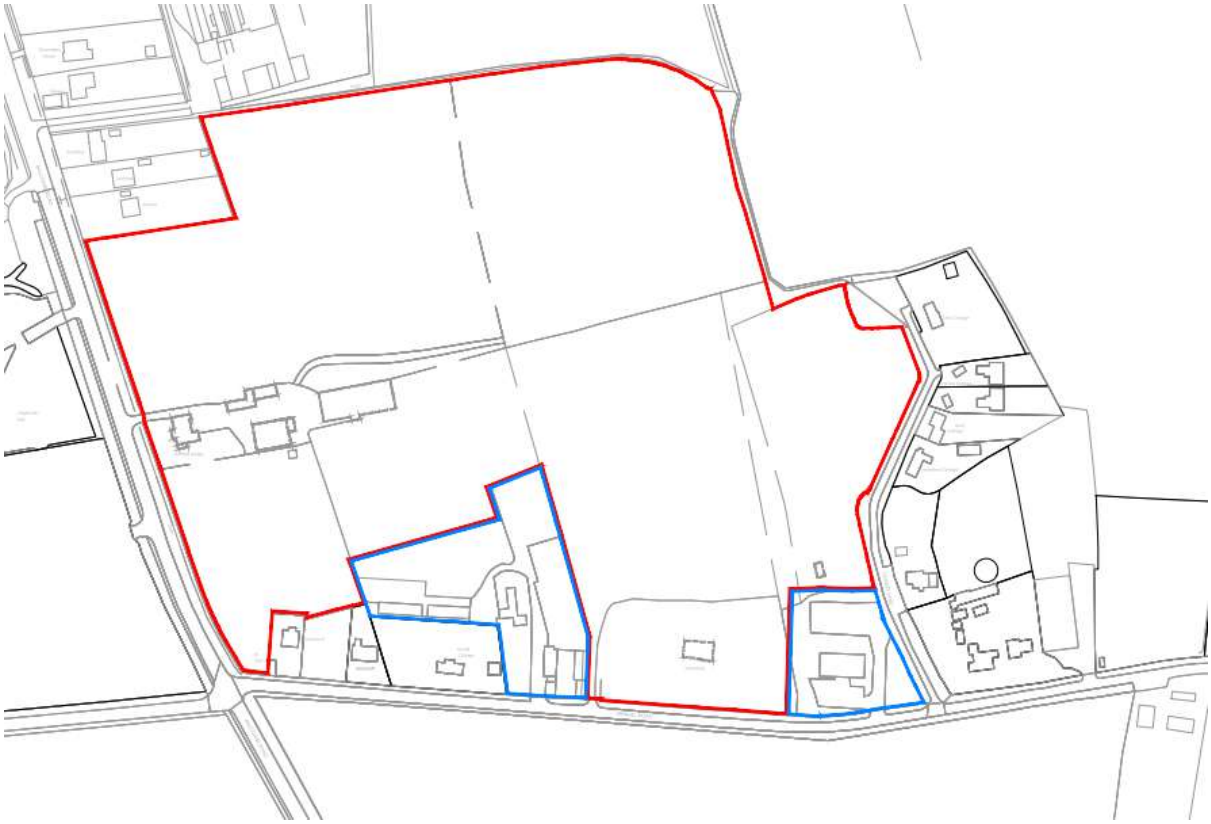

Figure 1 – Site Location

An existing drainage ditch is shown on online mapping flowing east to west along the northern boundary of the site. Due to the topography of the site any greenfield runoff from the development will flow to this existing ditch. Available Lidar data has been reviewed to determine the topography of the site and fall arrows indicate that further smaller ditches may be present onsite, a detailed topographical survey will be required to determine where any existing drainage ditches flow. The drainage ditch system also runs along the eastern kerbline of Balcombe Road and is

culverted under the existing private accesses, any future crossing of this ditch would require a new culvert and Ordinary Watercourse Consent.

Flood Risk

Flood maps available at Gov.UK have been reviewed to determine the risk of flooding from various source within the site. Figure 2 below shows the extent of fluvial flooding from rivers and shows the development site to be away from the extents of fluvial flooding.

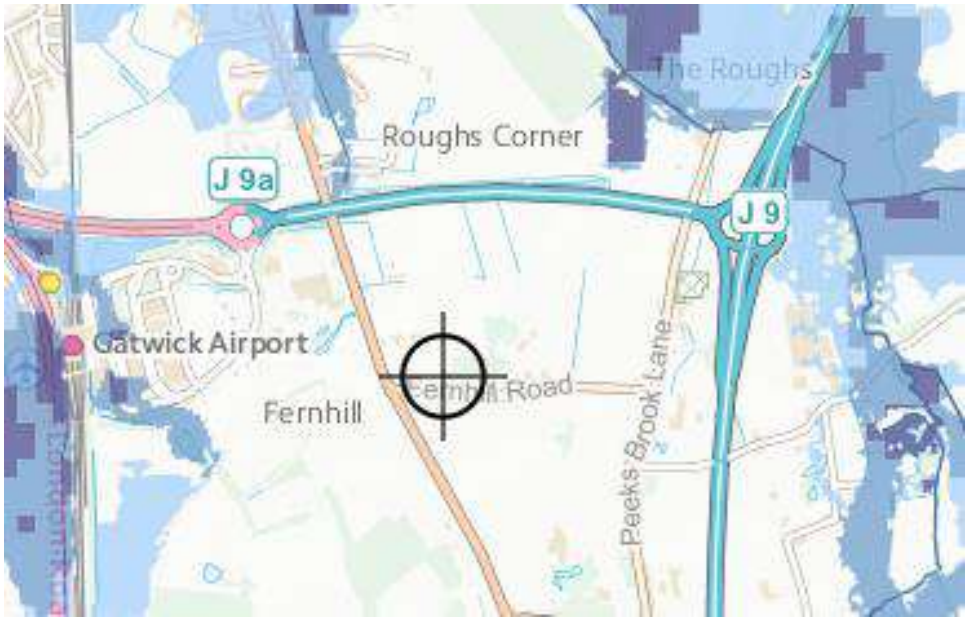

Figure 2 – Fluvial Flood Extents from Gov.UK

Flood maps also show the risk of surface water flooding within an area, at the development site there is a large area at 'low' risk of surface water flooding as shown in figure 3. Areas of low flood risk have a likelihood of flooding between 0.1% and 1%. The depth of surface water flooding in this area ranges between 0-300mm and 300mm-900mm as shown in figure 4, The velocities of the are generally below 0.25m/s (figure 5) and therefore are not deemed to pose a major hazard.

Flooding from surface water can be difficult to forecast due to small differences in rainfall intensity and volumes, local features can also affect the likelihood and severity of flooding. Surface water flooding within the site is mainly contained in the low-lying area at the north western corner.

Surface water runoff from the greenfield will add to any surface water flooding shown on the below maps. Therefore, the development of the site can reduce the extent of surface water flooding by reducing rate and volumes of runoff to this area. Given the likelihood of surface water flooding is minimal and anticipated depths are low, the overall risk of surface water flooding post development will be negatable. The proposed drainage strategy should reduce flow rates and volumes and make space for water.

Figure 3 – Surface Water Flood Extents from Gov.UK

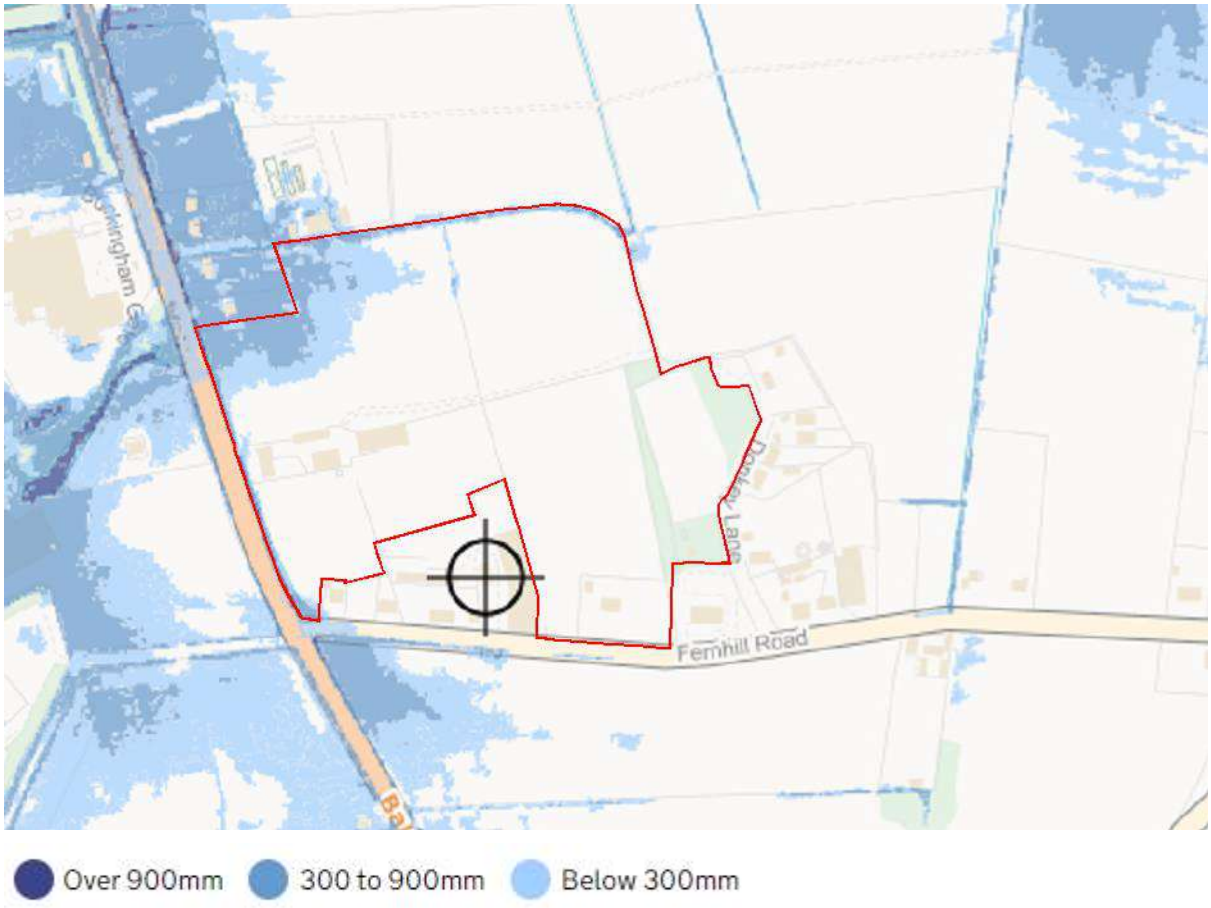

Figure 4 – Surface Water Flood Depths from Gov.UK

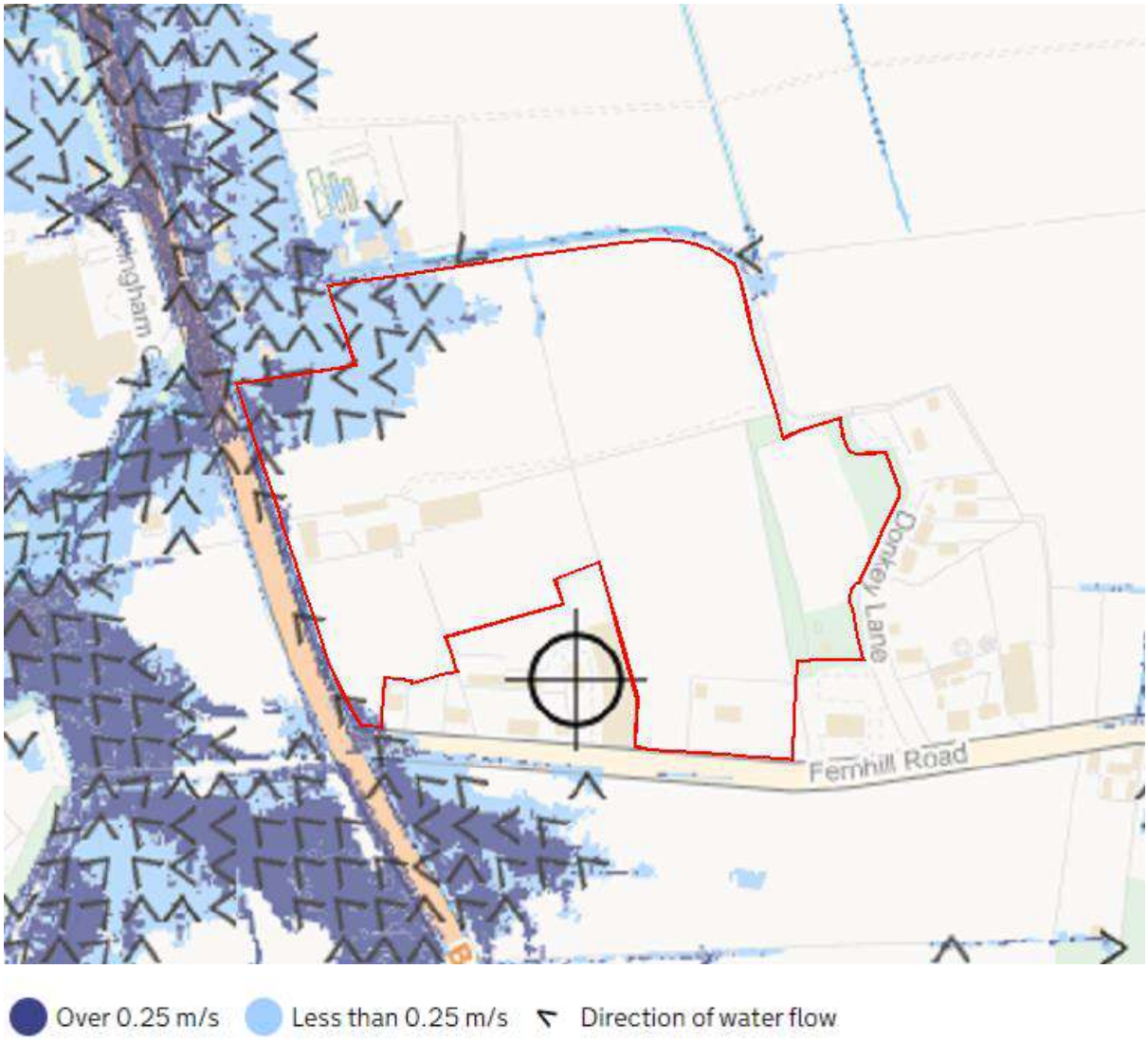

Figure 5 – Surface Water Flood Velocities from Gov.UK

Reservoir Flooding

Part of the northern section of the site is within the extent of reservoir flooding with maximum depths between 300mm-1m. Generally, reservoir flood risk maps are produced to inform reservoir owners and help produce evacuation and early warning plans. The likelihood of reservoir flooding is considered to be minimal and should not affect the use of land.

Historic Flooding

The West Sussex SFRA provides an outline of historical flood events, however this information is limited and, in many cases, does not include the type of flooding. There are no known flood events within the site.

Groundwater Flooding

The West Sussex SFRA (figure 1.2) shows the geology of West Sussex and shows the site to be in an area underlain by Clays. Therefore, groundwater flooding may occur from perched water

flowing above more impermeable soils. A site-specific site investigation will be required and this should determine whether groundwater is encountered during works.

Surface Water Drainage

The surface water drainage strategy for the site should restrict discharge to the calculated QBAR greenfield runoff rate, this would ensure that during rainfall events greater than the predicted 1 in 2 year event discharge from the site post-development would be reduced. Base on the site area of 9.18ha consisting of 60% impermeable surfacing the QBAR greenfield runoff rate has been calculated to be 28.6l/s. To maximise the benefits of a SuDS approach to surface water management, the use of swales to convey water should be considered and the final attenuation should be provided in a landscaped basin (or basins). This will ensure the surface water drainage network maximises amenity and biodiversity benefits whilst reducing the volume and rates of runoff. The masterplan should allow space within landscaped areas for attenuation basins to be provided. Any attenuation feature within the site should be designed to accommodate flows up to and including the 1 in 100 year with a 40% increased for climate change. To ensure exceedance can be managed, a minimum freeboard of 300mm should be included. Given the above parameters, a 1.5m deep basin with 1 in 3 banks covering a surface area of approximately 3,670m^2 and providing 4,500m^3 storage would be required. Further SuDS techniques such as porous surfaces can be utilised to reduce the overall size of surface water attenuation required.

Foul Water Drainage

Sewer records have been obtained from Thames Water and show little existing foul sewers with the vicinity of the development. The development is surrounded by greenfield, Gatwick Airport and some smaller development/dwellings. The dwellings in the vicinity of the site are likely to have individual treatment plants and Gatwick Airport would be served by a private drainage system. The nearest Public Sewers are located approximately 600m south of the development in Balcombe Road. Sewer records show that the existing manhole (7801) at the start of this run has an invert level of 57.54m and the public sewer discharges to a pumping station. The pumping station is assumed to have a direct discharge to Crawley Sewerage Treatment Works located 300m to the west. Due site levels and the invert level of the existing manhole, a pumping station will be required to discharge to the Thames Water network. The pumping station would also include an offsite rising main being laid in Balcombe Road, approximately 500m long. Once the development scale and uses are determined early discussion should take place with Thames Water to ensure sufficient capacity within the existing network.

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Appendix 8: Water Neutrality Strategy

FERNLANDS,
FERNHILL ROAD,
HORLEY,
RH6 9SY

Water Supply & Water Neutrality Report

Ref: 5782043/TG
Date: 11 November 2022
Rev No: V4

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APPENDICES

1.0 Introduction

This Water Strategy & Water Neutrality document demonstrates how the combined landholdings of WT Lamb and Elliott Metals/The Simmonds Family can make a positive and sustainable contribution to the Gatwick Green employment area proposals. Particularly by addressing the prevailing water issues that are occurring in the area, in this high-water stress region of the country.

1.1 Existing Site Description

The existing parcel of land comprises of a number of different land holdings; WT Lamb and Elliott Metals/The Simmonds Family together forming a larger 8.8ha employment site that is proposed for allocation. A detailed description of these parcels of land is provided in the following section:

WT Lamb Landholding

The WT Lamb 8.1ha site consists of an existing residential bungalow with expanses of land behind, that was previously used for horticultural purposes. The historic horticultural use benefitted from the use of greenhouses measuring over 17,000 sq.ft., together with other ancillary structures associated with its commercial nursery use. Externally approximately 1.5 ha of land was planted with horticultural produce. Over time the glasshouses have fallen into considerable disrepair, requiring the glass to be removed from the site for health and safety reasons. The property is also served by a high-yield well that has been available to service the horticultural nursery enterprise on the site and in more recent years water has been drawn from the well for maintenance uses. It is understood that the horticultural use and associated planning designation still apply to the site.

In addition there is a further (5 ha) consisting of three distinct parcels of land to the north and south of Hunters Lodge and MSL Heat Treatment – a manufacturing company operating from the buildings to the rear of Hunters Lodge who intend to remain on site. In terms of topography, the land is generally flat with the associated three fields being currently used for agricultural purposes.

Elliot Metals/The Simmons Family Landholding

The land owned by Elliott Metals/The Simmonds Family measuring approximately 0.7ha, lies to the rear of the family metal recycling center (Elliott Metals). This is a family-run business that has operated from the premises for over 80 years. The land to the rear of the metal business is vacant, flat, suitable, and available for redevelopment. It is yet to be determined whether the metal business would relocate or remain at the site. However, it is currently outside of the red line area of the 8.8ha site seen below.

Figure 1.1 - Proposed Employment Land Masterplan

1.1.1 Proposed Development Site

WT Lamb and Elliott Metals/The Simmonds Family control the “missing section” of proposed Strategic allocation EC4. The three landowners have joined together in order to provide an option for a comprehensive approach to the development of the area for employment purposes. For their entire 8.8 ha landholding, it is proposed to install a light B2/B8 industrial development. The proposed development area within the control of our clients sits within the Red Line boundary shown below. The Blue Line boundary indicates the extent of the proposed Gatwick Green area.

The WT Lamb site currently benefits from a prolific well that was previously used to serve the horticultural use of the site. The new light industrial use has very little water demand making the water supply available for use on the adjacent sites that are proposed for development. Therefore, resulting in a very sustainable development in a high-water stress area that lies adjacent to the Sussex North Water Resource Supply Zone, an area affected by water neutrality.

Figure 1.2 - Proposed Masterplan Context

1.2 Natural England Water Neutrality

As highlighted in the previous section the proposed development site falls just outside the Sussex North Water Resource Supply Zone. A recent directive from Natural England states that all new accommodation, together with new commercial premises with high water uses, in this area will need to meet the new Habitat Regulations Assessment (HRA) requirement to demonstrate water neutrality. This measure has been stipulated in order to protect ecological flows and reduce the demand for increased water abstraction from the wells at Hardham. As this could potentially adversely impact the integrity of the Arun Valley which has the following protected designations; a Special Protected Area (SPA), a Special Area of Conservation (SAC), and a Ramsar site. A *Ramsar* site is a wetland site designated to be of international importance under the *Ramsar* Convention.

Typically Water neutrality needs to be demonstrated by the applicant through the submission of a statement or water budget (including calculations) including all/some of the following measures:

- *Provide improvements on the proposed water use from the typical light industrial use of 50 litres down to 30 litres per person per day.*
- *Incorporating low water usage w.c's, showers, aerated taps, etc. – these would be subject to a condition requiring a verification report to demonstrate the completion of the works prior to first occupation.*
- *Incorporating rainwater harvesting.*
- *Incorporating greywater recycling.*
- *Offset the remainder of any water requirements.*

The HRA requirement for water neutrality covers both quantity and quality objectives. The protocol takes a catchment-wide approach highlighting that greenfield sites will be required to offset additional water demand in order to achieve water neutrality. Whilst the water neutrality requirement is not applicable to the proposed development, however owing to the recent drought, the advent of climate change, and the recurrent issues affecting the water supply it is considered prudent to adopt some of the water neutrality principles with the benefit of the best available technology. In addition, the Environment Agency has indicated that water supply aquifers are being unsustainably overmined by up to 700 million litres/day. The Environment Agency categorically states that there is an absolute requirement to reduce the rate of water consumption starting from the year 2025 (Ref 4). Therefore, in consideration of these constraints it is proposed water use will be significantly reduced and aided by the use of greywater recycling technology that will treat greywater to WHO drinking standards.

Consequently, this site in its entirety will deliver an exemplary employment destination that meets water neutrality requirements and addresses prevalent water stress in the area by utilizing the latest technologies. Furthermore, energy saving efficiencies in terms of electrical consumption, generation and insulation.

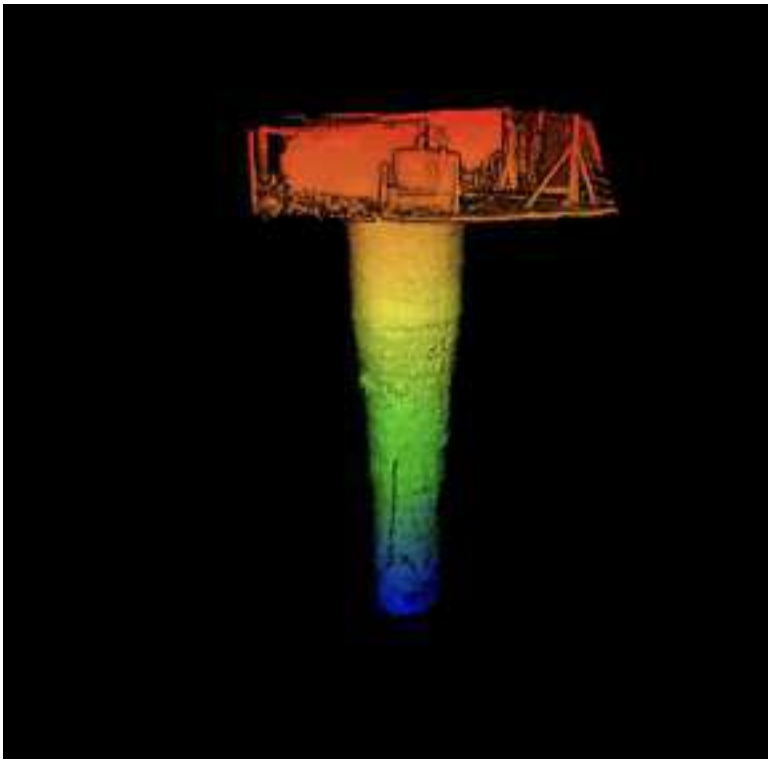
2.0 Existing Water Use

The historic horticultural nursery consisted of a substantial 17,000 sq.ft., greenhouse together with externally farmed horticultural gardens. The footprint of the historic gardens can be seen in the photographs below and also on the following pages. The greenhouse and the horticultural nursery benefitted from a prolific well that is currently found at the site. The well is known to be very productive and is found to be nearly full of water to surface level most of the year, with seasonal lowering in the summer months.

Figure 2.1 - Existing Horticultural Fields

Figure 2.2 - Remnants of Greenhouse and Ancillary Structures

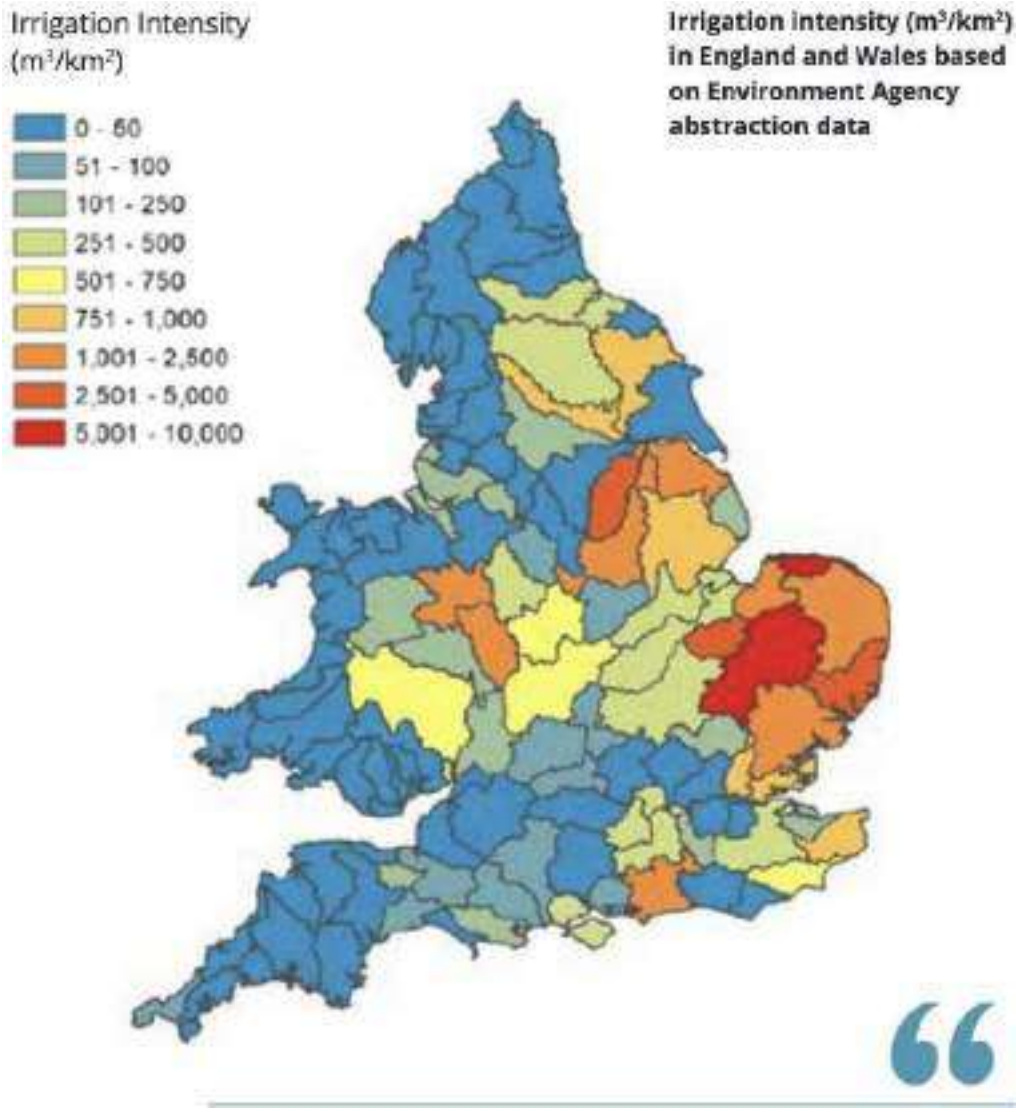
Figure 2.3 - Existing Well Imagery



2.1 Existing and Historic Groundwater Use

The Irrigation Water Strategy for UK Agriculture and Horticulture (Ref 1) publication of 2020, funded by the UK Irrigation Association provides guidance on the water demand associated with irrigated crops throughout the United Kingdom. The map below extracted from the above report, provides details on the irrigation abstractions range on an annual in m^3/km^2. As is noted below the site is located in an area with 251 to 500 m^3/km^2 irrigation water abstraction rates. This equates to 25,100,000 to 50,000,000 litres /hectare per year.

Figure 2.4 - Proposed Masterplan Context



2.1.1 Greenhouse - Rate of Water Consumption

The historic 17,000 sq.ft., greenhouses would have been used to grow a variety of exotic orchids and salad crops such as tomatoes, cucumbers, lettuces, peppers, herbs, celery, and aubergines. This would have resulted in the most significant demand for abstracted irrigation water. The glasshouse measures approximately 0.2 ha and would have consumed a significant amount of abstraction water per hectare when compared to the outdoor fields of horticulture crops. The abstraction rates for the area are 25,100,000 to 50,000,000 litres/hectare per year. It is assumed that the glasshouse consumption was based on the upper limit. **Therefore, the annual water consumption for the greenhouse was 5,020,000 litres/year.**

2.1.2 Outdoor Horticultural Crops

For outdoor crops, most irrigation water is used to supplement rainfall to varying degrees according to crop requirements. Typical crops would include; potatoes and outdoor field vegetables, such as carrots, onions, parsnips, and salad crops. In the United Kingdom most irrigation water is abstracted from surface water rivers or lakes (52%) and groundwater (41%) sources with the remainder from the public water supply, ponds, and harvested rainwater (7%). The outdoor plants are considered to be at the lower threshold of the abstraction water used for irrigation. The site photos indicate that with the exception of the greenhouse the remainder of the 3.10 hectares would have been planted with horticulture crops and is assumed to have been irrigated by natural rainwater. The annual rainfall figures for the area is 25,844,390 litres per year. However, the annual water consumption from the well for these crops would have been approximately 77,650,000 litres/year (25,100,000 x 3.1). This would result in a significant deficit of 51,805,610 litres per year. Most of which is considered to have been supplied by the well.

2.1.3 Unlicensed Well Water Demand Abstraction Limit

Under the Water Abstraction and Impounding (Exemptions) Regulations 2017, sites abstracting up to 20,000 litres per day are exempt from applying for a groundwater abstraction license. This would provide an annual supply of 7,300,000 litres/year of groundwater for irrigation purposes. This capacity represents 15% of the actual annual demand associated with horticultural uses. It is therefore proposed to undertake detailed yield tests to confirm the actual yield of the existing well. Preliminary site yield tests have indicated that the existing well has a capacity of 8,000 litres/day, additional tests are proposed pursuant to making a formal borehole licence application for the new proposed commercial development. It must be noted that the yield tests were undertaken during the summer of 2022, during one of the most dry periods that has ever been recorded. With the benefit of the well being cleared of detritus and organic matter would have yielded better results and supported a larger water yield.

2.2 Outdoor Crop Rainwater Supply

The outdoor horticultural crop would have also benefited from rainwater. However, it must be noted that it is susceptible to extreme weather patterns. In this section, we will analyze the variability of rainfall events over the last couple of years.

2.2.1 2017 and 2018 Annual Rainfall Patterns

During 2017 and 2018 significant areas of the UK experienced below-average rainfall, compounded by a very dry summer which resulted in rainfall being lost to high evaporation, evapotranspiration rates, and runoff resulting in reducing the groundwater recharge rates (Ref 2).

2.2.2 2019 Annual Rainfall Patterns

The annual rainfall in 2019 was significantly above the 1981 - 2010 average (Ref 3). This variability in rainfall in extreme weather patterns owing to climate change makes rainwater a very unreliable source of water for sustaining the typically high-water demand for horticultural crops. In order to cope with any deficits in water, supply reliance would have been placed on an alternative source of water supply. The only alternative water supply available to the horticultural site is the well groundwater supply stated in the previous section, whose capacity will be confirmed in due course.

2.3 Water Supply Strategy

It is therefore proposed to maintain the well water supply as the primary water supply source to the proposed development site. This also will also mean no additional water demand will be placed on the existing water infrastructure except for the purposes of maintaining an emergency water supply. It is proposed to install a water supply system that benefits from greywater recycling, which enables used water to be recycled and used for toilet flushing, cleaning or irrigation. Greywater is generated owing to daily water use, therefore provides a reliable source of water for non-potable uses.

Figure 2.1 - 2017 Rainfall Maps

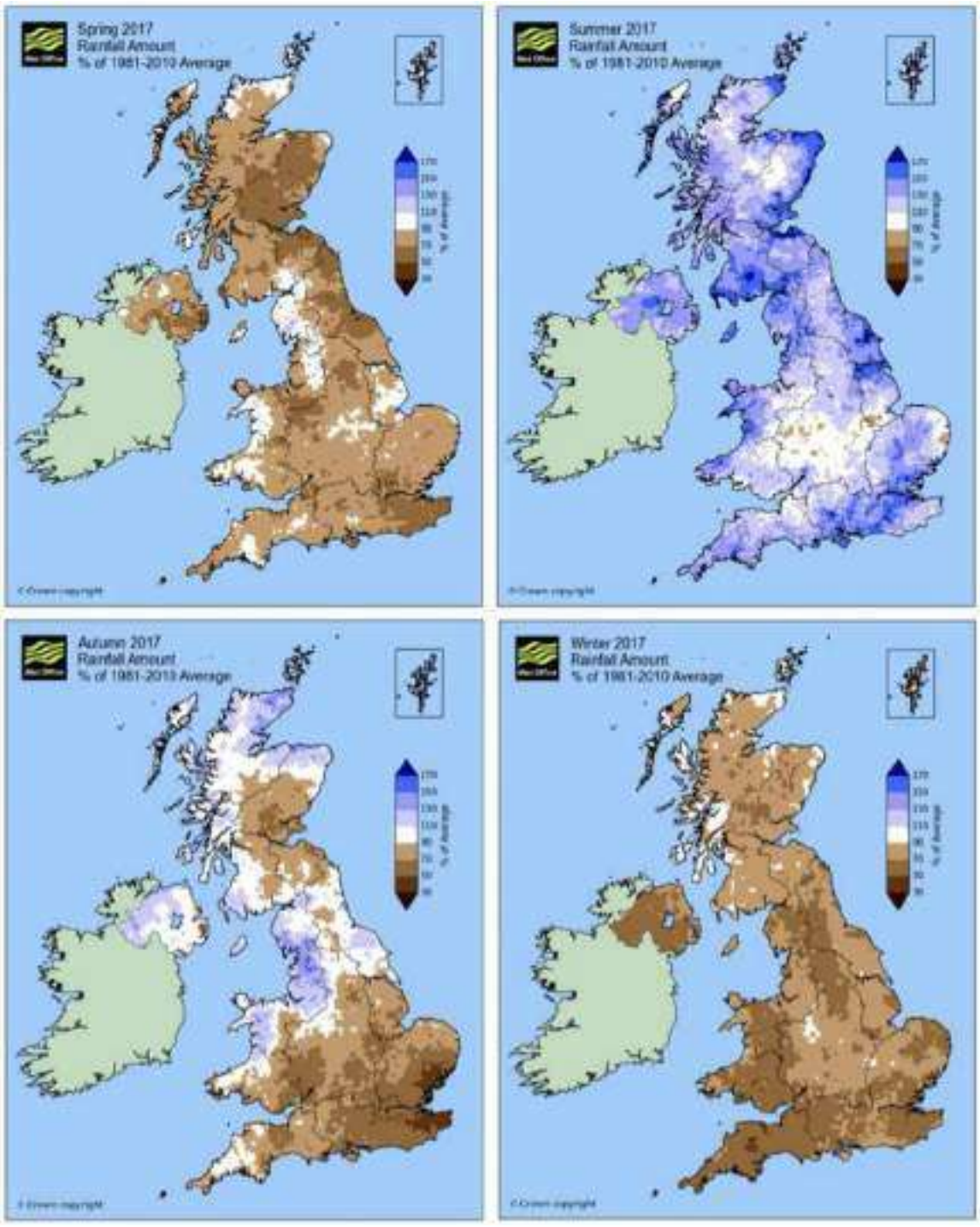
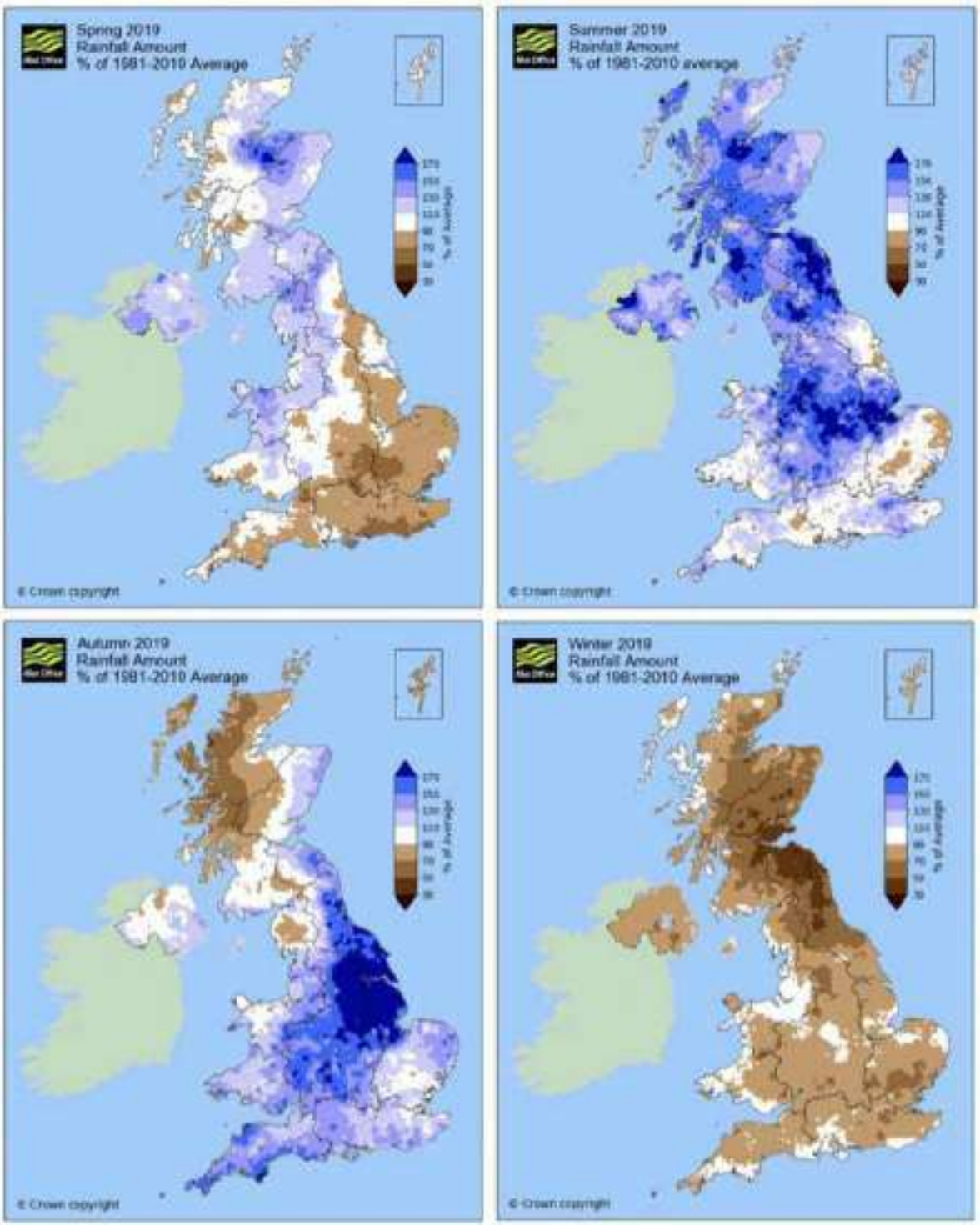


Figure 2.2 - 2019 Rainfall Maps



3.0 Employment Land Proposals

The Covid-19 pandemic rapidly accelerated the move to e-retail coupled with the demand for logistical space. The logistics demand is extremely strong, particularly in areas with higher population densities, vibrant economic activities, and major transport hubs such as Gatwick. It is therefore anticipated that for Gatwick the future logistical space requirements will significantly outstrip historic trends in this market. The increasing adoption of online sales by mainline shops and national brands, coupled together with the emergence and exponential growth of many small SME e-retailers cements this demand. Enablers and facilitators like Amazon and third-party logistics operators are experiencing the need for rapid expansion in order to cope with the demand. The Gatwick area is an excellent location at the heart of the South East and is in close proximity to both the South Coast and South London.

The Updated EGA - Employment Land Proposals

The proposals for employment land provision draw heavily on the underpinning evidence base, with the latest Economic Growth Assessment (EGA) Focused Update (September 2020) stating an overall requirement of 38.7 ha, being the figure carried forward to the Pre-Submission Local Plan. Including the 10% flexibility allowance, the EGA update figures indicate that a net floorspace requirement of 133,700 sq.m., of industrial (B1c/B2/B8) uses would be required. Assuming a typical density of 4,000 sq.m., per hectare this would equate to a land requirement of 33.4 hectares. However, the Employment Land Trajectory (January 2021) allows for a total provision for B1c/B2/B8 floorspace of 118,920 sq.m., indicating a shortfall of 14,780 sq.m.

The above-mentioned trajectory document also indicates that the proposed allocation at Gatwick Green will deliver 77,800 sq.m., on 24.1 ha; this equates to a density of 3,228 sqm/hectare. Consequently, the shortfall of 14,780 sq.m., would require a further 4.6 ha of light industrial land to be allocated within the Local Plan. Our client's 8.8 hectares of land bounded on three sides by the Gatwick Green development provides ample capacity to accommodate this shortfall in a holistic and coordinated manner. The surplus land will be available to meet ancillary, infrastructure and amenity requirements. Key to creating a viable and truly sustainable industrial development will be the requirement to address environmental constraints, meet biodiversity net gain requirements and provide opportunities for enhanced suds and landscaping features.

3.1 Water Demand for the WT Lamb Site

The 3.1 ha WT Lamb site benefits from a well which has currently yielded 8,000 litres/day. It is also noted that the historic demand for the site was significantly more than this at volumes of approximately 130,330 litres/day associated with the horticultural water demand of the site. The testing of the existing well has yielded 8,000 litres/day; 40% of the 20,000 litres/day upper for unlicensed wells permitted under the Water Abstraction and Impounding (Exemptions) Regulations 2017. The proposed site allocation promoted by this water neutrality report is for the 8.8 hectares of land made up of the following landholdings:

- *8.1ha WT Lamband*
- *0.7ha of Elliott Metals site.*

It proposed to use this 8.8 ha site to meet the 4.6 ha shortfall of employment land that has been identified in the EGA. An assessment has been made in Table 3.1 - Water Demand of Employment Areas, which indicates that the well on the WT Lamb site has enough capacity to provide water supply for the maximum 211 employees that would be located at the industrial estate once developed. The average water consumption for industrial uses is 50 litres/day (Ref 5). At the assumed yield of 8,000 litres/day, the highest B8 use; the Final Mile Distribution Centre would utilise 132% (10,550 litres/day) of the current existing well capacity. Through the introduction of greywater recycling and rainwater harvesting will make this a water neutral development.

Table 3.1 - Water Demand of the Employment Areas

Use Class	***Property Details***	***Area (m^2)***	***Employment Density***	***Full Time Employees (FTE)***	***Daily Water Demand (litres/day)***	***Borehole Utilisation (%)***
WT Lamb & Elliott Metals (Total Area 8.8 ha) - 14,780sqm Employment Area on 4.60 hectares						
B8	*National Distribution Centre*	*14,780*	*95*	*156*	*7,800*	***39.00%***
B8	*Regional Distribution Centre*	*14,780*	*77*	*192*	*9,600*	***48.00%***
B8	*Final Mile Distribution Centre*	*14,780*	*70*	*211*	*10,550*	***52.75%***
The highest daily water demand is associated with the Final Mile Distribution Centre					***10,550***	

3.2 Reducing Water Consumption

A key driver for the entire development is to deliver a water neutral, holistic and sustainable light industrial complex. This objective translates to all attributes of the development including lower water and energy use and bills. Greywater recycling facilitates the saving of significant amounts of potable water. By utilising the same source of potable water twice by collecting, cleaning and re-using the "greywater" from showers, hand basins and air conditioning units. The cleaned and disinfected water could then be re-used for non-potable uses such as toilet flushing, cleaning and landscape irrigation.

The proposed Hydraloop greywater recycling system facilitates the saving of up to 45% of tap water which also translates into a 45% reduction in the discharge of wastewater. Therefore, also saving significant infrastructure costs. The detailed specifications for the Hydraloop H300 and H600 systems are contained in Appendix B. Both systems would facilitate the demand for potable water to be reduced by 20% to 40% on the new industrial estate as highlighted in Table 4.1 below. The 20% and 40% reduction equate to 30 litres/person/day and 40 litres/person/day respectively.

Table 4.1 - Percentage of Greywater Recycled

Use Class	Property Details	Area (m^2)	Full Time Employees (FTE)	Daily Water Demand (litres/day) (50l/p/d)	Daily Water Demand (litres/day) (40l/p/d)	Daily Water Demand (litres/day) (30l/p/d)
WT Lamb & Elliott Metals (Total Area 8.8 ha) - 14,780sqm Employment Area on 4.60 hectares						
B8	*National Distribution Centre*	*14,780*	*156*	*7,800*	*6,240*	*4,680*
B8	*Regional Distribution Centre*	*14,780*	*192*	*9,600*	*7,680*	*5,760*
B8	*Final Mile Distribution Centre*	*14,780*	*211*	*10,550*	*8,440*	*6,330*
The highest daily water demand is associated with the Final Mile Distribution Centre						

Greywater recycling results in the 40% reduction to the proposed allocation site, resulting in a daily water consumption of 6,330 litres/day for the Final Mile Distribution Centre (Highest Water Demand - Worst Case Scenario).

By utilising the existing productive well combined with the proposed greywater and rainwater harvesting would allow for the site to be serviced in a very sustainable manner, without being heavily dependent on potable water sources. This is critically important as the development is at the edge of the water neutral zone and in an area experiencing high levels of water stress.

5.0 Conclusion - A Development Area Achieving Water Neutrality

The proposed allocation site consisting of the WT Lamb and Elliott Metals site will utilise greywater recycling in order to drastically reduce the amount of potable water demand. This intervention results in the new water demand associated with the proposed B8 development site being 40% less than that of the proposed light industrial use.

This report demonstrates that it is viable to support 14,780 m2 of industrial floor space, based on the consumption of a typical Final Mile Distribution Centre employing 211 full-time members of staff with an average water demand of 10,550 litres per day. Through the use of water neutrality principles, this water demand can be reduced to 6,330 litres per day, by installing greywater recycling technology. Initial well yield tests have indicated that potentially there may be additional yield capacity than the initial 8,000 litres per day that has currently been confirmed on site. It can be therefore concluded that the requirements for water neutrality at the proposed site for allocation are met. Thus, clearly demonstrating the developing/allocating of the site would facilitate a much more sustainable development on this much-needed employment site.

Additional well testing together with a detailed hydro-geological prognosis report will be undertaken in order to ascertain the maximum well yield that could be available to the site. It is also noted that the historic demand for the site was at 130,330 litres per day associated with the horticultural water demand of the site, which would suggest that potentially there may be additional yield capacity than the initial 8,000 litres per day that has currently been confirmed on site.

The annual rainfall figures for the area is 25,844,390 litres/year. Whilst the current yield of 8,000 litres/day results in an annual yield of 2,920,000 litres/year. However, the annual water consumption from the well for these crops would have been approximately 77,650,000 litres/year (25,100,000 x 3.1). This would result in a significant deficit of 51,805,610 litres/year. Most of which is considered to have been historically supplied by the well, which is currently impeded by detritus, heavy silting and the presence of organic matter. It can be reasonably concluded that there is sound ground to expect much greater yields which could be made available to service the allocated Gatwick Green employment site, together with some other offsite opportunities that may need water offsetting credits.

REFERENCES

1. Irrigation Water Strategy for UK Agriculture and Horticulture (2020), UK Irrigation Association, https://www.nfuonline.com/archive?treeid=141830
2. https://www.bigga.org.uk/news-listing/water-source-if-golf-clubs-banned-from-using-mains.html
3. Water Use and Resilience in the Golf Sector 2020 (January 2020), Environmental Solutions International Ltd, Page 5
4. Meeting our Future Water Needs: A Natural Framework for Water Resources (2020), Environment Agency
5. Water Use in Your Business, https://www.south-staffs-water.co.uk/media/1509/waterusebusiness.pdf

APPENDIX A - EMPLOYMENT DENSITY GUIDE

Employment density matrix

Use Class	Sub-Category	Sub-Sector	Density (sqm)	Notes
B1a Offices	General Office	Corporate	13	NIA
		Professional Services	12	NIA
		Public Sector	12	NIA
		TMT	11	NIA
		Finance & Insurance	10	NIA
	Call Centres		8	NIA
B1b	R&D Space		40-60	NIA lower densities will be achieved in units with higher provision of shared or communal spaces
B1c	Light Industrial		47	NIA
B2	Industrial & Manufacturing		36	GIA
B8	Storage & Distribution	National Distribution Centre	95	GEA
		Regional Distribution Centre	77	GEA
		'Final Mile' Distribution Centre	70	GEA
Mixed B Class	Small Business Workspace	Incubator	30-60	B1a, B1b – the density will relate to balance between spaces, as the share of B1a increases so too will employment densities.
		Maker Spaces	15-40	B1c, B2, B8 - Difference between 'planned space' density and utilisation due to membership model
		Studio	20-40	B1c, B8
		Co-Working	10-15	B1a - Difference between 'planned space' density and utilisation due to membership model
		Managed Workspace	12-47	B1a, b, c
B8 / Sui Generis	Data Centres	Wholesale	200-950	
		Wholesale Dark Site	440-1,400	
		Co-location Facility	180-540	
A1	Retail	High Street	15-20	NIA
		Food store	15-20	NIA
		Retail Warehouse	90	NIA
A2	Finance & Professional Services		16	NIA
A3	Restaurants & Cafes		15-20	NIA
C1	Hotels	Limited Service / Budget	1 per 5 beds	FTE per bed
		Mid-scale	1 per 3 beds	FTE per bed
		Upscale	1 per 2 beds	FTE per bed
		Luxury	1 per 1 bed	FTE per bed
D2	Fitness Centres	Budget	100	GIA
		Mid-Market	65	GIA – both types tend to generate between 40-50 jobs per gym
		Family		
	Cinema		200	GIA
	Visitor & Cultural Attractions		30-300	The diversity of the cultural attraction sector means a very wide range exists
	Amusement & Entertainment Centres		70	Potential range of 20-100sqm

APPENDIX B - HYDRALOOP GREYWATER

FACT SHEET - Residential Water Recycling

With a Hydraloop system, you can recycle up to 95% of shower & bath water and optionally 50% of washing machine water – which enables you to reuse up to 85% of the total in-house domestic water. Due to its innovative and breakthrough technology, Hydraloop water is clean, clear, safe and certified and for toilet flushing, washing machine, garden irrigation and/or to top-up a swimming pool.

Hydraloop H600

H600	Input: Greywater from shower and bath Output: Two (2) valves for recycled water to the toilets and the washing machine Colour: Stone Front Plate: Stainless-steel front plate with white coloured logo and small status light
H600 Premium	Input: Greywater from shower and bath Output: Two (2) valves for recycled water to the toilets and the washing machine Choose from three colours: Dew, Chili and Stone Front Plate: Premium stainless-steel front plate with Hydraloop LED logo lights

Add-ons

Output Garden	One (1) extra valve for recycled water in the garden
Output Pool	One (1) extra valve for recycled water for the pool
Lift pumps *	DAB Novabox 30/300. This lift pump is submerged underneath the floor DAB Genix VT 030. This lift pump is on the floor

A lift pump is only necessary if the Hydraloop is positioned on the same floor or a storey higher as the shower/bathtub

Hydraloop H600 Dual Specifications

Volume	600 litres / 160 gallons
Cleaning capacity	1000 litres / 260 gallons per day
Dimensions	80 cm wide, 69 cm deep, 187 cm high 31,5” wide, 27,5” deep, 74” high
Voltage	100/240 Volt, 24 Volt internal
Usage	40 watts during treatment Average power consumption: 350 kWh/year
WIFI	The Hydraloop unit needs to be connected to the internet with a WIFI-network
Average recycled water quality	non-potable water CBOD5 (mg/L) < 10 TSS (mg/L) <10 Turbidity (NTU < 5) E. coli (MPN/100ml.) < 14 PH (SU) 6.0 – 9.0
Noise Level	± 46 dB.

LED Light Indications

White	Hydraloop provides recycled water.
Blue	Hydraloop provides mains water (until recycled water becomes available).
Purple	The washing machine mode is active.
Green	In self-cleaning mode.
Orange + two (2) short sound signals per minute	The UV disinfection lamp is not functioning properly.
Red + three (3) short sound signals/minute	The water distribution pump has switched itself off. Which might happen when water is leaking somewhere in-house.

Schematic overview

- Input from wastewater of bath & shower
- Output for toilet flushing, washing machine, garden irrigation and / or pool
- WIFI connected for Smartphone app, over the air updates and remote support

- ‘Fit & Forget turnkey product
- No filters, membranes or chemicals
- Fully automatic, self-cleaning, low maintenance
- BREEAM and LEED certification points
- No compromise on hygiene and living comfort
- Contribute towards sustainable and off grid living

For more information, please visit www.hydraloop.com

FACT SHEET – HYDRALOOP CASCADE

With the scalable and made to measure Hydraloop Cascade system, you can recycle up to 95% of shower, bath and/or handbasin water + the cooling water from air-conditioning units. Due to its innovative and breakthrough technology the maintenance requirements and corresponding costs are very low.

The Hydraloop Cascade can be assembled by configuring two or more Hydraloop units in cascade arrangement. Depending on the building and the application, one central location can be chosen in the building for one cascade configuration. Or several locations with 2 or more compact cascade configurations.

Each Hydraloop unit in the cascade set up works independently in the cleaning process. The treated and disinfected recycled water is stored in one volume which is formed by the interconnected individual water storage tanks of the Hydraloop units. Treatment and storage tanks form one integral cluster. A powerful booster pump distributes the recycled water in the building to be used for toilet flushing and garden irrigation. In case of a temporary shortage of recycled water, the system automatically switches to its back-up water source like tap water or rainwater.

An online information system is available for real-time status information and performance.

EXAMPLE: HYDRALOOP CASCADE 14 DURING 3-MONTH PERIOD

Total 188468 liters water recycled

Input	Greywater from showers, baths, handbasins (no water from kitchen, kitchenette and sink), cooling water from air-conditioning units. Hydraloop Cascade cannot collect greywater from the washing machine.
Output	1 outlet for recycled water for each Hydraloop Cascade cluster for toilet flushing and irrigation Stone
Colour	Stainless-steel front plate with white coloured logo and status light
Front Plate	

Hydraloop Cascade

Hydraloop Specifications

Treatment capacity	Scalable from 1060 liters | 280 gallons per day up to 10,600 liters | 2800 gallons per cluster Multiple Hydraloop Cascade clusters can be installed
Voltage	100 | 240 Volt, 24 Volt internal
Internet	The Hydraloop unit needs to be connected with an internal internet connected (Wi-Fi) network
Noise Level	Depending on the size of the installation

The Hydraloop Cascade consists of several H300 units connected together. The H300 unit is certified to the NSF/ANSI 350 standard.

HYDRALOOP
USE WATER TWICE

NSF

The NSF/ANSI 350 standard verifies that all design and performance requirements of the standard have been met, and confirms through testing that effluent reuse water meets the stringent quality criteria. The NSF/ANSI 350 standard also sets water quality requirements for the reduction of chemical and microbiological contaminants for non-potable water use.

During the 26-week NSF/ANSI 350 testing period, the Hydraloop product was dosed daily with a greywater mix that contained raw wastewater, secondary effluent, body wash, shampoo, conditioner, soap, toothpaste, deodorant, bath cleaner, lactic acid, liquid handsoap, laundry detergent & softener, Na_2SO_4, $NaHCO_3$, Na_3PO_4 and test dust. The incoming greywater and the treated recycled water was lab tested for 26 weeks, typically 3 days a week.

Influent values of the incoming greywater used for the 26 week test

Parameters	Required range
TSS (mg/L)	50 - 160 mg/L
BOD5	130 - 210 mg/L
Temperature	25 - 35 Celcius
PH (SU)	6.0 - 8.5
Turbidity	30 - 100 NTU
Total phosphorous-P	1.0 - 3.0 mg/L
Total Kjeldahl -N	3.0 5.0 mg/L
COD	250 - 400 mg/L
Total coliforms	$10^3 - 10^7$ cfu/100 mL
E.coli	$10^2 - 10^6$ cfu/100 mL

Effluent values NSF-350 requirements and Hydraloop treated water test results

NSF/ANSI 350 requirements		HYDRALOOP average results	
CBOD5 (mg/L)	< 10	CBOD5 (mg/L)	6
TSS (mg/L)	< 10	TSS (mg/L)	3.3
Turbidity (NTU)	< 5	Turbidity (NTU)	2.3
E. coli (MPN/100mL)	< 14	E. coli (MPN/100mL)	< 1
PH (SU)	6.0 - 9.0	PH (SU)	6.0 - 9.0

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FACT SHEET - Residential Water Recycling

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Hydraloop H300

H300	Input: Greywater from shower and bath Output: Two (2) valves for recycled water to the toilets and the washing machine Colour: Stone Front Plate: Stainless-steel front plate with white coloured logo and small status light
H300 Premium	Input: Greywater from shower and bath Output: Two (2) valves for recycled water to the toilets and the washing machine Choose from three colours: Dew, Chili and Stone Front Plate: Premium stainless-steel front plate with Hydraloop LED logo lights

Add-ons

Output Garden	One (1) extra valve for recycled water in the garden
Output Pool	One (1) extra valve for recycled water for the pool
Washing Machine Option	Option to recycle 50% of greywater from washing machine, including sanitary lift pump
Lift pumps *	DAB Novabox 30/300. This lift pump is submerged underneath the floor DAB Genix VT 030. This lift pump is on the floor

A lift pump is only necessary if the Hydraloop is positioned on the same floor or a storey higher as the shower/bathtub

Hydraloop H300 Specifications

Volume	300 liters/80 gallons
Cleaning capacity	530 liters/140 gallons per day
Dimensions	80 cm wide, 34 cm deep, 187 cm high 31.5” wide, 13.4” deep, 74” high
Voltage	100/240 Volt, 24 Volt internal
Usage	20 watts during treatment. Average power consumption: 200kWh/year
WIFI	The Hydraloop unit needs to be connected with an internal WIFI-network
Average recycled water quality	non-potable water CBOD5 (mg/L) < 10 TSS (mg/L) <10 Turbidity (NTU < 5) E. coli (MPN/100ml.) < 14 PH (SU) 6.0 – 9.0
Noise Level	± 44 dB.

LED Light Indications

White	Hydraloop provides recycled water.
Blue	Hydraloop provides mains water (until recycled water becomes available).
Purple	The washing machine mode is active.
Green	In self-cleaning mode.
Orange + two (2) short sound signals per minute	The UV disinfection lamp is not functioning properly.
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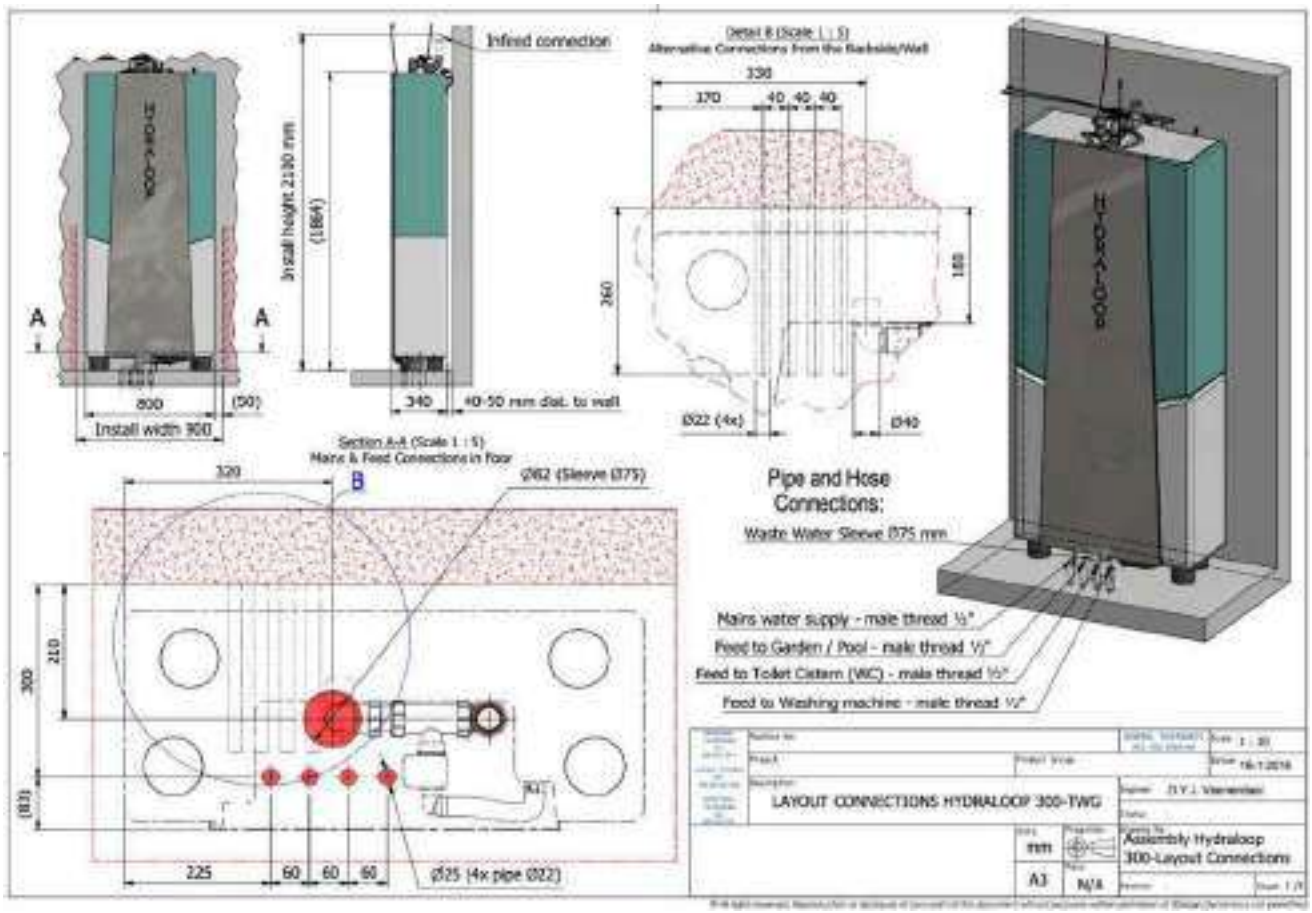
Sizes



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HYDRALOOP

USE WATER TWICE

HYDRALOOP

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TSS (mg/L)	< 10	TSS (mg/L)	3.3
Turbidity (NTU)	< 5	Turbidity (NTU)	2.3
E. coli (MPN/100mL)	< 14	E. coli (MPN/100mL)	< 1
PH (SU)	6.0 - 9.0	PH (SU)	6.0 - 9.0

For more information, please visit www.hydraloop.com