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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: 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 62 to 65

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**
	30/6/21

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.

2. However, 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 between 27.8ha and 28.7ha (before additional market and replacement uplift is considered) due to the shortfall in the trajectory. The current area of land allocated will not achieve this amount of development land alone due to the significant infrastructure, landscaping and other elements that are required to be provided as part of the gross development area. 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 The Wilky Group (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. 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; and
    7. Drainage Strategy prepared by PHG.

6. 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.

The site

7. 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.

8. 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 controlled by the Staminier Group (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.

9. The three landholdings comprise a significant landholding that totals 8.8 ha. 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.

10. 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.

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

Gatwick Green

12. 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.

13. 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.

14. 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.

15. 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.

16. 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

17. 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.

18. 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.

19. 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."

20. 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.

21. 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 48 ha 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 area proposed to be allocated for development includes piecemeal parcels and strips of land that have limited potential for employment purposes and are constrained by surrounding land uses.

22. The assumptions made within TWG submission in respect of the amount of development that could be achieved across the entire site assumes a significant density of development achieving up to 60% site coverage. This is not reflected in local take up rates and delivery trends nor is it reflective of the approach taken in TWG's development framework (which is predicated on a landscape led approach and we consider below). Indeed, from analysis of the approach taken by TWG in their submission it is clear that the Council's indicative floorspace of c.77,800 sq.m is more in line with capacity and the master planning approach sought in the policy text.

23. Based on the actual (over) development framework submitted by TWG it is clear that strategic elements mean that it will struggle to achieve 24 ha of B2/B8 land uses due to:

    a. Approximately 24ha of landscape buffers (including c 2ha of surface water attenuation, 10% BNG and associated open space). In addition this will include separate space / buffers with existing residential properties particularly along the eastern edge of the site;
    b. Linear development plots that aren't suitable for B8 use and are constrained;
    c. Possible restrictions in the main runway public safety zone (identified on TWG development framework to the south of Fernhill Road);
    d. Approximately 2.46 ha of roads; and
    e. 0.85 ha for bus "super hubs".

24. Of the current proposed allocation, given landscaping, open space, highways/bus super hubs, open space, ancillary uses, biodiversity net gain and surface water attention etc then the net developable area will not be able to accommodate the plan's requirements. Furthermore, as set out in our representations in respect of Policy EC1, it is clear that the actual amount of employment land required is a minimum of 28.7 ha rather than 24.1ha.

25. 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 would allow for a net development area of around 28.7ha to be achieved and provide the required B2/B8 floorspace figure.

Our clients site

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

- B8 employment uses (c.5 ha of development parcels enabling the required amount of floorspace to be provided across the area) including frontage development along Balcombe Road;
- 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;
- Green infrastructure on site including necessary open space, landscape / ecology buffers; and
- Surface water attenuation if required.

27. 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.

Comprehensive Approach to Development

28. 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.

Design

29. 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."***

30. 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.

31. 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.

32. 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).

33. 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

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

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

Opportunities

42. 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

43. 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

44. 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

45. 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.

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

47. 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

48. 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.

49. 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.

50. 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.

51. 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

52. 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.

Mobility Strategy

53. 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).

54. 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

55. 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.

56. A minimum of 3.7-4.6ha of additional industrial and warehousing land should be provided to make up the identified shortfall of 14,780 sq.m in the employment land trajectory. 14,780 sq.m of additional employment land (split as per the CTS) 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.

57. Whilst the impact of the 14,780 sq.m employment land shortfall 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

58. 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.

59. 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.

60. 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.

61. 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

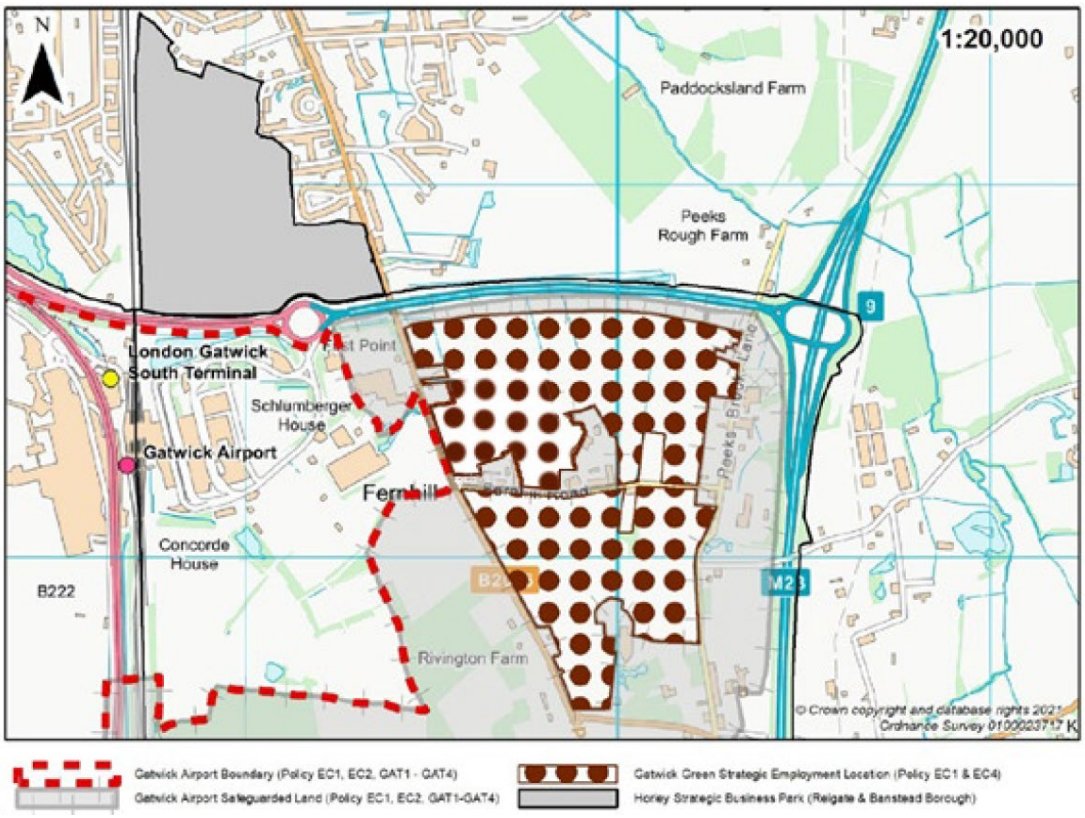
62. As we have indicated we are supportive of the allocation of Gatwick Green as a strategic employment allocation under policy EC4. However, as set out in our representations in respect of Policy EC1 we consider that there is an under estimation of the amount of land requirement for employment purposes 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 28.7ha of employment land is required over the course of the Plan period.

63. As set out in our representation to Policy EC4, we do not believe that the current proposed allocation itself will be sufficient to achieve this higher level of employment land required due to significant infrastructure, amenity, landscape and attenuation requirements. However the addition of our clients land would provide sufficient land to achieve this minimum requirement.

64. 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.

65. 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 28.7ha of new industrial land, predominantly for B8 storage and distribution use, 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 2021

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

Rev.	Amendments	Date	Drw.

PHILIPS SURVEYORS
BUILDING SURVEYORS, DESIGNERS & CONSULTANTS

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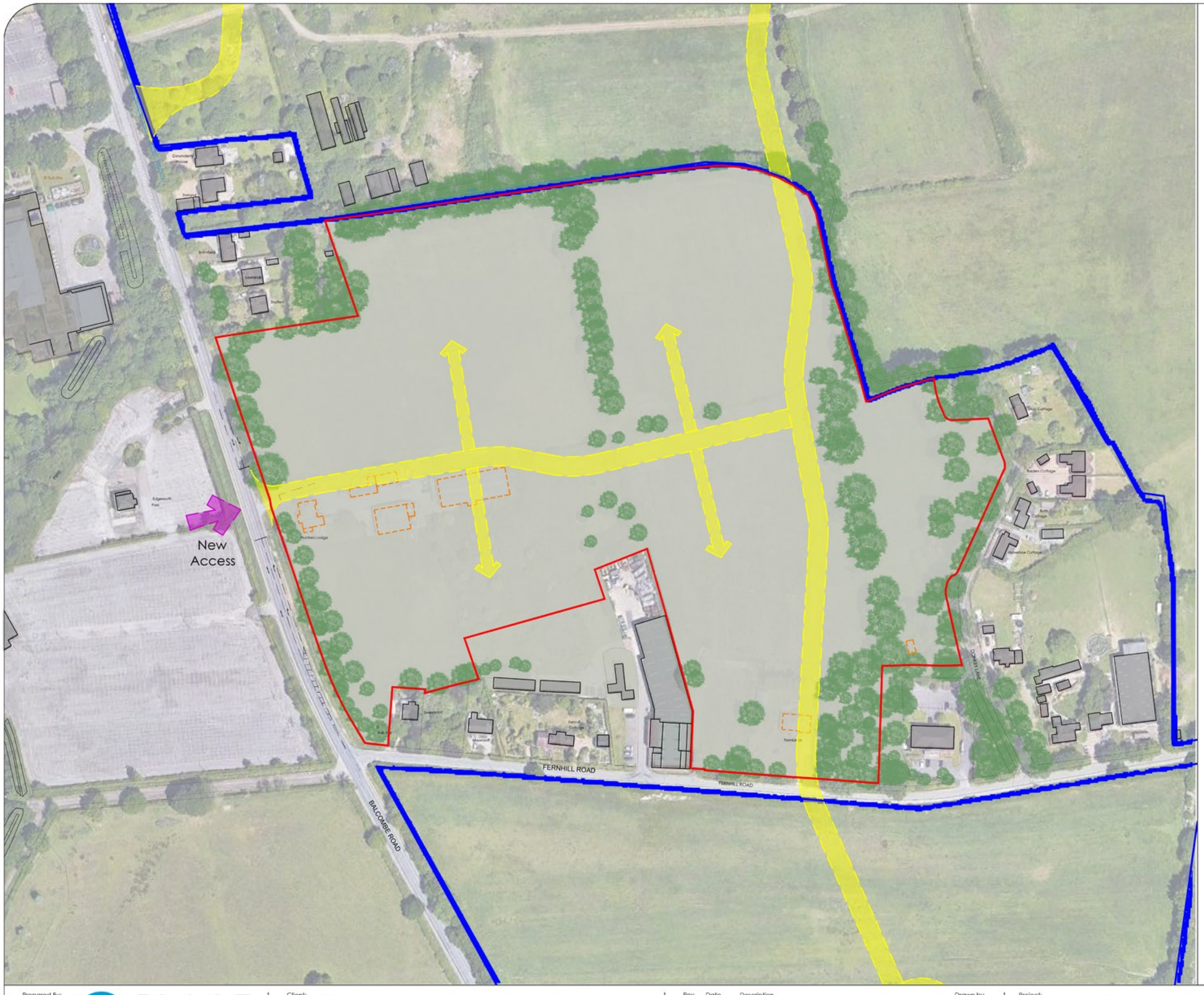
CLIENT:
WT LAMB HOLDING LTD /
STAMINIER / ELLIOTT & SIMMONDS

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		

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: 1:2000

20 40 60 80 m

N

Prepared By:
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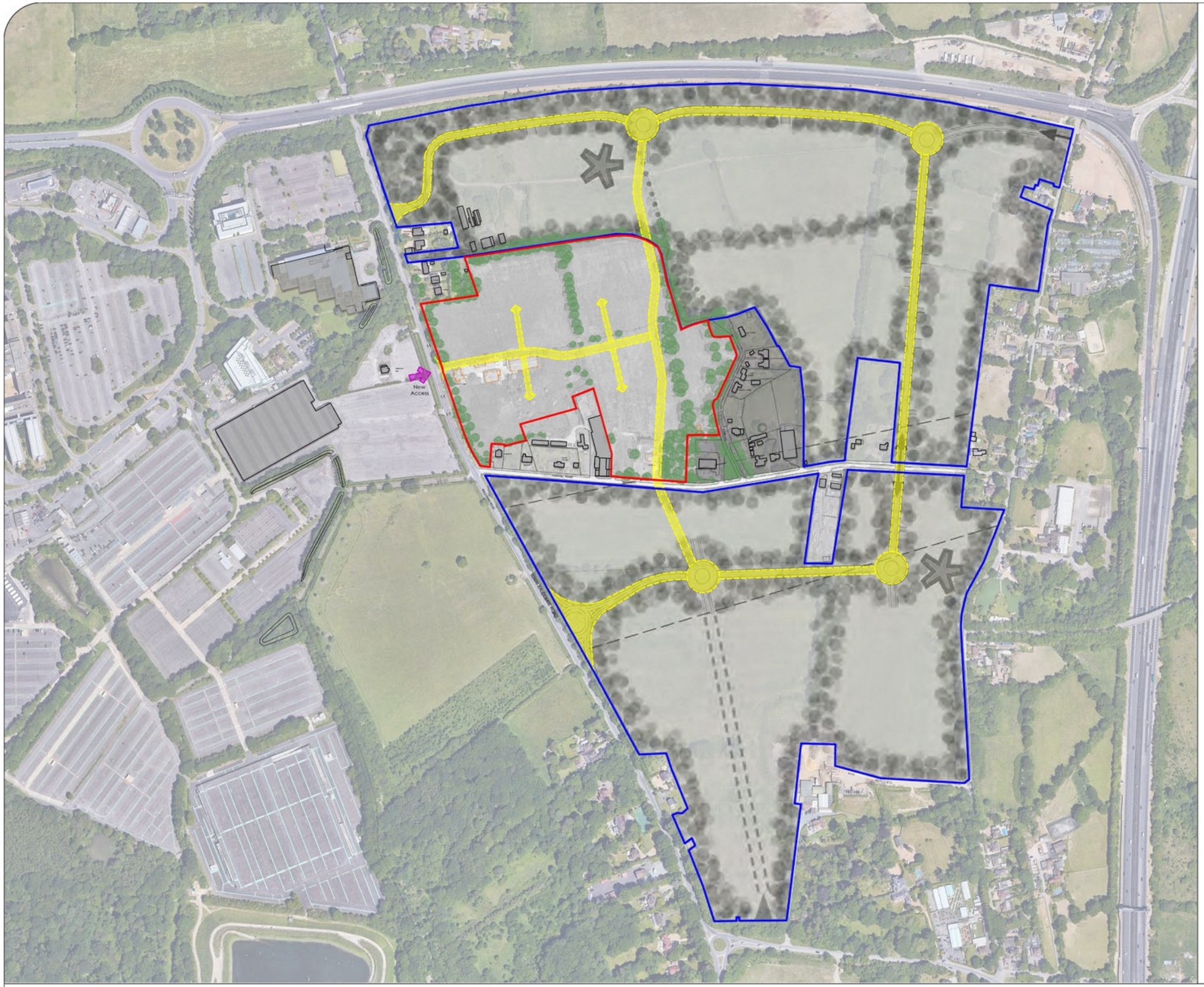
Client:
WT LAMB HOLDINGS EST.1901

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



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- Buildings to be demolished

Scale: 1:5000

50 100 150 200 m

N

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F	28.06.21	Updated boundary	CB
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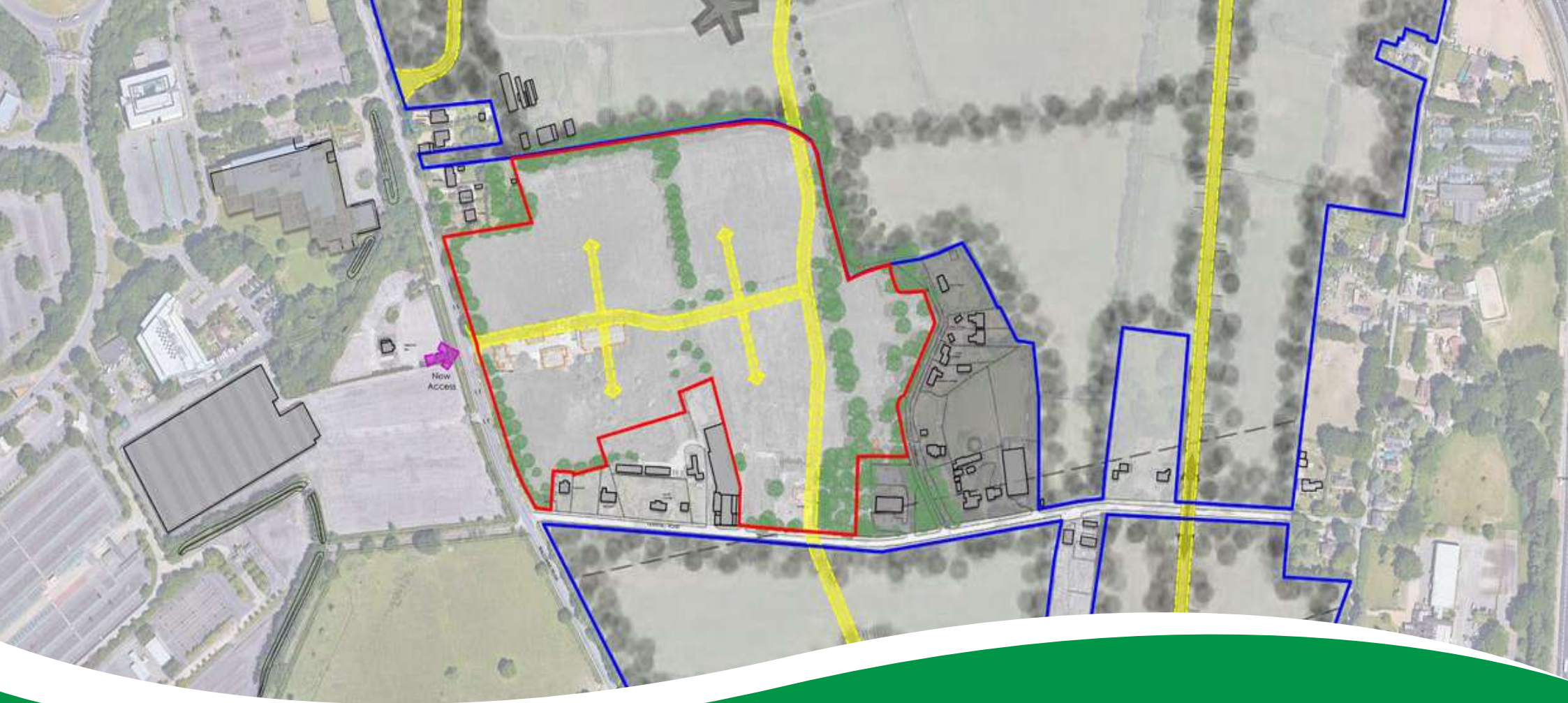
-	-	-	-

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

Appendix 3. Development Framework Document



GATWICK GREEN, CRAWLEY

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

Version 1| June 2021

A comprehensive solution for Gatwick Green

WT Lamb, Staminier Group 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 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

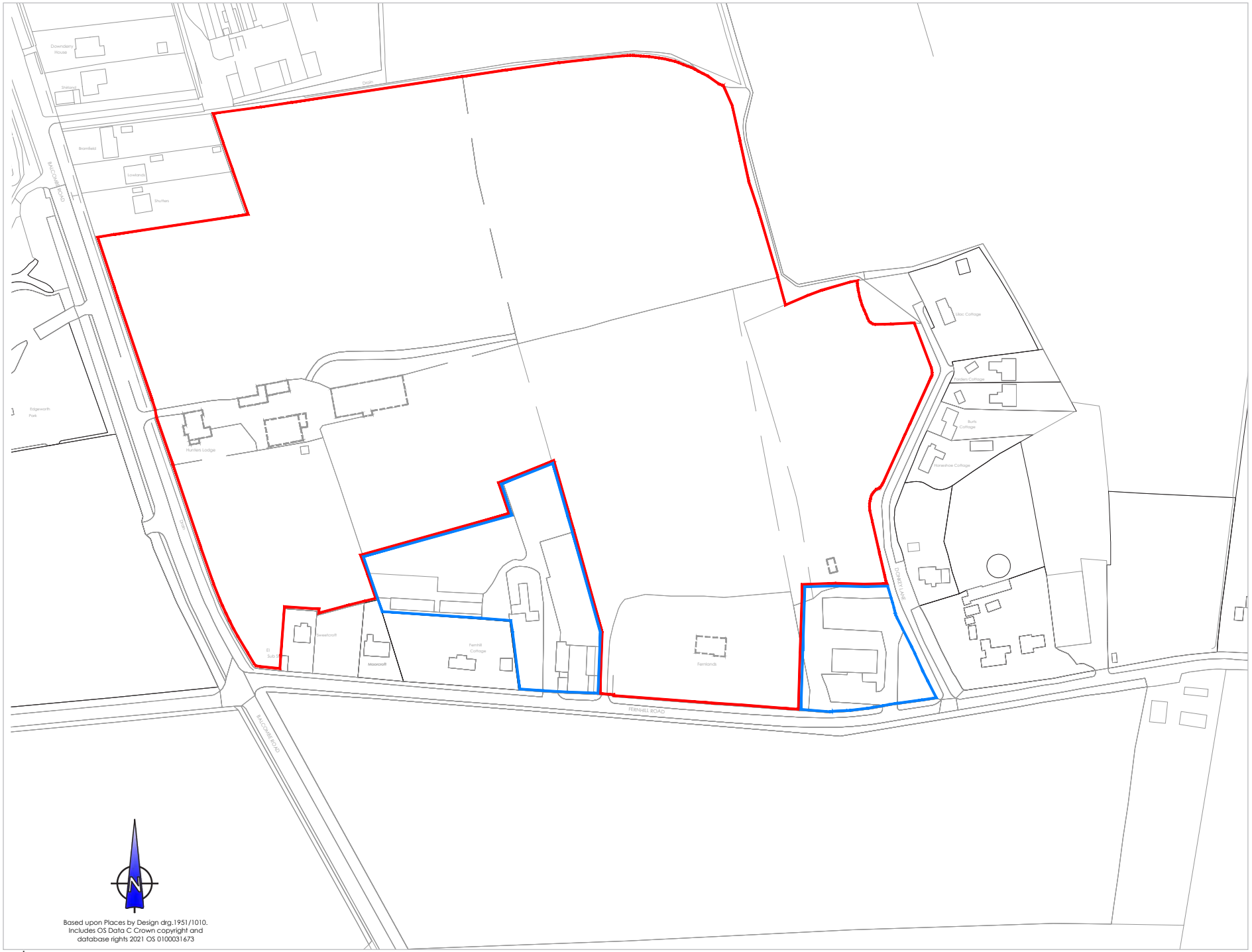


Fig 1: red line plan

1 Introduction

1.1 Background

This document has been prepared by LRM Planning on behalf of WT Lamb, Staminier Group 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.

The impact of COVID 19 through the course of 2020 and into 2021 have had an unparalleled effect upon the aviation industry, Gatwick Airport and the wider local economy. The necessity to diversify the Borough's economy and insulate it against future over reliance on the Airport's commercial success will be dependent upon attracting emerging businesses to the locality.

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 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 controlled by the Staminier Group (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

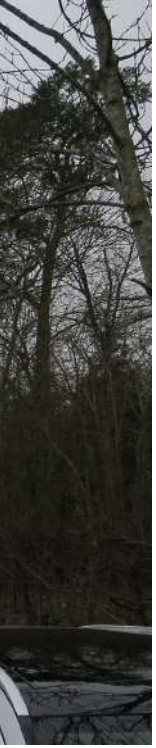


Fig 10: elements of the site in use for agricultural purposes

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.

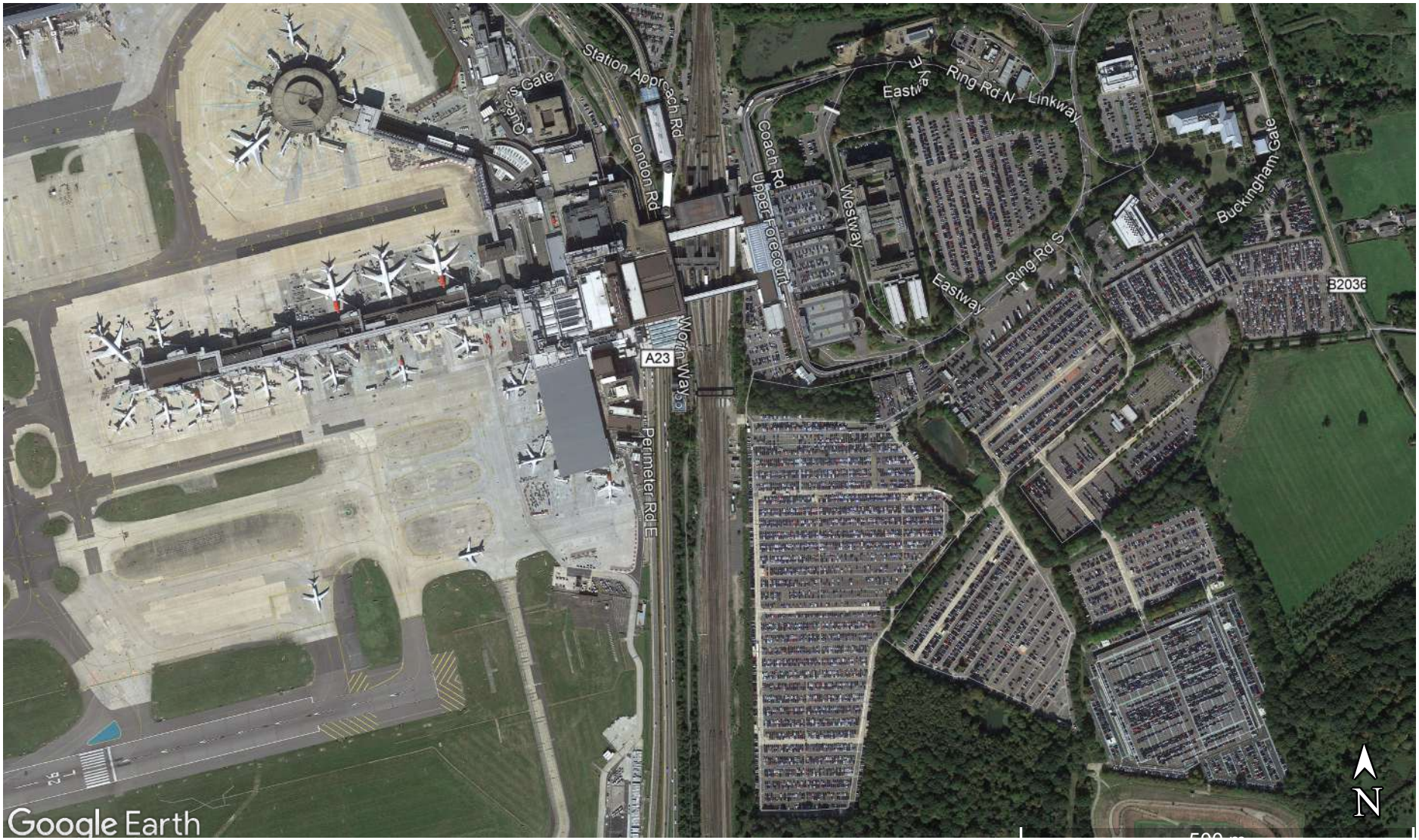


Fig 22: Gatwick airport at full capacity during 2019

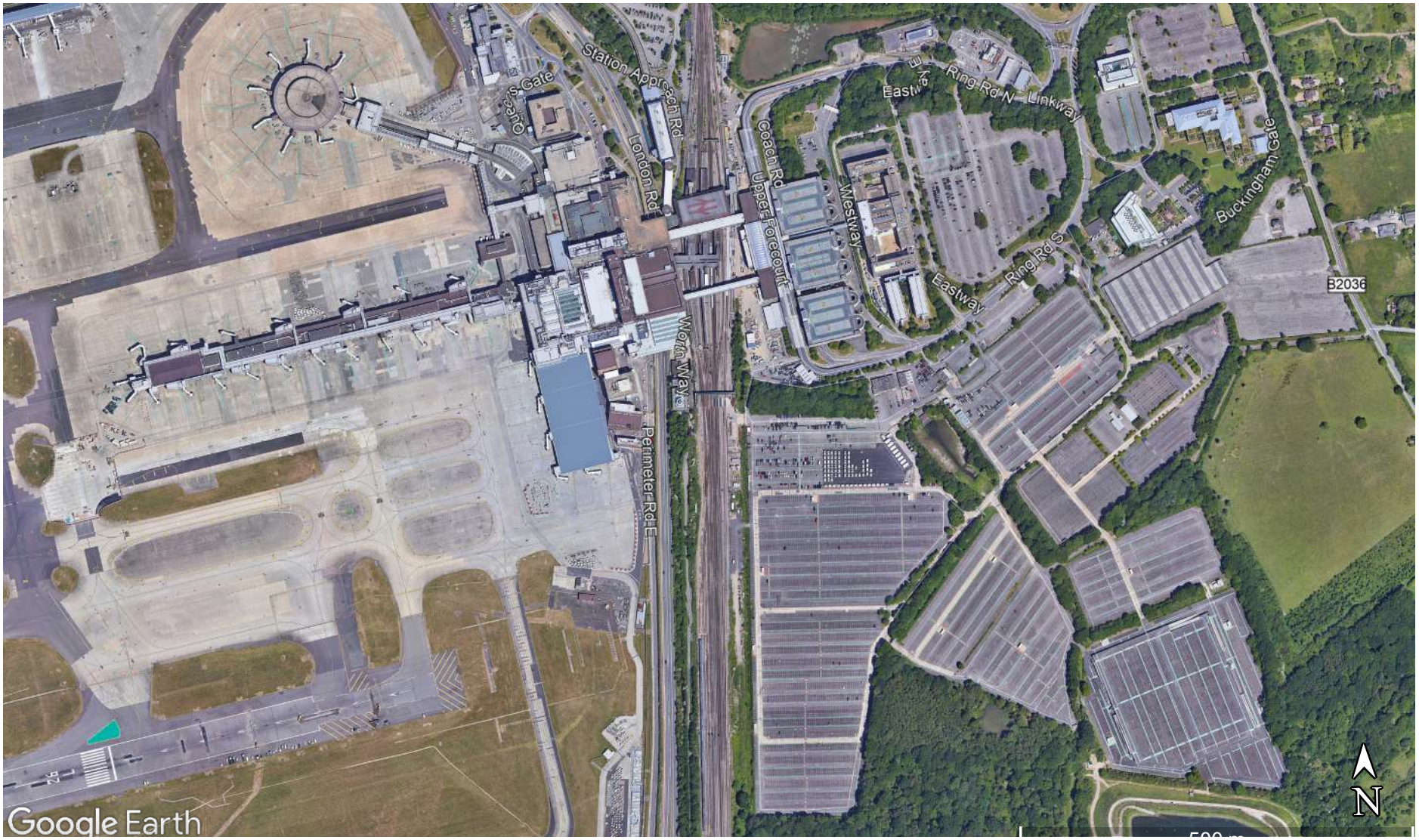


Fig 23: Gatwick airport following the impacts of COVID 19 during 2021

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.

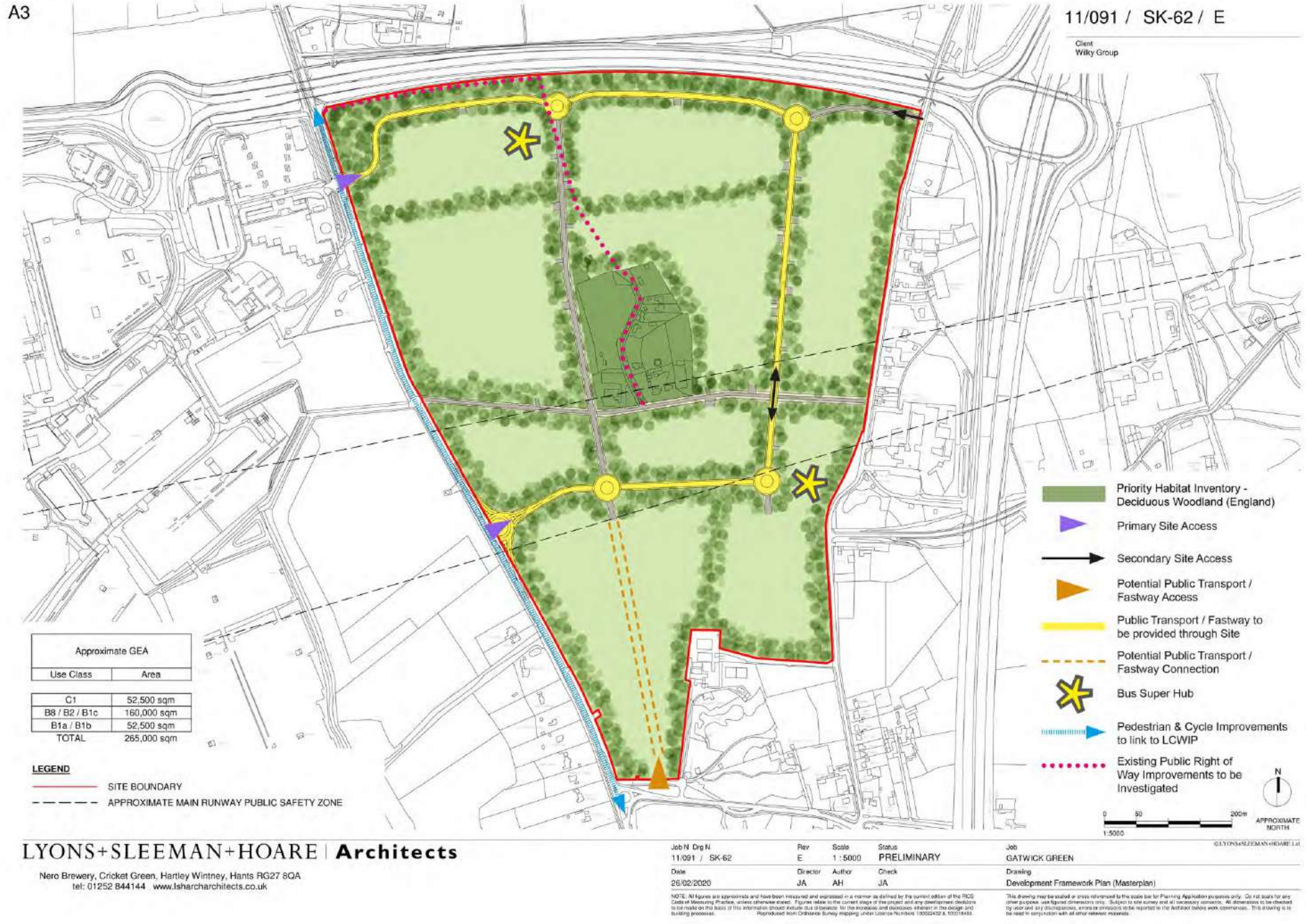


Fig 24: the 59ha framework plan prepared by TWG for Gatwick Green

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.

The assumptions made within TWG submission in respect of the amount of development that could be achieved across the entire site assumes a significant density of development achieving up to 60% site coverage. This is not reflected in local take up rates and delivery trends nor is it reflective of the approach taken in TWG development framework (which is predicated on a landscape led approach and we consider below). Indeed, from analysis of the approach taken by TWG in their submission it is clear that the Council's indicative floorspace of c.77,800 sq.m is more in line with capacity and the master planning approach sought in the policy text.

Based on the actual (over) development framework submitted by TWG it is clear that strategic elements mean that it will struggle to achieve 24 ha of B2/B8 land use due to:

1. Approximately 24ha of landscape buffers (including c.2ha of surface water attenuation, BNG and associated open space). In addition this will include separate space/buffers with existing residential properties particularly along the eastern edge of the site;

2. Restrictions in the main runway public safety zone (identified on TWG development framework);

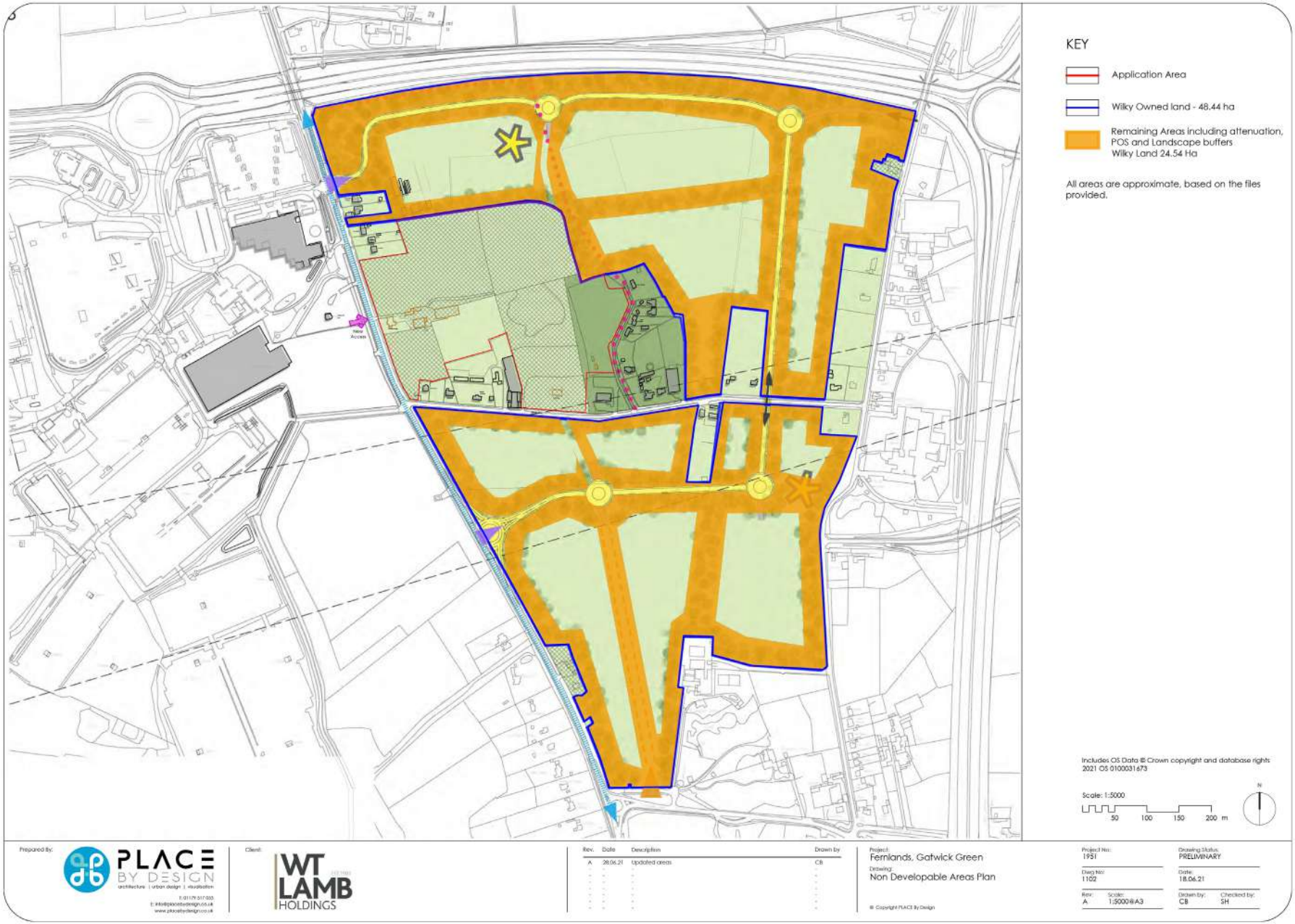
3. Approximately 2.46 ha of roads; and

4. 0.85 ha of bus super hubs.

As such, of the current allocation, given the incorporation of landscaping, open space, highways/bus super hubs, open space, ancillary uses, biodiversity net gain and surface water attention, the net developable area will struggle to accommodate the plan's requirements. Furthermore, as set out in our representations in respect of Policy EC1, the actual amount of employment land required is a minimum of 27.6ha to 28.7 ha rather than 24.1ha.

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 would allow for a net development area of around 28.7ha to be achieved and provide the required B2/B8 floorspace figure.

Fig 25: the on site infrastructure and buffers proposed by TWG



4 Gatwick Green Missing Section

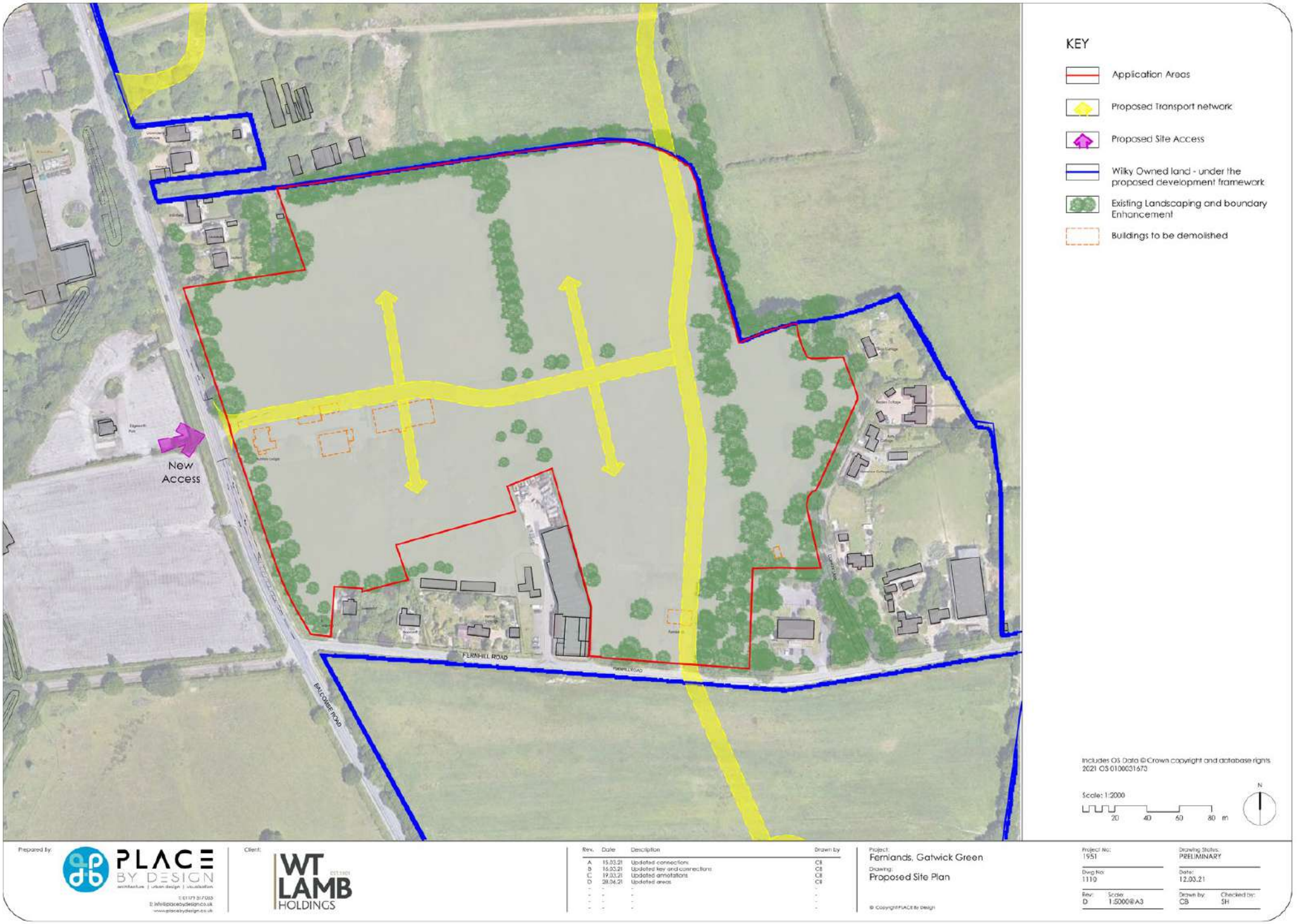
4.1 Introduction

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:

- B8 employment uses (c.5 ha of development parcels enabling the required amount of floorspace to be provided) including frontage development along Balcombe Road;
- 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 26: 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.

Fig 27: the proposed missing section within the wider area

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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WT LAMB HOLDINGS EST 2021

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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

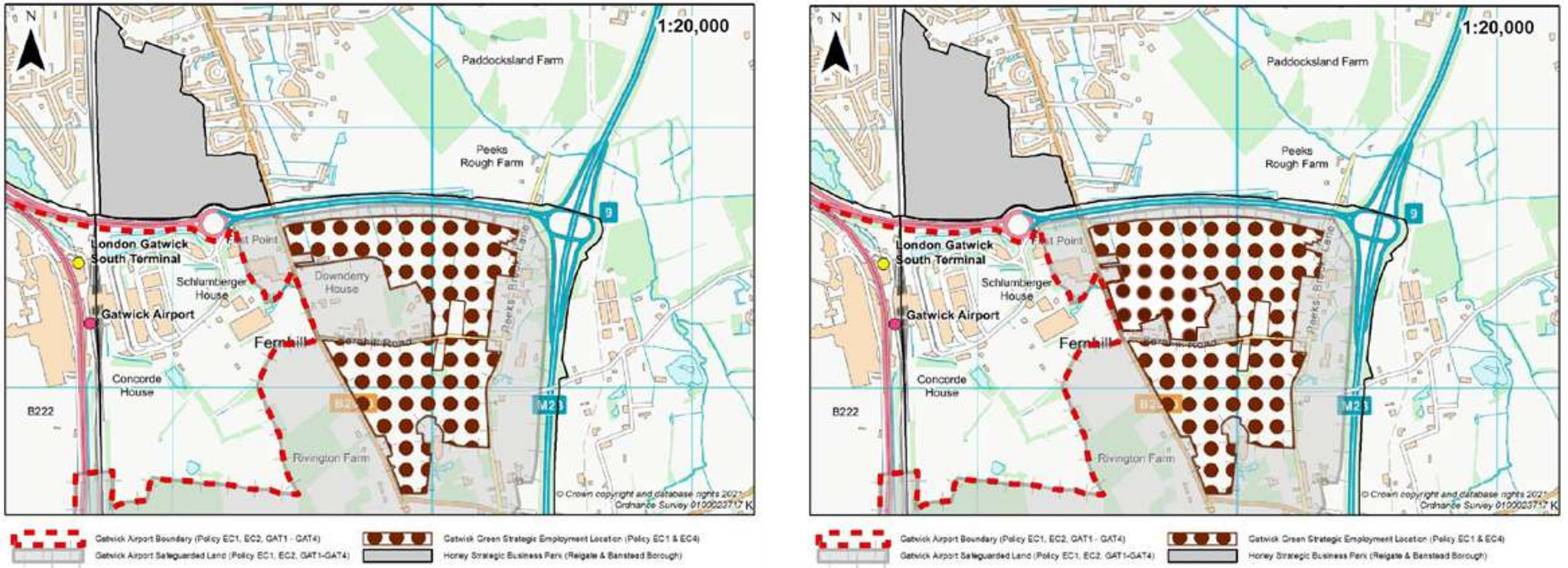


Fig 28: the gap in policy EC4 (left) and EC4 redrawn (right) with our clients site

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, including:

- National Policy (LRM Planning);
- Economic considerations (Hardisty Jones Associations);
- Landscape Impact (Pegasus)
- Ecology (GE);
- Transport (Miles White Transport); and
- Hydrology (PHG).

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.

Employment Land Supply

Hardisty Jones Associates (HJA) has undertaken a review of employment land matters within the Submission Draft Crawley Local Plan and supporting evidence base. This review has identified a number of issues which lead to the Local Plan under-providing land for industrial and warehousing (B2/B8) uses and they conclude that A minimum of 3.7ha to 4.6ha of additional industrial and warehousing land should be provided.

Crawley Submission Draft Local Plan Summary

HJA note that Crawley is a key economic driver for a functional economic market area that extends beyond the borough's boundaries. Particular drivers include Gatwick Airport and the large Manor Royal employment area, as well as Crawley Town Centre. The sub-regional role of the Crawley economy is recognised with the presence of the Gatwick Diamond Initiative, as well as being a core location within the Coast to Capital Local Enterprise Partnership (LEP) area.

The Emerging Local Plan seeks to plan positively for economic growth in the Crawley area despite the impact of Covid-19 on the area. The Borough has been identified as significantly vulnerable to the economic impact of Covid-19, given its reliance on the passenger air transport sector. Nevertheless, the importance of delivering the sites and premises required for employment purposes is clearly highlighted.

The proposals for employment land provision draw heavily on the underpinning evidence base. The overarching policy position is of a need for 38.7ha of employment land. The residual requirement for industrial uses, after making allowance for existing pipeline supply and removing office requirements is 24.1ha and is stated to be primarily for B8 type uses.

In order to meet the identified shortfall, a strategic employment allocation at Gatwick Green is made (48ha). This follows a site selection process drawing on the Housing and Employment Land Availability Assessment (HELAA). It is noted that there were a number of sites promoted for employment purposes located on land safeguarded for airport expansion to the south of the existing Gatwick Airport site boundary. These sites were discounted on the basis that the safeguarded land might still be required for a second runway at the airport and should not therefore be released for other uses.

Policy EC4 and its supporting text notes that any further industrial floorspace beyond the 24.1ha requirement would need to be demonstrated through appropriate evidence. The policy also highlights a range of landscaping and environmental considerations that will impact upon the net developable area of the site as well as the potential to accommodate a range of ancillary employment and amenity uses.

Local Plan Evidence Base Summary

The most relevant documents are the Northern West Sussex Economic Growth Assessment Update (January 2020) [EGA] and the Economic Growth Assessment Focused Update for Crawley (September 2020) [EGA Update]. Both documents were prepared by Lichfields.

The later study provides an update to take some account of the Covid-19 pandemic and generates the estimates which are taken forward to the Local Plan.

Northern West Sussex EGA

The EGA looks at the whole Functional Economic Market Area (FEMA). The assessment of future requirements for Crawley Borough includes a very wide range of -1.1ha to +113ha. The study recommends adopting a figure of +33ha based on a projection of past development trends.

Overall the report sets out a positive analysis of the Crawley economy (pre Covid) and the role of the Crawley Borough within the wider FEMA.

The analysis notes commercial agent feedback indicating a need for additional land to accommodate strong levels of market driven demand, particularly for industrial sites and premises. However, no uplift is applied.

The analysis of future requirements does not set out any consideration of replacing losses of employment sites and premises to other uses.

The approach that is preferred in this study draws on analysis of past trends. There is no consideration of whether past take up might have been supressed as a result of constrained supply or whether the demand profile in the past period was similar to expectations for the future.

Given the strength of agent opinion and the failure to consider the implications of losses of employment sites and premises to other uses the final requirements figures put forward can be considered an underestimate of total objectively assessed needs.

EGA Focused Update for Crawley

This report is positioned as a post Covid check and draws on revised economic forecasts. The level of growth that is forecast is lower than historic growth rates and is from a respected source. The relevant differences in the considered economic forecasts are discussed on a sectoral basis in order to come to a balanced view.

The assessment of future B8 warehousing requirements is primarily driven by forecast employment change (and therefore changes substantially as a result of revised forecasts). In the commentary set out within the EGA Update (paragraph 2.48) it is noted that the Oxford Economics forecasts make allowance for more rapid automation. Whilst the process of automation will have implications for employment and economic development policy more generally, this does not necessarily impact on sites and premises requirements. This actually confirms the requirement in the latest Planning Practice Guidance (PPG), to make a broader assessment of B8 uses on the basis that employment alone has known weaknesses as a predictor for this sector.

There is no clear evidence of any attempt at this wider assessment as part of the EGA. This links across to comments made above on the original EGA, with commercial agent sentiment not being fully reflected.

The EGA Update assessment leads to an overall requirement of 38.7ha, which is the figure carried forward to the Pre Submission Local Plan. This is slightly greater than the figure emerging from the original assessment. In the EGA Update the emerging requirements from both baseline job growth and past

take-up approaches are very similar (38.7ha and 39.6ha).

Headline Employment Land Requirement

The summary review set out above identifies a number of weaknesses with the overarching analysis. In particular:

1. A failure to actively consider the potential need for land to replace losses to other uses; and

2. A failure to take full account of agent views, particularly for B2/B8 uses.

Replacements

The recommendation of a need for 38.7ha of employment land emerging from the EGA Update is drawn from the baseline job growth approach. This considers only the net change in employment over the plan period, and applies an average employment density for the relevant Use Classes to derive an additional floorspace requirement.

This approach is helpful in considering some of the net changes in the economy. However, it fails to consider any of the issues within the existing economy or commercial market. Inherent in the approach is that the entirety of the existing stock of commercial employment sites and premises remains in its appropriate use and fit for purpose for the entirety of the plan period.

However, there is highly likely to be a loss of some stock to non-employment uses, or becoming redundant through dilapidation, or no longer being aligned to modern occupier requirements. Further, this approach fails to fully consider whether there are changing property requirements within sectors. There may also be changing employment densities over time. This is already recognised in the evidence base with regards to automation in some sectors, and is recognised in PPG specifically in regard to B8 uses where a wider view of future storage and distribution requirements is instructed.

These effects will lead to additional requirements for employment sites and premises that are not captured in the current evidence base.

Agent Views

Seeking agent views is a specific requirement of PPG Paragraph: 031 Reference ID: 2a-031-20190722. The Submission Draft Local Plan includes specific references to this market sentiment, but with no action taken. The EGA also highlighted strong commercial agent opinion.

HJA has consulted with local industrial agent Robert Bradley-Smith who confirmed the views set out within the EGA remain highly relevant. Industrial, and particularly logistics demand is extremely strong and current and future requirements are expected to be ahead of past trends. The Covid-19 pandemic has accelerated the move to e-retail. The premises requirements of e-tailers and third party logistics operators are growing rapidly. The growth is expected to continue as new market areas are added to the portfolios of e-tailers, as well as through increasing demands for ever shorter delivery times. The Gatwick area was also highlighted for its excellent location at the heart of the South East and able to service both the south coast and south London.

In considering an approach aligned to the requirements of PPG, and drawing on the agent views as set out within the evidence base, there is very clear evidence of a need to provide an uplift to the stated requirements for warehousing space. We believe that it is appropriate for the Authority to consider this urgently and prior to submission of the Plan.

Shortfall in Employment Land Trajectory

Notwithstanding the issues set out above, Table 2.5 of the EGA update (p10) identifies a net floorspace requirement of 121,550 sq.m of industrial (B1c/B2/B8) Uses before the 10% flexibility allowance is applied. With the flexibility added this increases the required provision to 133,700 sq.m . In land terms this equates to 33.4ha on the basis of the 4,000 sq.m per hectare development density assumption.

A potential shortfall in provision is identified within the Employment Land Trajectory (January 2021) which includes a total provision for B1c/B2/B8 floorspace of 118,920 sq.m. This falls below the total requirement. This indicates a shortfall of 14,780 sq.m.

The trajectory document also suggests the proposed allocation at Gatwick Green will deliver 77,800 sq.m on 24.1ha (we consider the capacity of the sites separately in respect of our representations in relation to Policy EC4). This equates to a density of 32%. On that basis the additional 14,780 sq.m would require a further 4.6ha.

Conclusion

Crawley is a key economic hub for a wider hinterland. The Submission Draft Local Plan seeks to plan positively for economic and employment growth.

The Council's own evidence and the Submission Draft Local Plan both acknowledge the strength of market demand highlighted by commercial agents, but make no adjustment for this clear evidence of strong market signals and the specific requirement of PPG to take account of logistics needs in a more rounded way. Coupled with a failure to make any provision for replacing losses of existing employment sites and premises to other uses, and through dilapidation and changing occupier requirements, there is a clear under provision in the assessment of future needs. The scale of this uplift is uncertain.

The Employment Land Trajectory set out alongside the Submission Draft Local Plan indicates a shortfall in anticipated floorspace when compared to the identified needs and the claimed capacity within the plan. The shortfall equates to a need for a further 3.7ha of industrial and warehouse land across the plan period. This could increase to a minimum 4.6ha based on the identified density at Gatwick Green and is subject to increase to reflect a market and replacement uplift.

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 29: 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.

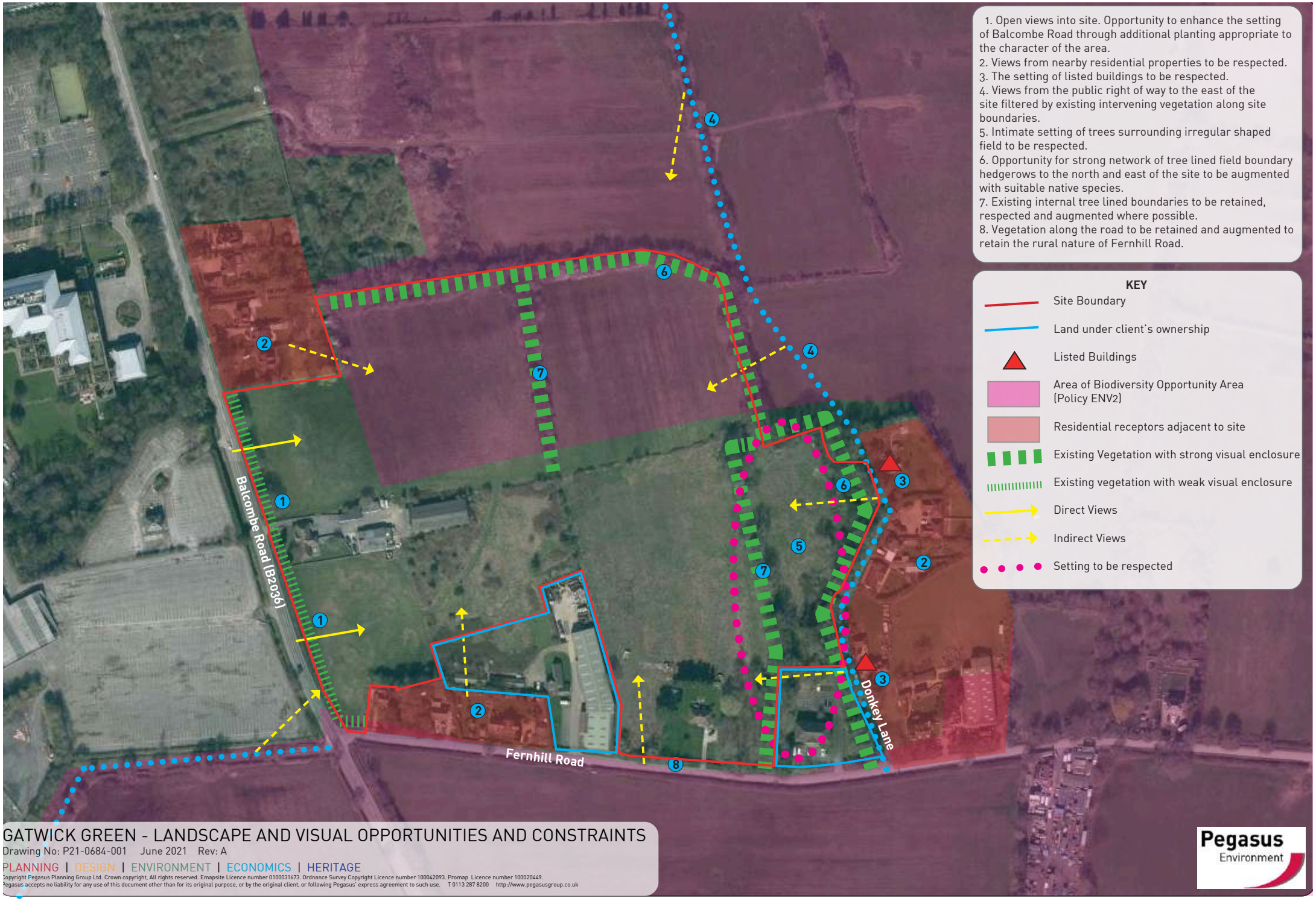
Vegetation Pattern

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



GATWICK GREEN - LANDSCAPE AND VISUAL OPPORTUNITIES AND CONSTRAINTS

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

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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.

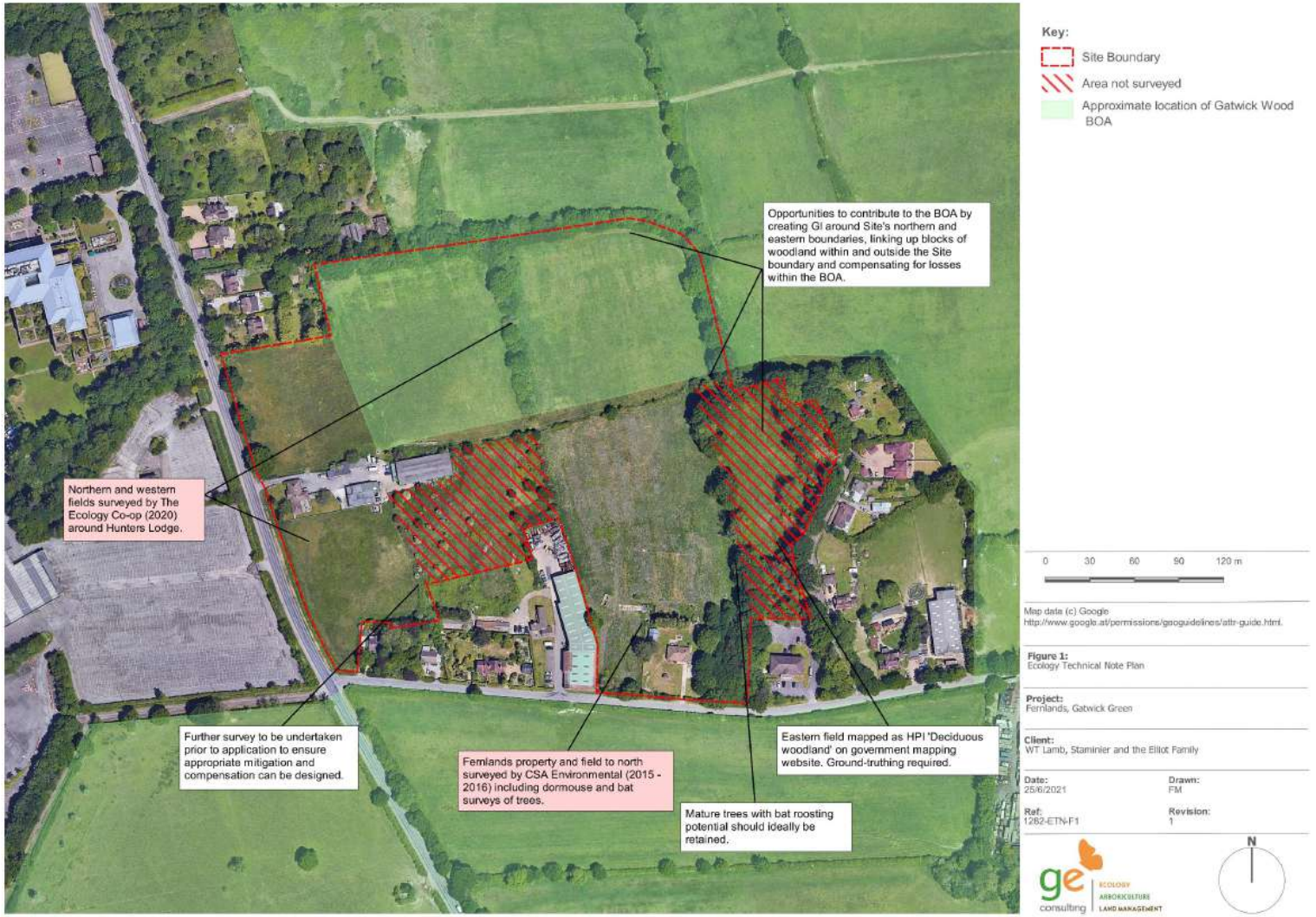
No other HPIs are indicated on MAGIC within or adjacent to the Site boundary, however the network of hedgerows within the Site are likely to meet HPI criteria.

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 30: 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

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.

Employment Land Shortfall

As noted earlier in this document Hardisty Jones Associates identified a number of issues which lead to the Local Plan under-providing land for industrial and warehousing (B2/B8) uses. In particular, a minimum of 3.7 to 4.6ha of additional industrial and warehousing land should be provided to make up the identified shortfall of 14,780 sq.m in the employment land trajectory.

Fig 31: proposed access arrangements onto Balcombe Roac

If the employment land shortfall (14,780 sq.m) 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:

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

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 (14,780 sq.m).

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.

Potential effect of Employment land shortfall on mitigation measures

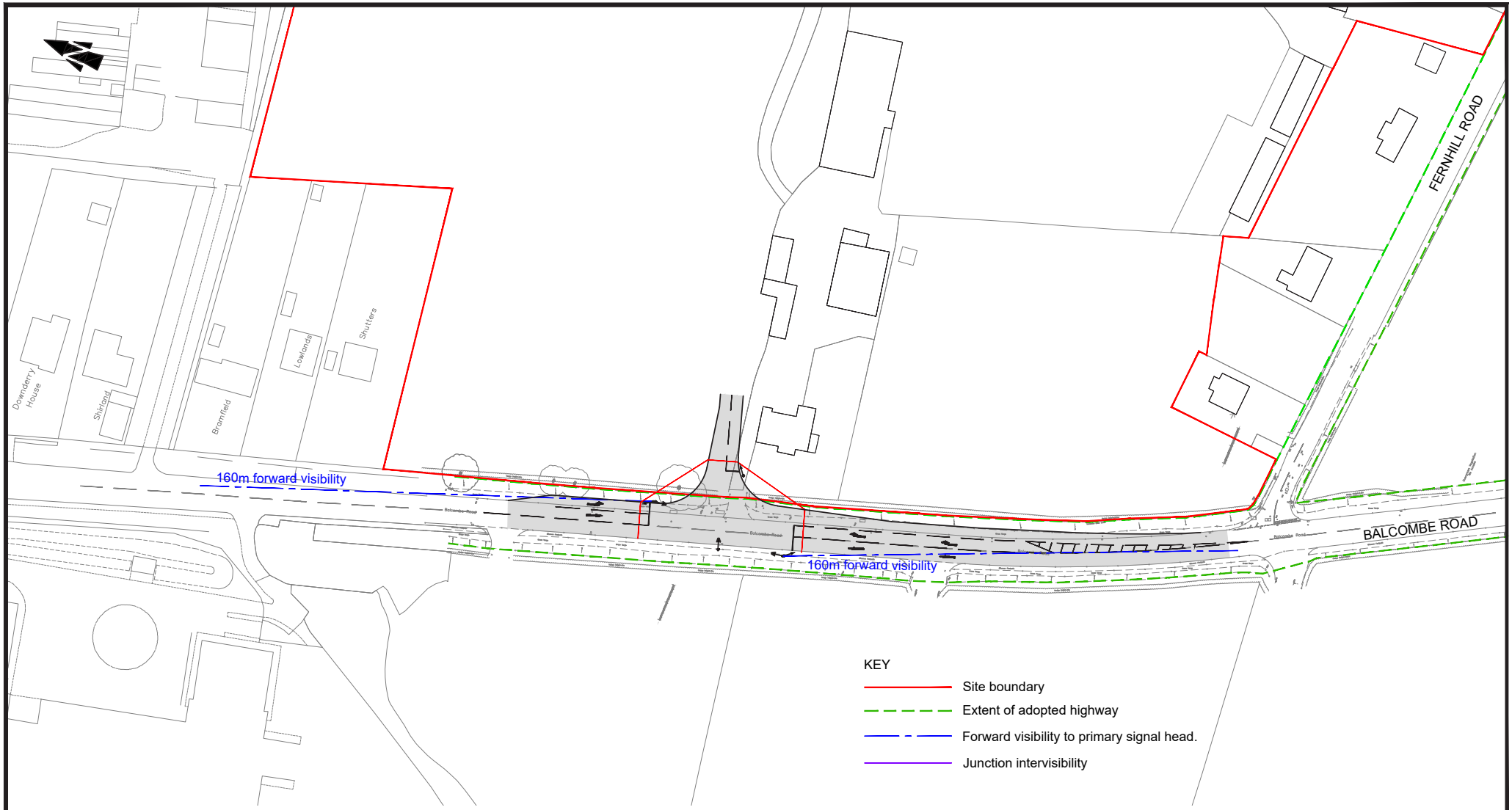
It is considered unlikely that the addition of 1 vehicle trip per minute will result in additional junctions being in need of physical mitigation.

Indeed, the percentage increase in trips at Gatwick Green, under Scenario 2 (employment) and in total (before sustainable mitigation is applied) as a result of adding the 14,780 sq.m employment land shortfall is below 19%, 7.5% and 3% respectively.

Whilst the impact of the 14,780 sq.m employment land shortfall 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 if the employment land shortfall were allocated in the Local Plan on the 'Gatwick Green Missing Section' site.

Gatwick Green Missing Section

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 in March 2020, which we now know is significantly below that identified by CBC.



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	-

This approach resulted in the site providing circa 46,290 sq.m of floor space, which was split as per the TWG TS.

Whilst the employment land shortfall (14,780 sq.m) is significantly below this potential level of development on the site, this approach 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 the employment land shortfall.

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, which is significantly in excess of the employment land shortfall, has been calculated using the TRICS trip rate database.

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 32: fluvial extents from www.gov.uk

Fig 33: 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 34: surface water depths from www.gov.uk

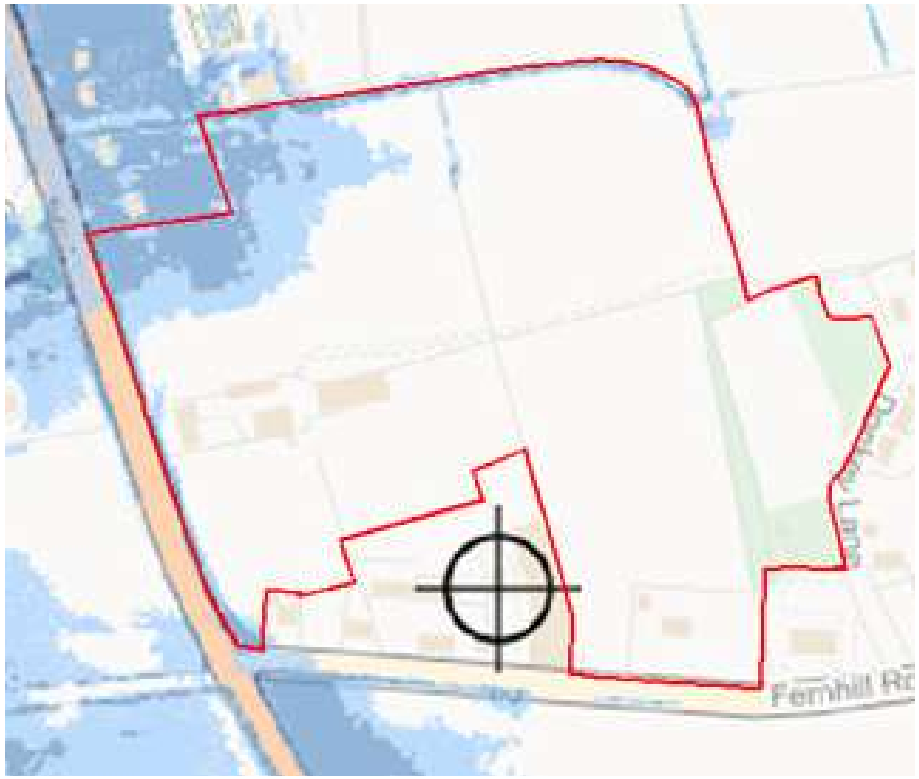


Fig 35: surface water flood velicities from www.gov.uk

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.

6

Conclusion

6.1 Introduction

This document has been prepared by LRM Planning on behalf of WT Lamb, Staminier Group 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.

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

GATWICK GREEN, WEST SUSSEX
TECHNICAL NOTE 2 – PROPOSED TRANSPORT STRATEGY

1 INTRODUCTION

1.1 Miles White Transport (MWT) have been appointed by WT Lamb Holdings Ltd (WTL), Elliott Metals and Staminier (ñthe landownersò) to provide traffic and transportation advice in relation to the proposed development of land (referred to as the ñGatwick Green Missing Sectionò in this Technical Note) close to Gatwick Airport between Crawley and Horley in West Sussex.

1.2 The location of the site is shown below in **Figure 1.1**.

Figure 1.1: Site Location

1.3 This Technical Note outlines the proposed Transport Strategy that will enable the site to be developed as part of the adjacent Gatwick Green Strategic Employment Location proposed in the Submission Consultation Draft of the Crawley Borough Local Plan 2021 ï 2037 (CBLP).

1.4 The CBLP identifies land east of Balcombe Road and south of the M32 Spur for the comprehensive development of an industrial-led Strategic Employment Location, known as Gatwick Green.

1.5 The area is currently identified under Strategic Policy EC4 and is proposed to provide a minimum of 24.1ha of new industrial land, predominantly for B8 storage and distribution use. The area is shown below in **Figure** 1.2. This also shows the location of the ÓGatwick Green Missing SectionÔ site (the site), which is surrounded on three sides by the proposed CBLP allocation.

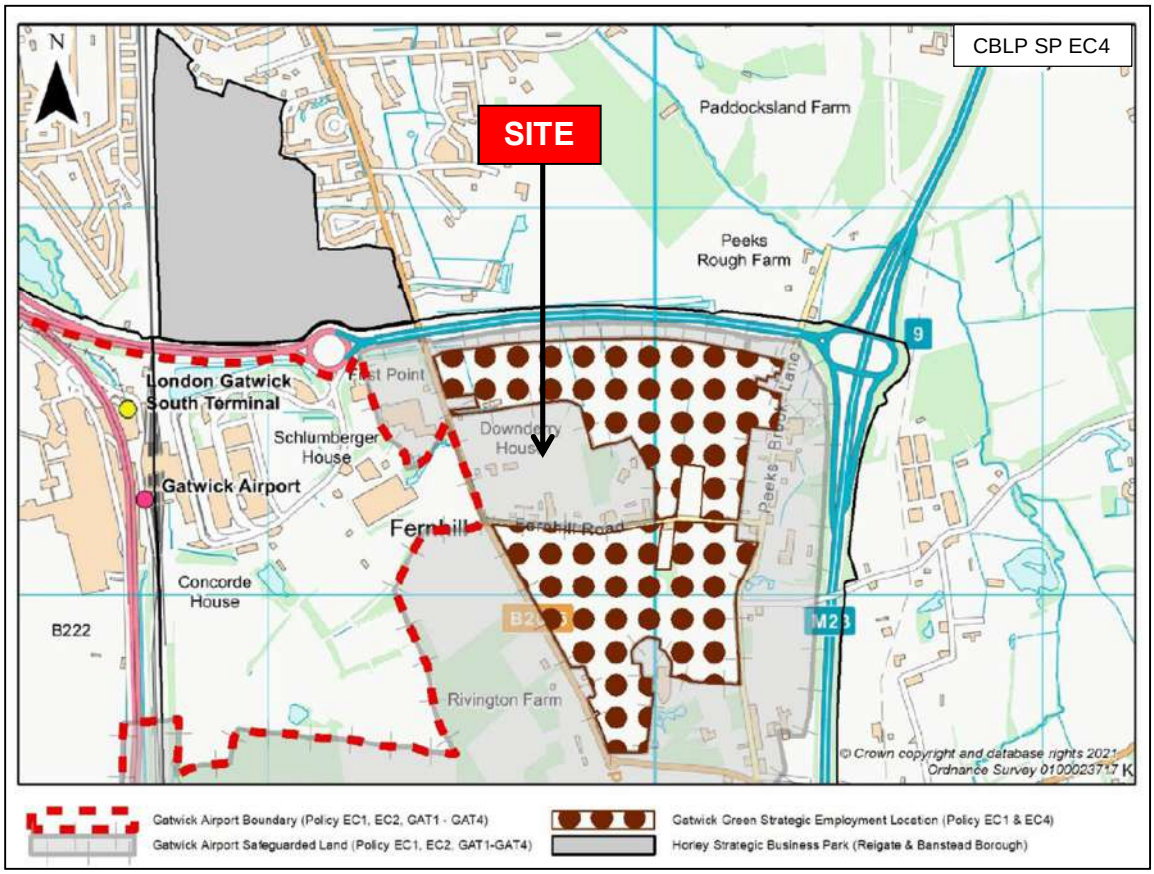

Figure 1.2: Proposed Gatwick Green Strategic Employment Location

1.6 Crawley Borough Council (CBC) commissioned a transport study to inform the Draft Crawley Local Plan Review for the Crawley Borough Area (*Crawley Transport Study: Transport Study of Strategic Development Options and Sustainable Transport Measures*), which was published in May 2021. This is dealt with in more detail in Section 4.

2 EXISTING TRANSPORT CONDITIONS

Local Road Network

2.1 The wider Gatwick Green site area, within which the 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 as shown in **Figure 2.1** below.

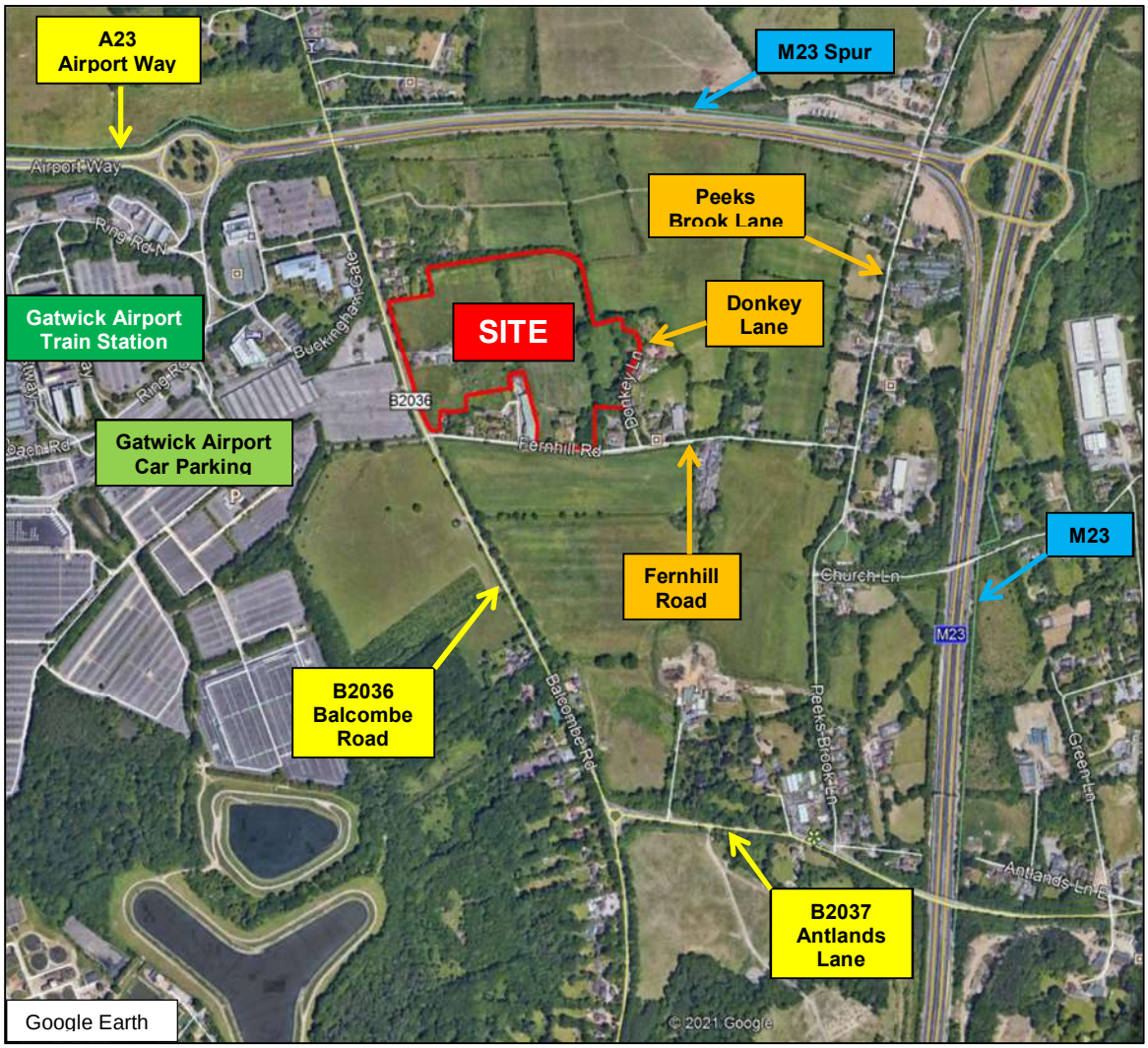

Figure 2.1: Local Transport Network

2.2 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.

2.3 In the vicinity of the Gatwick Green 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.

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

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

Traffic Volumes

2.6 Traffic survey information was collected for the Transport Assessment (TA) prepared by PJA to support the outline planning application at the former Fernlands Nursery site located north of Fernhill Road (CR/2017/0810/FUL). This data is contained in Appendix E of the PJA TA.

2.7 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 2015 peak hour traffic volumes identified in these surveys are summarised below in **Table 2.1**.

Time Period	Morning Peak Hour	Evening Peak Hour)
Northbound	591	733
Southbound	492	637

Table 2.1: Traffic Volumes on Balcombe Road

2.8 The recorded vehicle speeds on Balcombe Road in the vicinity of the ôGatwick Green Missing Sectionôsite were well below the existing 60mph speed limit as shown below in **Table 2.2**.

Time Period	Average Speed (mph)	85thile Speed (mph)
Northbound	41.6	48.4
Southbound	42.9	49.0

Table 2.2: Vehicle Speeds on Balcombe Road

Existing Personal Injury Accident Records

2.9 ôCrashmapôdata identifies that 4 personal injury accidents have occurred on Balcombe Road in the vicinity of the ôGatwick Green Missing Sectionôsite during the most recent five-year period where data is available (2016 to 2020). The location of these accidents is shown overleaf in **Figure 2.2**.

2.10 Accident A occurred on the 10th October 2016 at the junction with Fernhill Road and involved three vehicles in fine conditions. The accident was a result of driver error as one vehicle attempted to turn left into Fernhill Road. The driver of two of the vehicles sustained slight injuries as did two of the passengers in the car that rear ended the vehicle turning.

2.11 Accident B occurred in fine conditions on the 12th November 2017 at the junction with Fernhill Road and involved two cars and two pedal cycles. The accident was a result of driver error as one vehicle attempted to turn right. One of the cyclists sustained a slight injury.

Figure 2.2: Accident Locations

2.12 Accident C occurred on the 28th October 2016 in fine conditions on Balcombe Road and involved a car, cyclist and HGV. The accident was a result of driver error as the car was passing the cyclist. The cyclist sustained serious injuries.

2.13 Accident D occurred on the 7th January 2020 in fine conditions on Balcombe Road and involved three cars. The accident was a result of driver error as one vehicle attempted to change lanes. The drivers of two vehicles sustained slight injuries and the driver of the other vehicle serious injuries.

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

2.15 The CrashMap data is contained as **Appendix A**.

Public Transport

2.16 Bus stops are located and operate on Balcombe Road to the north of the ôGatwick Green Missing Sectionôsite 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.

2.17 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.

2.18 The ôGatwick Green Missing Sectionôsite 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.

2.19 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.

2.20 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

2.21 The ôGatwick Green Missing Sectionôsite is well located to the existing centre of Crawley and its northern suburbs, central Horley, the emerging residential areas such as Forge Wood, and complimentary employment areas of Manor Royal and Gatwick Airport.

2.22 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.

2.23 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 ôGatwick Green Missing Sectionôsite.

2.24 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

2.25 Therefore, it is evident that the ôGatwick Green Missing Sectionôsite is accessible by non-car modes of travel including walking, cycling, bus and train.

3 GATWICK GREEN

3.1 The Wilky Group (TWG) owns 47.3 ha (117 acres) 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.

3.2 The Transport Strategy (TS) report prepared by i-Transport on behalf of TWG in March 2020 (i.e. over a year before the CTS was published) to support representations to the CBLP identifies the Gatwick Green area as shown below in **Figure 3.1**. It is evident that this area includes the 'Gatwick Green Missing Section' site.

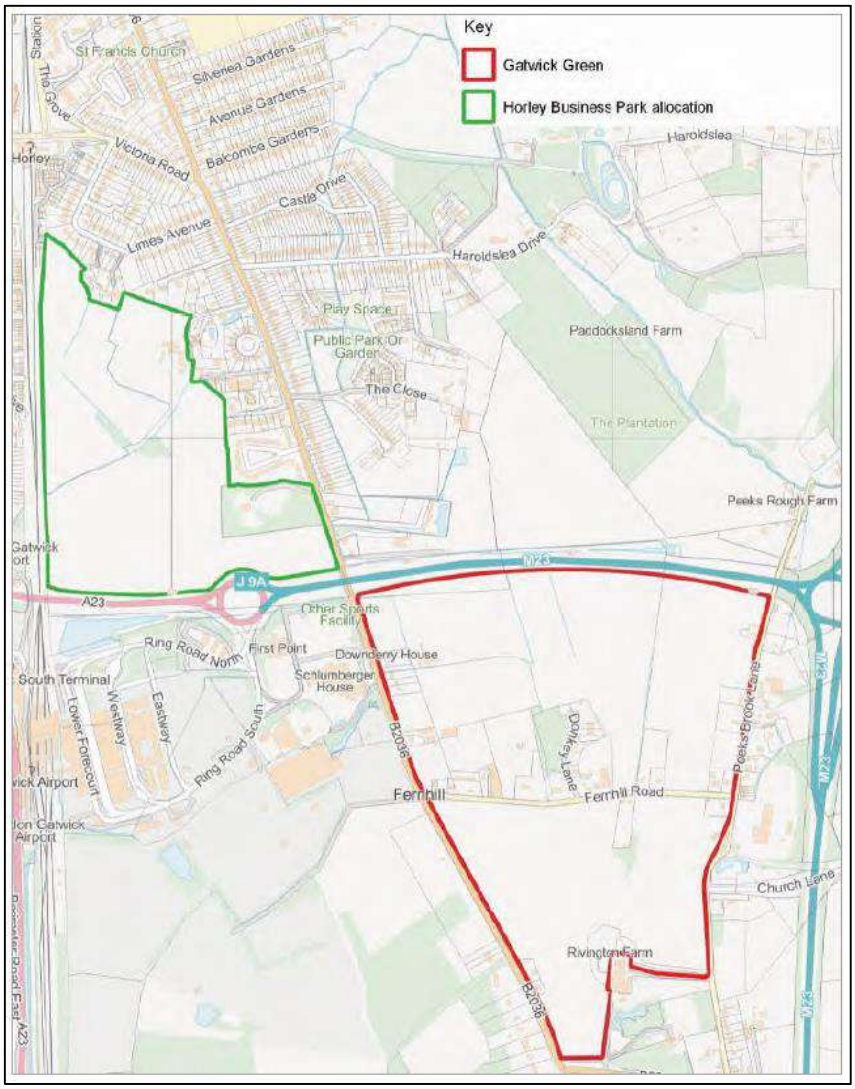

Figure 3.1: TWG Gatwick Green Site Area

3.3 In March 2020, TWG proposed to bring forward an integrated mixed-use development with co-ordinated infrastructure solution to deliver the 47.3 ha (117 acre) 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.

3.4 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.

3.5 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.

3.6 A copy of the emerging development framework plan is included within the TS and is reproduced below as **Figure 3.2**. Again, it can be seen that the Gatwick Green area includes the ôGatwick Green Missing Sectionôsite.

Figure 3.2: TWG Development Framework Plan

3.7 TWG envisage that Gatwick Green will provide a range of high-quality employment opportunities that will reduce levels of ñout-commutingò and therefore the length of trips. Shorter journeys are made more easily by the active modes, walking and cycling and potentially, personal electric transport.

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

3.9 TWG propose to access the site from two locations on Balcombe Road as shown in **Figure 3.2**, i.e. 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.

3.10 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.

3.11 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.

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

3.13 As part of future iterations of the access options identified above and in line with discussions with transport operators, public transport access into the site will either be in the form of dedicated routes, i.e. bus gates, bus priority at the key junctions, and on the approaches to site access/egress.

3.14 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.

3.15 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.

3.16 Within the site, on the proposed bus Fastway route small transport hubs and/or óSuper Hubsô will be developed. These hubs, which are already planned as part of a pilot scheme at Manor Royal, would act as a bus Fastway waiting area, but would have expanded facilities such as Wi-Fi, phone charging, coffee outlet, bike storage (either private or hire), electric bike and electric scooter (subject to legislation change) charging and even child and adult play areas / gym equipment.

3.17 This type of infrastructure allows for seamless and hassle-free interchange between ride sharing, public transport and non-motorised modes of travel and is in line with existing initiatives, such as those identified within the Crawley Growth Programme and Crawley New Directions.

4 CRAWLEY TRANSPORT STUDY

Introduction

4.1 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.

4.2 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 ï 2037.

4.3 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.

4.4 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.

4.5 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.

4.6 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.

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

4.8 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

4.9 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 landownerôs consultant (TWG) and was used to inform the transport modelling in respect of access arrangements to the wider network off Balcombe Road.

4.10 Development quanta assumptions provided by CBC were used for the Gatwick Green site. The Gatwick Green assumptions comprise 77,500 square metres (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

4.11 It is noted that the quantum of development suggested by CBC is significantly below that identified by TWG in March 2020 as outlined in Section 3.

Employment Land Shortfall

4.12 Hardisty Jones Associates were instructed by WTL to review employment land matters within the Submission Draft Crawley Local Plan and supporting evidence base. This review identified a number of issues which lead to the Local Plan under-providing land for industrial and warehousing (B2/B8) uses.

4.13 A minimum of 3.7 to 4.6ha of additional industrial and warehousing land should be provided to make up the identified shortfall of 14,780 sq.m in the employment land trajectory.

4.14 Additional provision should also be made, in line with the requirements of PPG, for the strength of market opinion in order to deliver a more rounded and robust assessment of future B8 requirements; as well as to allow for potential losses of employment space to other uses and through dilapidation and changing occupier requirements.

4.15 If the employment land shortfall (14,780 sq.m) 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 ôGatwick Green Missing Sectionõsite:

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

Trip Rates

4.16 The CTS provides vehicle trip rates for each of these uses and enables the number of trips associated with the employment land shortfall to be calculated as shown below in **Table 4.1**.

Land Use	AM Two-Way Trip Rate (per 100 sq.m)	PM Two-Way Trip Rate (per 100 sq.m)	AM Two-Way Trips (Employment Land Shortfall)	PM Two-Way Trips (Employment Land Shortfall)
B8 Parcels	1.508	1.705	22	25
B8 Warehousing	0.170	0.093	15	8
B2 Industrial Estate	0.589	0.426	26	19
TOTAL			**63**	**52**

Table 4.1: Trips Generated by Employment Land Shortfall

4.17 Thus, it can be seen that 14,780 sq.m of additional employment land (split as per the CTS) would generate 63 and 52 vehicle trips in the AM and PM peaks respectively, i.e. approximately 1 vehicle per minute.

Scenarios Modelled

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

4.19 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 (14,780 sq.m).

4.20 The CTS firstly assesses the impact of the three scenarios upon the surrounding transport network without any mitigation and then applies ñsustainable mitigationò 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).

4.21 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.

Potential Effect of Employment Land Shortfall upon Mitigation Measures

4.22 It is considered unlikely that the addition of 1 vehicle trip per minute will result in additional junctions being in need of physical mitigation.

4.23 Indeed, the percentage increase in trips at Gatwick Green, under Scenario 2 (employment) and in total (before sustainable mitigation is applied) as a result of adding the 14,780 sq.m employment land shortfall is below 19%, 7.5% and 3% respectively as shown in **Table 4.2** below.

Site	AM Trips	PM Trips
Gatwick Green (CTS)	333	298
Employment Land Shortfall	63	52
% Increase	+ 18.9%	+ 17.4%
Scenario 2 Employment	846	822
Employment Land Shortfall	63	52
% Increase	+ 7.4%	+ 6.3%
Scenario 2 Total	2,228	2,270
Employment Land Shortfall	63	52
% Increase	+ 2.8%	+2.8%

Table 4.2: Percentage Increase of Addition of Employment Land Shortfall

4.24 Whilst the impact of the 14,780 sq.m employment land shortfall 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 if the employment land shortfall were allocated in the Local Plan on the ôGatwick Green Missing Sectionô site.

5 GATWICK GREEN MISSING SECTION

Development Composition

5.1 Prior to the CTS being published, MWT undertook an assessment of the access requirements of the ôGatwick Green Missing Sectionô site using a similar range and proportion of employment land uses as TWG proposed for the wider Gatwick Green area in March 2020, which we now know is significantly below that identified by CBC.

5.2 This approach resulted in the site providing circa 46,290 sq.m of floor space, which was split as per the TWG TS.

5.3 Whilst the employment land shortfall (14,780 sq.m) is significantly below this potential level of development on the site, this approach 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 the employment land shortfall.

Vehicular Access

5.4 The ôGatwick Green Missing Sectionô site is proposed to be accessed from a new traffic signal controlled junction on Balcombe Road approximately 150m north of Fernhill Road. The location of this junction is shown in **Figure 5.1**.

5.5 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 as noted in **Table 2.2**.

5.6 A preliminary design of the proposed access junction is shown overleaf in **Figure 5.2**. This is also shown in drawing 19102-SK10 in **Appendix B**.

5.7 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.

Trip Rates

5.8 The potential number of trips predicted to be generated by the assumed composition of the ôGatwick Green Missing Sectionô site, which is significantly in excess of the employment land shortfall, has been calculated using the TRICS trip rate database.

5.9 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 TRICS output is attached as **Appendix C**.

Figure 5.1: Illustrative Masterplan

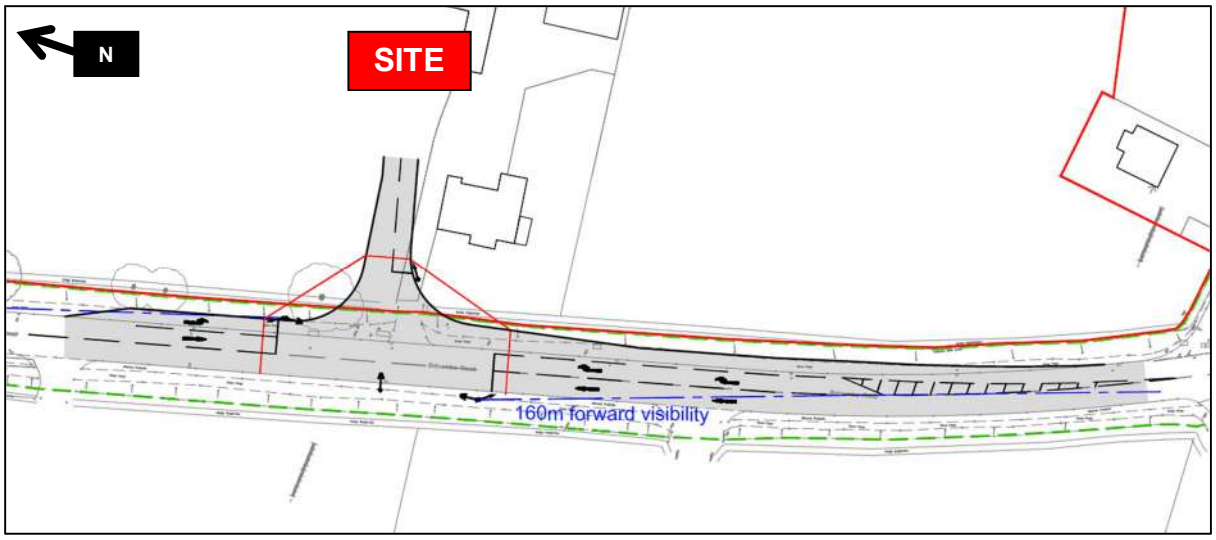

Figure 5.2: Proposed Site Access Arrangement

5.10 **Table 5.1** below provides the trip rates and trips generated for the assessed quantum of development.

Trips per 100 sq.m	Morning Peak Hour		Evening Peak Hour	
	Arrivals	Departures	Arrivals	Departures
B8 Warehousing	0.142	0.092	0.071	0.145
B1 Business Park	1.362	0.217	0.189	1.084
C1 Hotels	0.250	0.482	0.408	0.237

Table 5.1: Vehicle Trip Rates

5.11 **Table 5.2** below provides the trip rates and trips generated for the assessed quantum of development.

Trips	Morning Peak Hour		Evening Peak Hour	
	Arrivals	Departures	Arrivals	Departures
B8 Warehousing	40	26	20	41
B1 Business Park	125	19	17	99
C1 Hotels	23	44	20	41
TOTAL	**188**	**89**	**74**	**162**

Table 5.2: Vehicle Trips Generated

5.12 **Table 5.2** shows that the assessed level of development on the ôGatwick Green Missing Sectionôsite will generate 277 and 236 vehicle movements in the morning and evening peak hours respectively.

5.13 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 Assessment

5.14 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.

5.15 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 ôGatwick Green Missing Sectionôsite added.

5.16 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 ôOrigin and Destinationô 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. The resultant growth factors are provided in **Table 5.3** below:

Scenario	Area	Growth Figure
2022 to 2026 AM Peak	Crawley 002	1.0477
2022 to 2026 PM Peak	Crawley 002	1.0485

Table 5.3: TEMPRO Growth Factors

5.17 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 (as shown in **Figure 3.1**) will only have limited access onto Balcombe Road. This is consistent with the adopted Local Plan which states that õ*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*ò

5.18 **Table 5.4** below shows that 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 ôGatwick Green Missing Sectionô site.

Road	Morning Peak Hour			Evening Peak Hour		
	Queue (PCU)	Delay (s/PCU)	Degree of Sat (DoS)	Queue (PCU)	Delay (s/PCU)	Degree of Sat (DoS)
Balcombe Road North	8.7	12.9	50.9%	11.9	14.2	60.1%
Site Access	2.5	54.5	45.9%	4.5	51.6	59.6%
Balcombe Road South	5.8	10.5	49.3%	9.7	9.9	58.7%

Table 5.4: LINSIG Results for Basic Traffic Signal Layout

5.19 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.

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

5.21 The LINSIG output data is attached as **Appendix D**.

Pedestrians and Cyclists

5.22 New footway and cycleway infrastructure and facilities will be provided as part of the development of the ôGatwick Green Missing Sectionô 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

5.23 The proposed access to the ôGatwick Green Missing Sectionô site could provide one of the additional access points that TWG are considering.

5.24 The internal access road within the ôGatwick Green Missing Sectionô site could link directly into the TWG land or connect via the north-south multi-modal transport link shown in green in **Figure 5.1** (as shown in TWGôs development framework).

5.25 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

5.26 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.

5.27 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 ñfirst and last mile solutionsò 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 ï Maas ï platform).

5.28 These travel planning measures would be formulated in conjunction with others (TWG, CBC, WSCC etc) to ensure they fully align with the desired mobility strategy for the wider Gatwick Green area.

6 SUMMARY AND CONCLUSIONS

Summary

6.1 In summary, the key points arising from the work undertaken are as follows:

- The CBLP identifies land east of Balcombe Road and south of the M32 Spur for the comprehensive development of an industrial-led Strategic Employment Location, known as Gatwick Green.
- The area currently identified under Strategic Policy EC4 surrounds the ÓGatwick Green Missing SectionÔ site on three sides. Indeed, the TS prepared by TWG relates to a larger site, including the ÓGatwick Green Missing SectionÔ site.
- A minimum of 3.7-4.6ha of additional industrial and warehousing land should be provided to make up the identified shortfall of 14,780 sq.m in the employment land trajectory.
- 14,780 sq.m of additional employment land (split as per the CTS) 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.
- Whilst the impact of the 14,780 sq.m employment land shortfall 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 if the employment land shortfall were allocated in the Local Plan on the ÓGatwick Green Missing SectionÔ site.
- A robust quantum of development on the ÓGatwick Green Missing SectionÔ site, which is significantly greater than the employment land shortfall, was assessed using the TWG mix of uses in advance of the publication of the CTS.
- The ÓGatwick Green Missing SectionÔ site is proposed to be accessed from a new traffic signal controlled junction on Balcombe Road approximately 150m north of Fernhill Road, which would operate 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 than that identified as the employment land shortfall using the junction.
- The TWG site is proposed to be accessed from two locations on Balcombe Road and TWG are exploring access opportunities using the frontage of Balcombe Road, Fernhill Road, Peeks Brook Lane (emergency only) and Antlands Road. Given the level of spare capacity, the access junction could be used to provide an additional access to the TWG site, if desired.
- New footway and cycleway infrastructure and facilities will be provided as part of the development of the ÓGatwick Green Missing SectionÔ site that will seek to maximise pedestrian and cycling links to the existing transport network and also to the wider Gatwick Green site area.

- This 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 their TS.

Conclusions

6.2 It is concluded that the óGatwick Green Missing Sectionô site is capable of accommodating the identified employment land shortfall and that the additional traffic impact of this on the wider highway network is likely to be negligible.

APPENDIX A

CrashMap Data

crashmap.co.uk

Crash Date:	Monday, October 10, 2016	**Time of Crash:**	8:40:00 PM	**Crash Reference:**	**2016471606160**

Highest Injury Severity:	Slight	**Road Number:**	B2036	**Number of Casualties:**	4
Highway Authority:	West Sussex			**Number of Vehicles:**	3
Local Authority:	Crawley Borough			**OS Grid Reference:**	529571 141175
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	60				
Light Conditions:	Darkness: no street lighting				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				

For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	3	Male	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	5	Male	26 - 35	Vehicle is in the act of turning left	Back	Other	None	None
3	Car (excluding private hire)	14	Unknown	Unknown	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	16 - 20	Unknown or other	Unknown or other
1	2	Slight	Vehicle or pillion passenger	Male	21 - 25	Unknown or other	Unknown or other
1	3	Slight	Vehicle or pillion passenger	Female	16 - 20	Unknown or other	Unknown or other
2	4	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

crashmap.co.uk

Crash Date:	Sunday, November 12, 2017	**Time of Crash:**	1:00:00 PM	**Crash Reference:**	**2017471801049**

Highest Injury Severity:	Slight	**Road Number:**	B2036	**Number of Casualties:**	1
Highway Authority:	West Sussex			**Number of Vehicles:**	4
Local Authority:	Crawley Borough			**OS Grid Reference:**	529563 141191
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	40				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				

For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Pedal cycle	-1	Female	56 - 65	Vehicle proceeding normally along the carriageway, not on a bend	Did not impact	Other	None	None
2	Pedal cycle	-1	Male	Unknown	Vehicle is slowing down or stopping	Did not impact	Other	None	None
3	Car (excluding private hire)	-1	Male	56 - 65	Vehicle is slowing down or stopping	Front	Commuting to/from work	Parked vehicle	None
4	Car (excluding private hire)	-1	Male	36 - 45	Vehicle is in the act of turning right	Did not impact	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	56 - 65	Unknown or other	Unknown or other

crashmap.co.uk

Crash Date:	Friday, October 28, 2016	**Time of Crash:**	6:15:00 AM	**Crash Reference:**	**2016471606462**

Highest Injury Severity:	Serious	**Road Number:**	B2036	**Number of Casualties:**	1
Highway Authority:	West Sussex			**Number of Vehicles:**	3
Local Authority:	Crawley Borough			**OS Grid Reference:**	529534 141273
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	60				
Light Conditions:	Darkness: no street lighting				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				

For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	11	Male	46 - 55	Vehicle is passing another moving vehicle on its offside	Front	Commuting to/from work	None	None
2	Pedal cycle	-1	Male	56 - 65	Vehicle proceeding normally along the carriageway, not on a bend	Did not impact	Commuting to/from work	Kerb	None
3	Goods vehicle 7.5 tonnes mgw and over	-1	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	56 - 65	Unknown or other	Unknown or other

crashmap.co.uk

Crash Date:	Tuesday, January 07, 2020	**Time of Crash:**	11:50:00 AM	**Crash Reference:**	**2020470916505**

Highest Injury Severity:	Serious	**Road Number:**	B2036	**Number of Casualties:**	3
Highway Authority:	West Sussex			**Number of Vehicles:**	3
Local Authority:	Crawley Borough			**OS Grid Reference:**	529508 141326
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	60				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Unknown				

For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
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Vehicles involved

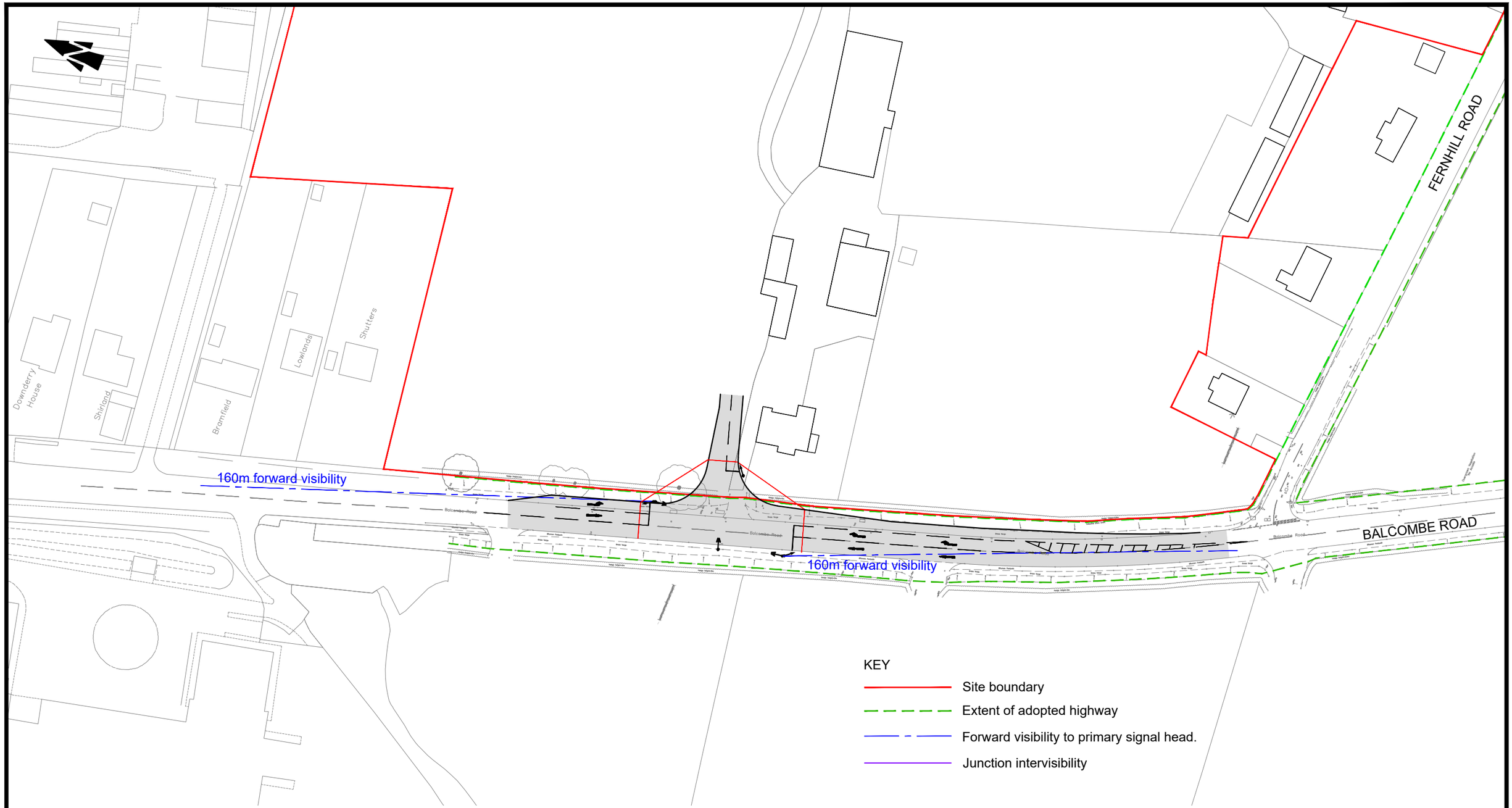
Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	16-24	Vehicle is changing lane to the right (including slip road)	Unknown	Journey as part of work	None	None
2	Car (excluding private hire)	-1	Male	65-74	Vehicle proceeding normally along the carriageway, not on a bend	Unknown	Other	None	None
3	Car (excluding private hire)	-1	Male	45-54	Vehicle proceeding normally along the carriageway, not on a bend	Unknown	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	16-24	Unknown or other	Unknown or other
2	2	Serious	Driver or rider	Male	65-74	Unknown or other	Unknown or other
3	3	Slight	Driver or rider	Male	45-54	Unknown or other	Unknown or other

APPENDIX B

Proposed ‘Gatwick Green Missing Section’ Site Access



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	-

APPENDIX C

TRICS Data

Calculation Reference: AUDIT-464201-210302-0346

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	2 days
	WG	WOKINGHAM	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS		
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	1 days
09	NORTH		
	TW	TYNE & WEAR	2 days
10	WALES		
	CF	CARDIFF	5 days
	CP	CAERPHILLY	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1281 to 15930 (units: sqm)
Range Selected by User: 975 to 20000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 14/10/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	3 days
Wednesday	5 days
Thursday	5 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	22 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	5
Edge of Town	13
Neighbourhood Centre (PPS6 Local Centre)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B1	22 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Use Class Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	5 days
10,001 to 15,000	7 days
15,001 to 20,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	5 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	3 days
125,001 to 250,000	6 days
250,001 to 500,000	10 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	9 days
1.1 to 1.5	13 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	21 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	22 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CA-02-B-02 BUSINESS PARK CAMBRIDGESHIRE
LYNCH WOOD
PETERBOROUGH

Edge of Town
Commercial Zone
Total Gross floor area: 12800 sqm
Survey date: WEDNESDAY *19/10/16* *Survey Type: MANUAL*

2 CF-02-B-04 BUSINESS PARK CARDIFF
RHYMNEY RIVER BRIDGE RD
CARDIFF

Edge of Town
Development Zone
Total Gross floor area: 5300 sqm
Survey date: FRIDAY *05/05/17* *Survey Type: MANUAL*

3 CF-02-B-05 BUSINESS PARK CARDIFF
LAMBOURNE CRESCENT
CARDIFF
LLANISHEN
Suburban Area (PPS6 Out of Centre)
Development Zone
Total Gross floor area: 6250 sqm
Survey date: WEDNESDAY *05/10/16* *Survey Type: MANUAL*

4 CF-02-B-06 BUSINESS PARK CARDIFF
MALTHOUSE AVENUE
CARDIFF
PONTPRENNAU
Edge of Town
No Sub Category
Total Gross floor area: 1642 sqm
Survey date: MONDAY *12/03/18* *Survey Type: MANUAL*

5 CF-02-B-07 BUSINESS PARK CARDIFF
MALTHOUSE AVENUE
CARDIFF
PONTPRENNAU
Edge of Town
Commercial Zone
Total Gross floor area: 15930 sqm
Survey date: TUESDAY *13/03/18* *Survey Type: MANUAL*

6 CF-02-B-08 BUSINESS PARK CARDIFF
VANGUARD WAY
CARDIFF
ATLANTIC WHARF
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 14312 sqm
Survey date: MONDAY *14/10/19* *Survey Type: MANUAL*

7 CH-02-B-01 BUSINESS PARK CHESHIRE
WINTERTON WAY
MACCLESFIELD

Edge of Town
Development Zone
Total Gross floor area: 2395 sqm
Survey date: MONDAY *19/09/16* *Survey Type: MANUAL*

8 CP-02-B-01 BUSINESS PARK CAERPHILLY
VAN ROAD
CAERPHILLY

Edge of Town
Commercial Zone
Total Gross floor area: 14450 sqm
Survey date: TUESDAY *17/07/12* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 DV-02-B-01 BUSINESS PARK DEVON
MANATON CLOSE
EXETER
MATFORD BUSINESS PARK
Edge of Town
Commercial Zone
Total Gross floor area: 1500 sqm
Survey date: WEDNESDAY *05/07/17* *Survey Type: MANUAL*

10 EX-02-B-01 BUSINESS PARK ESSEX
BRUNEL COURT
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 2900 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

11 EX-02-B-02 BUSINESS PARK ESSEX
WYNCOLLS ROAD
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 4083 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

12 GM-02-B-04 BUSINESS PARK GREATER MANCHESTER
SALMON FIELDS
OLDHAM

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 3300 sqm
Survey date: THURSDAY *22/10/15* *Survey Type: MANUAL*

13 LE-02-B-01 BUSINESS PARK LEICESTERSHIRE
NOTTINGHAM ROAD
MELTON MOWBRAY

Edge of Town Centre
Residential Zone
Total Gross floor area: 10219 sqm
Survey date: MONDAY *28/11/16* *Survey Type: MANUAL*

14 LN-02-B-02 BUSINESS PARK LINCOLNSHIRE
CARDINAL CLOSE
LINCOLN

Edge of Town
Industrial Zone
Total Gross floor area: 5000 sqm
Survey date: THURSDAY *25/06/15* *Survey Type: MANUAL*

15 SH-02-B-04 BUSINESS PARK SHROPSHIRE
STAFFORD COURT
TELFORD

Edge of Town Centre
Commercial Zone
Total Gross floor area: 10175 sqm
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

16 TW-02-B-05 BUSINESS PARK TYNE & WEAR
MONARCH ROAD
NEWCASTLE

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 7926 sqm
Survey date: FRIDAY *13/11/15* *Survey Type: MANUAL*

17 TW-02-B-06 BUSINESS PARK TYNE & WEAR
JOICEY ROAD
GATESHEAD

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 3712 sqm
Survey date: THURSDAY *18/10/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

18	WG-02-B-02	BUSINESS PARK		WOKINGHAM
	WHARFEDALE ROAD			
	READING			
	WINNERSH			
	Edge of Town			
	Development Zone			
	Total Gross floor area:		4775 sqm	
	Survey date: FRIDAY		*20/11/15*	*Survey Type: MANUAL*
19	WM-02-B-03	BUSINESS PARK		WEST MIDLANDS
	PARADISE WAY			
	COVENTRY			
	Edge of Town			
	Development Zone			
	Total Gross floor area:		13000 sqm	
	Survey date: WEDNESDAY		*25/09/19*	*Survey Type: MANUAL*
20	WO-02-B-02	BUSINESS PARK		WORCESTERSHIRE
	BIRMINGHAM ROAD			
	NEAR BROMSGROVE			
	LICKEY END			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total Gross floor area:		4187 sqm	
	Survey date: TUESDAY		*26/06/18*	*Survey Type: MANUAL*
21	WY-02-B-02	BUSINESS PARK		WEST YORKSHIRE
	ARMITAGE BRIDGE			
	HUDDERSFIELD			
	Edge of Town			
	No Sub Category			
	Total Gross floor area:		9200 sqm	
	Survey date: WEDNESDAY		*23/04/14*	*Survey Type: MANUAL*
22	WY-02-B-03	BUSINESS PARK		WEST YORKSHIRE
	SCRIFTAN LANE			
	WETHERBY			
	KIRK DEIGHTON			
	Neighbourhood Centre (PPS6 Local Centre)			
	Village			
	Total Gross floor area:		1281 sqm	
	Survey date: THURSDAY		*15/09/16*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	22	7015	0.179	22	7015	0.020	22	7015	0.199
07:30 - 08:00	22	7015	0.396	22	7015	0.069	22	7015	0.465
08:00 - 08:30	22	7015	0.658	22	7015	0.098	22	7015	0.756
08:30 - 09:00	22	7015	0.704	22	7015	0.119	22	7015	0.823
09:00 - 09:30	22	7015	0.396	22	7015	0.127	22	7015	0.523
09:30 - 10:00	22	7015	0.278	22	7015	0.129	22	7015	0.407
10:00 - 10:30	22	7015	0.174	22	7015	0.126	22	7015	0.300
10:30 - 11:00	22	7015	0.143	22	7015	0.120	22	7015	0.263
11:00 - 11:30	22	7015	0.115	22	7015	0.126	22	7015	0.241
11:30 - 12:00	22	7015	0.143	22	7015	0.118	22	7015	0.261
12:00 - 12:30	22	7015	0.152	22	7015	0.193	22	7015	0.345
12:30 - 13:00	22	7015	0.211	22	7015	0.226	22	7015	0.437
13:00 - 13:30	22	7015	0.190	22	7015	0.177	22	7015	0.367
13:30 - 14:00	22	7015	0.161	22	7015	0.153	22	7015	0.314
14:00 - 14:30	22	7015	0.142	22	7015	0.153	22	7015	0.295
14:30 - 15:00	22	7015	0.126	22	7015	0.175	22	7015	0.301
15:00 - 15:30	22	7015	0.100	22	7015	0.175	22	7015	0.275
15:30 - 16:00	22	7015	0.104	22	7015	0.192	22	7015	0.296
16:00 - 16:30	22	7015	0.100	22	7015	0.405	22	7015	0.505
16:30 - 17:00	22	7015	0.101	22	7015	0.445	22	7015	0.546
17:00 - 17:30	22	7015	0.113	22	7015	0.676	22	7015	0.789
17:30 - 18:00	22	7015	0.076	22	7015	0.408	22	7015	0.484
18:00 - 18:30	21	6911	0.048	21	6911	0.232	21	6911	0.280
18:30 - 19:00	21	6911	0.032	21	6911	0.142	21	6911	0.174
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			4.842			4.804			9.646

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	1281 - 15930 (units: sqm)
Survey date date range:	01/01/12 - 14/10/19
Number of weekdays (Monday-Friday):	22
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-464201-210302-0345

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
	HC	HAMPSHIRE	1 days
	KC	KENT	1 days
03	SOUTH WEST		
	DV	DEVON	2 days
04	EAST ANGLIA		
	SF	SUFFOLK	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days
09	NORTH		
	CB	CUMBRIA	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	BG	BRIDGEND	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 190 to 50000 (units: sqm)
Range Selected by User: 190 to 80066 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 03/04/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	1 days
Thursday	3 days
Friday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	12 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	8
Free Standing (PPS6 Out of Town)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	9
Commercial Zone	1
Built-Up Zone	1
Out of Town	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B8	12 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Use Class Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,000 or Less	2 days
1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	8 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	12 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	12 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 BG-02-F-01 LOGISTICS COMPANY BRIDGEND
PARC CRESCENT
BRIDGEND
WATERTON IND. EST.
Edge of Town
Industrial Zone
Total Gross floor area: 3050 sqm
Survey date: MONDAY *13/10/14* *Survey Type: MANUAL*

2 CB-02-F-01 DOMINO'S PIZZA CUMBRIA
COWPER ROAD
PENRITH
GILWILLY IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 2950 sqm
Survey date: TUESDAY *10/06/14* *Survey Type: MANUAL*

3 DV-02-F-01 OPTICS WAREHOUSE DEVON
ALDERS WAY
PAIGNTON

Edge of Town
Industrial Zone
Total Gross floor area: 190 sqm
Survey date: FRIDAY *29/03/19* *Survey Type: MANUAL*

4 DV-02-F-02 LIDL DISTRIBUTION CENTRE DEVON
CHILLPARK BRAKE
NEAR EXETER
CLYST HONITON
Free Standing (PPS6 Out of Town)
Out of Town
Total Gross floor area: 50000 sqm
Survey date: WEDNESDAY *03/04/19* *Survey Type: MANUAL*

5 EX-02-F-01 SPORTS SUPPLEMENTS ESSEX
BRUNEL WAY
COLCHESTER
SEVERALLS INDUSTRIAL PK
Edge of Town
Industrial Zone
Total Gross floor area: 6560 sqm
Survey date: FRIDAY *18/05/18* *Survey Type: MANUAL*

6 HC-02-F-02 LOGISTICS HAMPSHIRE
RUTHERFORD ROAD
BASINGSTOKE

Suburban Area (PPS6 Out of Centre)
Commercial Zone
Total Gross floor area: 13200 sqm
Survey date: THURSDAY *16/06/16* *Survey Type: MANUAL*

7 KC-02-F-02 COMMERCIAL WAREHOUSING KENT
MILLS ROAD
AYLESFORD
QUARRY WOOD
Edge of Town
Industrial Zone
Total Gross floor area: 11200 sqm
Survey date: FRIDAY *22/09/17* *Survey Type: MANUAL*

8 SF-02-F-02 WAREHOUSING SUFFOLK
WALTON ROAD
FELIXSTOWE

Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 22270 sqm
Survey date: THURSDAY *11/07/13* *Survey Type: MANUAL*

9 SF-02-F-03 ROAD HAULAGE SUFFOLK
CENTRAL AVENUE
IPSWICH
WARREN HEATH
Edge of Town
Industrial Zone
Total Gross floor area: 4700 sqm
Survey date: FRIDAY *18/09/15* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 TW-02-F-01 ASDA DISTRIBUTION CENTRE TYNE & WEAR
MANDARIN WAY
WASHINGTON
PATTISON IND. ESTATE
Edge of Town
Industrial Zone
Total Gross floor area: 31000 sqm
Survey date: FRIDAY *13/11/15* *Survey Type: MANUAL*

11 WY-02-F-01 ELECTRONICS DISTRIBUTION WEST YORKSHIRE
MORTIMER STREET
CLECKHEATON

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 1507 sqm
Survey date: MONDAY *19/09/16* *Survey Type: MANUAL*

12 WY-02-F-02 DISTRIBUTION COMPANY WEST YORKSHIRE
STAITHGATE LANE
BRADFORD
NEWHALL
Edge of Town
Industrial Zone
Total Gross floor area: 10446 sqm
Survey date: THURSDAY *14/03/19* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	5	17171	0.022	5	17171	0.017	5	17171	0.039
05:30 - 06:00	5	17171	0.043	5	17171	0.026	5	17171	0.069
06:00 - 06:30	5	17171	0.041	5	17171	0.037	5	17171	0.078
06:30 - 07:00	5	17171	0.075	5	17171	0.028	5	17171	0.103
07:00 - 07:30	12	13089	0.074	12	13089	0.037	12	13089	0.111
07:30 - 08:00	12	13089	0.080	12	13089	0.041	12	13089	0.121
08:00 - 08:30	12	13089	0.067	12	13089	0.048	12	13089	0.115
08:30 - 09:00	12	13089	0.075	12	13089	0.044	12	13089	0.119
09:00 - 09:30	12	13089	0.069	12	13089	0.041	12	13089	0.110
09:30 - 10:00	12	13089	0.066	12	13089	0.042	12	13089	0.108
10:00 - 10:30	12	13089	0.051	12	13089	0.051	12	13089	0.102
10:30 - 11:00	12	13089	0.044	12	13089	0.042	12	13089	0.086
11:00 - 11:30	12	13089	0.048	12	13089	0.048	12	13089	0.096
11:30 - 12:00	12	13089	0.043	12	13089	0.052	12	13089	0.095
12:00 - 12:30	12	13089	0.045	12	13089	0.047	12	13089	0.092
12:30 - 13:00	12	13089	0.046	12	13089	0.044	12	13089	0.090
13:00 - 13:30	12	13089	0.057	12	13089	0.052	12	13089	0.109
13:30 - 14:00	12	13089	0.062	12	13089	0.074	12	13089	0.136
14:00 - 14:30	12	13089	0.032	12	13089	0.058	12	13089	0.090
14:30 - 15:00	12	13089	0.045	12	13089	0.050	12	13089	0.095
15:00 - 15:30	12	13089	0.043	12	13089	0.057	12	13089	0.100
15:30 - 16:00	12	13089	0.039	12	13089	0.046	12	13089	0.085
16:00 - 16:30	12	13089	0.050	12	13089	0.067	12	13089	0.117
16:30 - 17:00	12	13089	0.032	12	13089	0.069	12	13089	0.101
17:00 - 17:30	12	13089	0.044	12	13089	0.080	12	13089	0.124
17:30 - 18:00	12	13089	0.027	12	13089	0.065	12	13089	0.092
18:00 - 18:30	11	14142	0.019	11	14142	0.049	11	14142	0.068
18:30 - 19:00	11	14142	0.022	11	14142	0.035	11	14142	0.057
19:00 - 19:30	5	17171	0.024	5	17171	0.036	5	17171	0.060
19:30 - 20:00	5	17171	0.012	5	17171	0.017	5	17171	0.029
20:00 - 20:30	5	17171	0.009	5	17171	0.017	5	17171	0.026
20:30 - 21:00	5	17171	0.027	5	17171	0.019	5	17171	0.046
21:00 - 21:30	1	22270	0.018	1	22270	0.009	1	22270	0.027
21:30 - 22:00	1	22270	0.013	1	22270	0.009	1	22270	0.022
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.464			1.454			2.918

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	190 - 50000 (units: sqm)
Survey date date range:	01/01/12 - 03/04/19
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-464201-210302-0337

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : A - HOTELS
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BU	BUCKINGHAMSHIRE	1 days
	EX	ESSEX	1 days
03	SOUTH WEST		
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	2 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
06	WEST MIDLANDS		
	WK	WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	2 days
	WY	WEST YORKSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	1 days
10	WALES		
	SW	SWANSEA	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1300 to 9677 (units: sqm)
Range Selected by User: 926 to 17624 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 25/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	2 days
Wednesday	5 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Centre	5
Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	1
Edge of Town	4

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	2
Residential Zone	2
Built-Up Zone	5
Out of Town	2
High Street	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

Not Known	1 days
C1	12 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	5 days
20,001 to 25,000	3 days
25,001 to 50,000	3 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	2 days
125,001 to 250,000	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	7 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	13 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	13 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 BU-06-A-02 HOLIDAY INN BUCKINGHAMSHIRE
NEW ROAD
AYLESBURY
WESTON TURVILLE
Edge of Town
Out of Town
Total Gross floor area: 4675 sqm
Survey date: WEDNESDAY *01/10/14* *Survey Type: MANUAL*

2 CB-06-A-01 HOTEL CUMBRIA
ENGLISH STREET
CARLISLE

Town Centre
High Street
Total Gross floor area: 2450 sqm
Survey date: MONDAY *20/06/16* *Survey Type: MANUAL*

3 EX-06-A-01 TRAVELODGE ESSEX
CHICHESTER ROAD
SOUTHEND-ON-SEA

Town Centre
Built-Up Zone
Total Gross floor area: 3000 sqm
Survey date: WEDNESDAY *23/10/13* *Survey Type: MANUAL*

4 GS-06-A-02 PREMIER INN GLOUCESTERSHIRE
GLOUCESTER ROAD
CHELTENHAM SPA
SAINT MARKS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 2393 sqm
Survey date: THURSDAY *28/11/13* *Survey Type: MANUAL*

5 NF-06-A-03 HOTEL NORFOLK
4 MARINE PARADE
GREAT YARMOUTH

Town Centre
Built-Up Zone
Total Gross floor area: 3178 sqm
Survey date: FRIDAY *11/05/18* *Survey Type: MANUAL*

6 NF-06-A-04 HOTEL NORFOLK
THORPE ROAD
NORWICH
THORPE HAMLET
Edge of Town Centre
Built-Up Zone
Total Gross floor area: 1650 sqm
Survey date: MONDAY *25/11/19* *Survey Type: MANUAL*

7 NY-06-A-01 ASCEND HOTEL NORTH YORKSHIRE
PARK PARADE
HARROGATE

Edge of Town Centre
Residential Zone
Total Gross floor area: 5140 sqm
Survey date: TUESDAY *23/10/18* *Survey Type: MANUAL*

8 NY-06-A-02 BESPOKE HOTEL NORTH YORKSHIRE
CROWN PLACE
HARROGATE

Town Centre
Built-Up Zone
Total Gross floor area: 9677 sqm
Survey date: WEDNESDAY *13/03/19* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	SW-06-A-01	IBIS	SWANSEA
	FABIAN WAY		
	SWANSEA		
	PORT TENNANT		
	Edge of Town		
	Development Zone		
	Total Gross floor area:	2996 sqm	
	Survey date: MONDAY	*07/10/19*	*Survey Type: MANUAL*
10	WK-06-A-01	HOLIDAY INN EXPRESS	WARWICKSHIRE
	STRATFORD ROAD		
	WARWICK		
	LONGBRIDGE		
	Edge of Town		
	Out of Town		
	Total Gross floor area:	5500 sqm	
	Survey date: WEDNESDAY	*25/09/19*	*Survey Type: MANUAL*
11	WL-06-A-02	HOLIDAY INN EXPRESS	WILTSHIRE
	BRIDGE STREET		
	SWINDON		
	Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2227 sqm	
	Survey date: WEDNESDAY	*27/11/13*	*Survey Type: MANUAL*
12	WL-06-A-03	TRAVELODGE	WILTSHIRE
	LAWRENCE HILL		
	WINCANTON		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	1300 sqm	
	Survey date: TUESDAY	*18/09/18*	*Survey Type: MANUAL*
13	WY-06-A-03	TRAVELODGE	WEST YORKSHIRE
	DEAN CLOUGH		
	HALIFAX		
	Edge of Town Centre		
	Development Zone		
	Total Gross floor area:	2675 sqm	
	Survey date: MONDAY	*22/10/18*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	3605	0.130	13	3605	0.369	13	3605	0.499
08:00 - 09:00	13	3605	0.250	13	3605	0.482	13	3605	0.732
09:00 - 10:00	13	3605	0.282	13	3605	0.341	13	3605	0.623
10:00 - 11:00	13	3605	0.198	13	3605	0.218	13	3605	0.416
11:00 - 12:00	13	3605	0.122	13	3605	0.220	13	3605	0.342
12:00 - 13:00	13	3605	0.171	13	3605	0.164	13	3605	0.335
13:00 - 14:00	13	3605	0.198	13	3605	0.198	13	3605	0.396
14:00 - 15:00	13	3605	0.201	13	3605	0.164	13	3605	0.365
15:00 - 16:00	13	3605	0.237	13	3605	0.213	13	3605	0.450
16:00 - 17:00	13	3605	0.331	13	3605	0.216	13	3605	0.547
17:00 - 18:00	13	3605	0.408	13	3605	0.237	13	3605	0.645
18:00 - 19:00	13	3605	0.397	13	3605	0.218	13	3605	0.615
19:00 - 20:00	13	3605	0.341	13	3605	0.218	13	3605	0.559
20:00 - 21:00	13	3605	0.235	13	3605	0.126	13	3605	0.361
21:00 - 22:00	13	3605	0.175	13	3605	0.141	13	3605	0.316
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.676			3.525			7.201

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	1300 - 9677 (units: sqm)
Survey date date range:	01/01/12 - 25/11/19
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX D

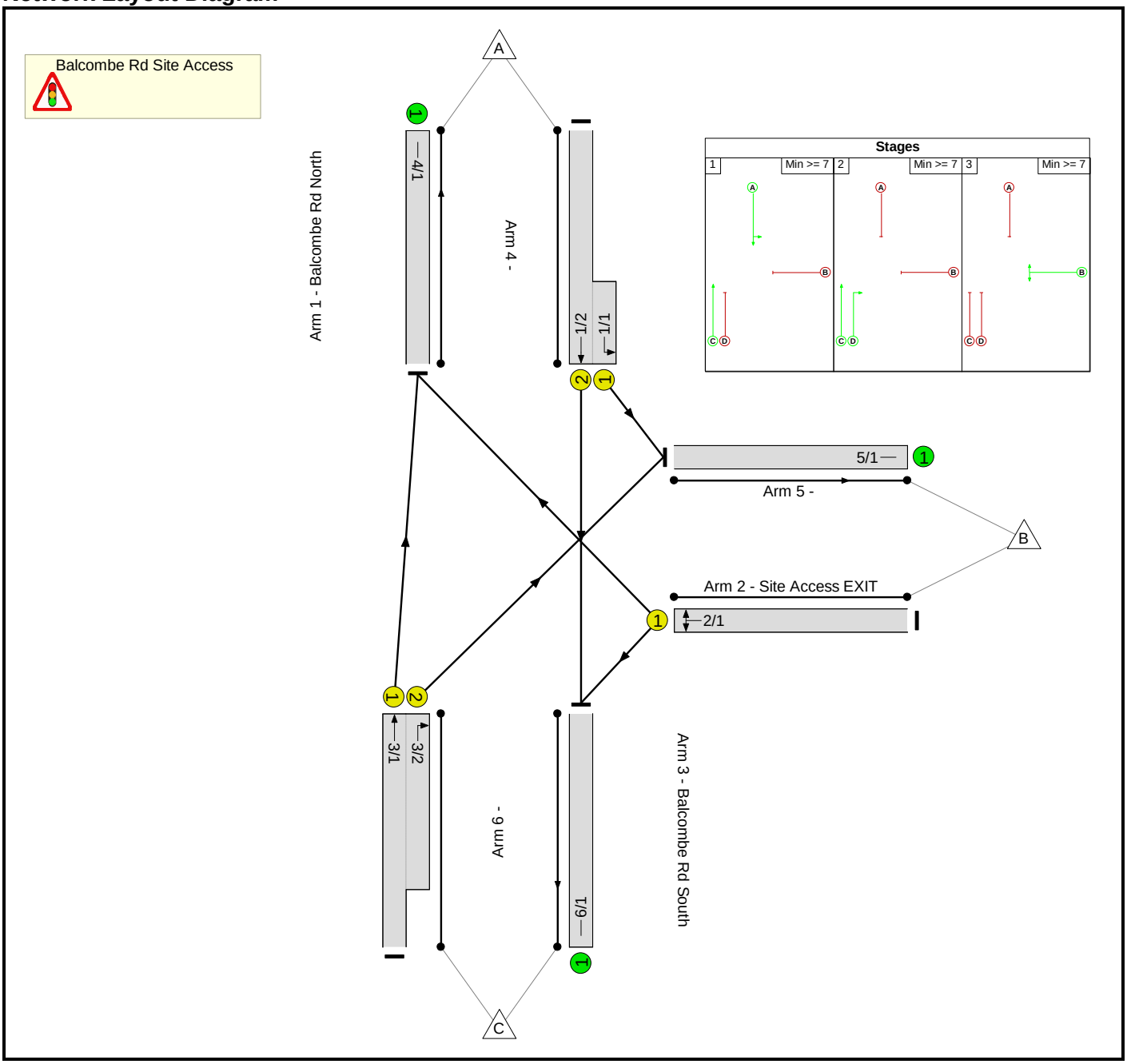
LINSIG Data

Full Input Data And Results

User and Project Details

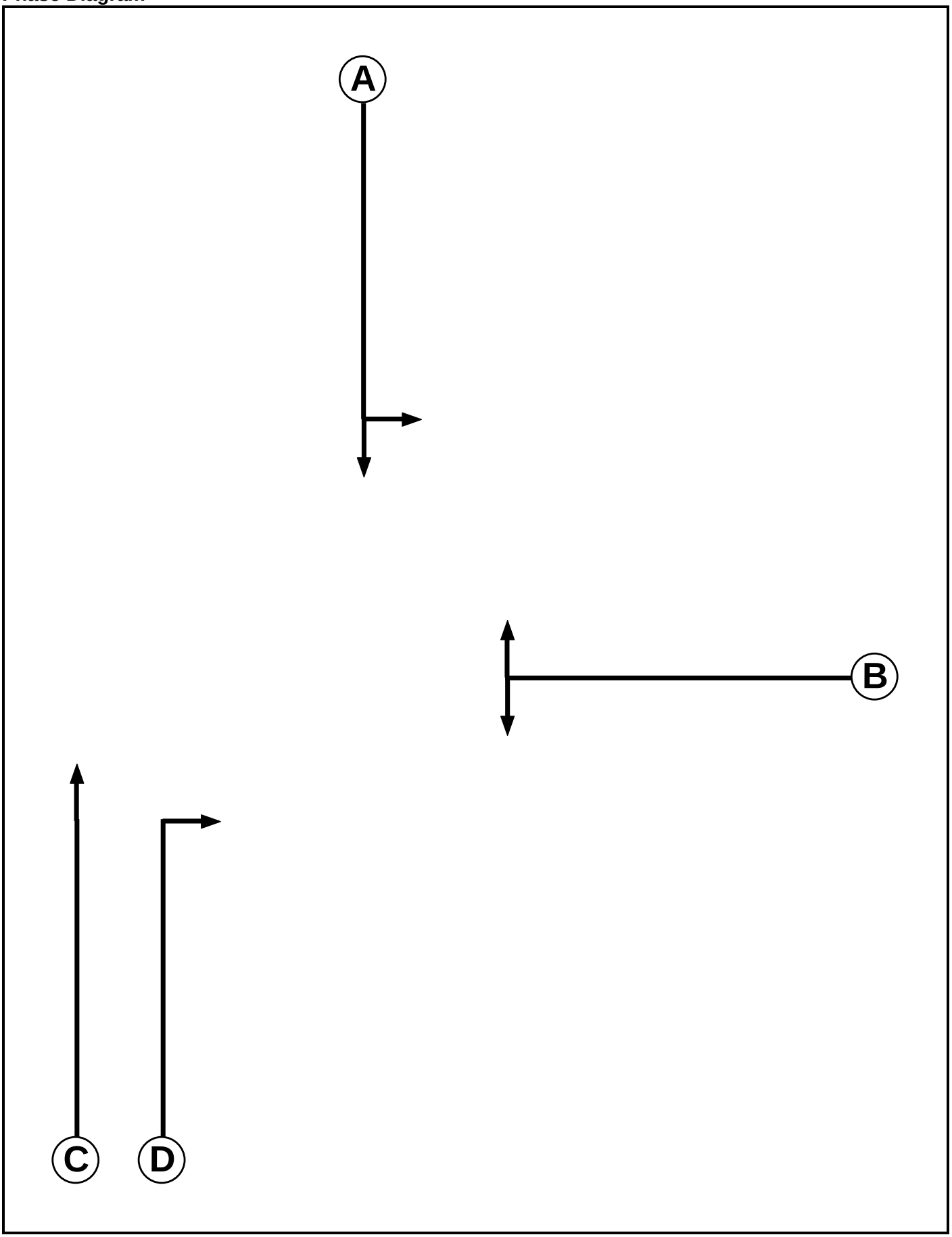
Project:	**1105 Balcombe Road**
Title:	
Location:	
Additional detail:	
File name:	1105 Balcombe Rd Site Access Linsig v0.1
Author:	
Company:	
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7

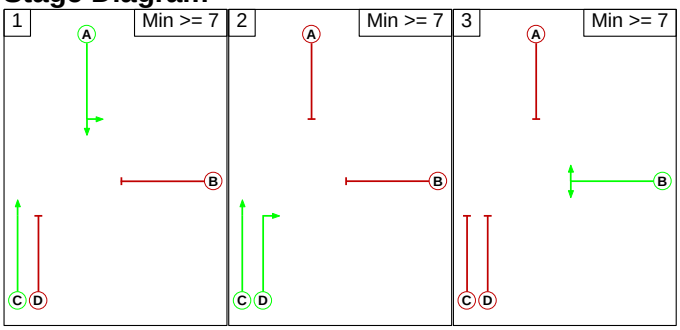
Phase Intergreens Matrix

		Starting Phase			
		A	B	C	D
Terminating Phase	A		6	-	5
	B	5		5	5
	C	-	5		-
	D	5	6	-	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	C D
3	B

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		5	6
	2	5		6
	3	5	5	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Balcombe Rd Site Access
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Balcombe Rd Site Access												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Balcombe Rd North)	U	A	2	3	5.3	Geom	-	3.00	0.00	Y	Arm 5 Left	13.60
1/2 (Balcombe Rd North)	U	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
2/1 (Site Access EXIT)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Right	19.40
											Arm 6 Left	14.30
3/1 (Balcombe Rd South)	U	C	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 4 Ahead	Inf
3/2 (Balcombe Rd South)	U	D	2	3	11.3	Geom	-	3.00	0.00	N	Arm 5 Right	14.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Peak'	08:00	09:00	01:00	
2: 'PM Peak'	17:00	18:00	01:00	

Scenario 1: 'AM Peak' (FG1: 'AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	56	573	629
	B	27	0	62	89
	C	677	132	0	809
	Tot.	704	188	635	1527

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: AM Peak
Junction: Balcombe Rd Site Access	
1/1 (short)	56
1/2 (with short)	629(In) 573(Out)
2/1	89
3/1 (with short)	809(In) 677(Out)
3/2 (short)	132
4/1	704
5/1	188
6/1	635

Lane Saturation Flows

Junction: Balcombe Rd Site Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Balcombe Rd North)	3.00	0.00	Y	Arm 5 Left	13.60	100.0 %	1725	1725
1/2 (Balcombe Rd North)	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/1 (Site Access EXIT)	3.00	0.00	Y	Arm 4 Right	19.40	30.3 %	1746	1746
				Arm 6 Left	14.30	69.7 %		
3/1 (Balcombe Rd South)	3.60	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1975	1975
3/2 (Balcombe Rd South)	3.00	0.00	N	Arm 5 Right	14.00	100.0 %	1856	1856
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Peak' (FG2: 'PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	22	733	755
	B	49	0	113	162
	C	830	52	0	882
	Tot.	879	74	846	1799

Full Input Data And Results

Traffic Lane Flows

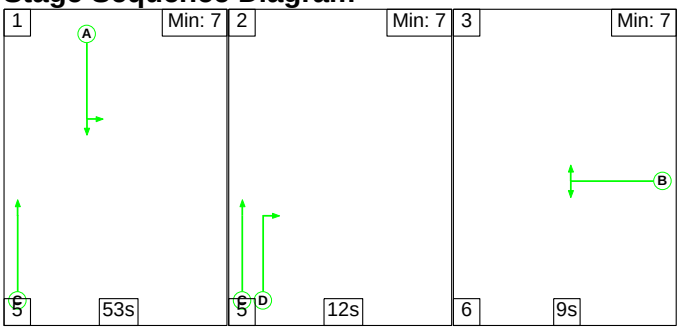
Lane	Scenario 2: PM Peak
Junction: Balcombe Rd Site Access	
1/1 (short)	22
1/2 (with short)	755(In) 733(Out)
2/1	162
3/1 (with short)	882(In) 830(Out)
3/2 (short)	52
4/1	879
5/1	74
6/1	846

Lane Saturation Flows

Junction: Balcombe Rd Site Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Balcombe Rd North)	3.00	0.00	Y	Arm 5 Left	13.60	100.0 %	1725	1725
1/2 (Balcombe Rd North)	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/1 (Site Access EXIT)	3.00	0.00	Y	Arm 4 Right	19.40	30.2 %	1746	1746
				Arm 6 Left	14.30	69.8 %		
3/1 (Balcombe Rd South)	3.60	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1975	1975
3/2 (Balcombe Rd South)	3.00	0.00	N	Arm 5 Right	14.00	100.0 %	1856	1856
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak' (FG1: 'AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

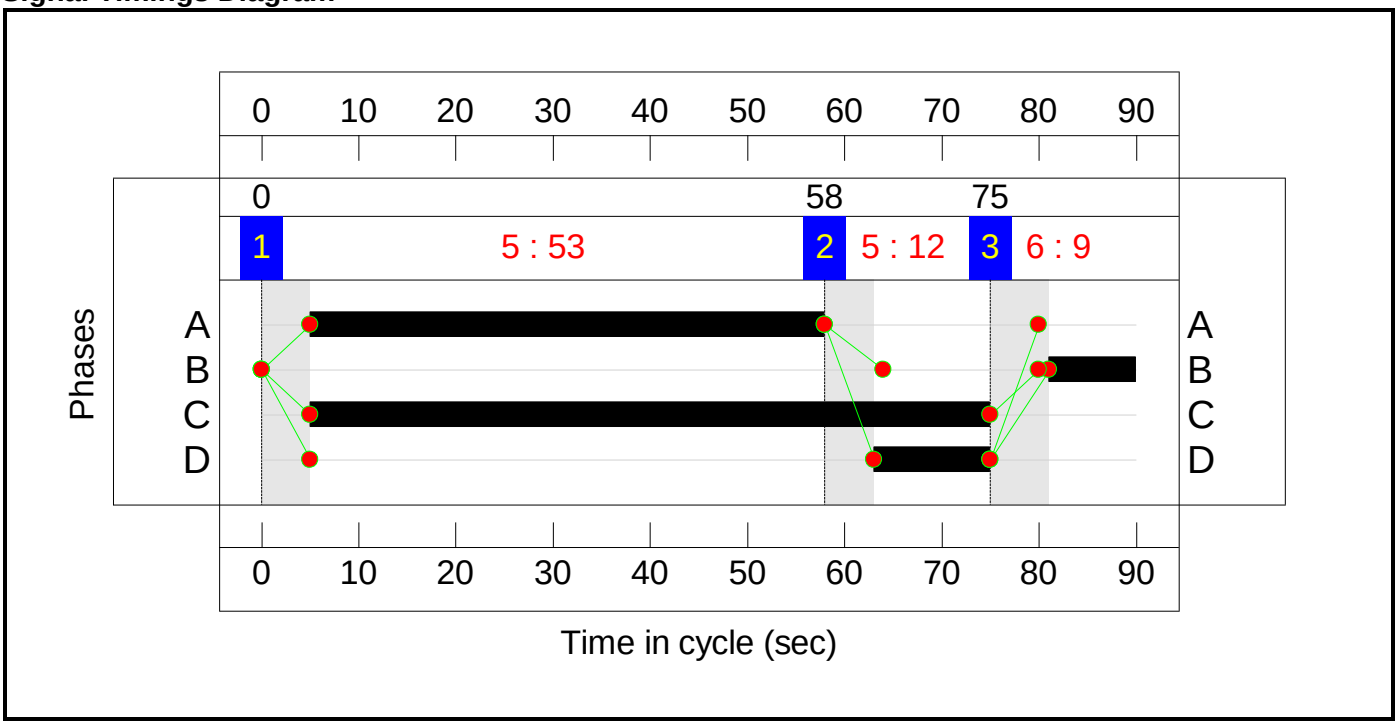


Full Input Data And Results

Stage Timings

Stage	1	2	3
Duration	53	12	9
Change Point	0	58	75

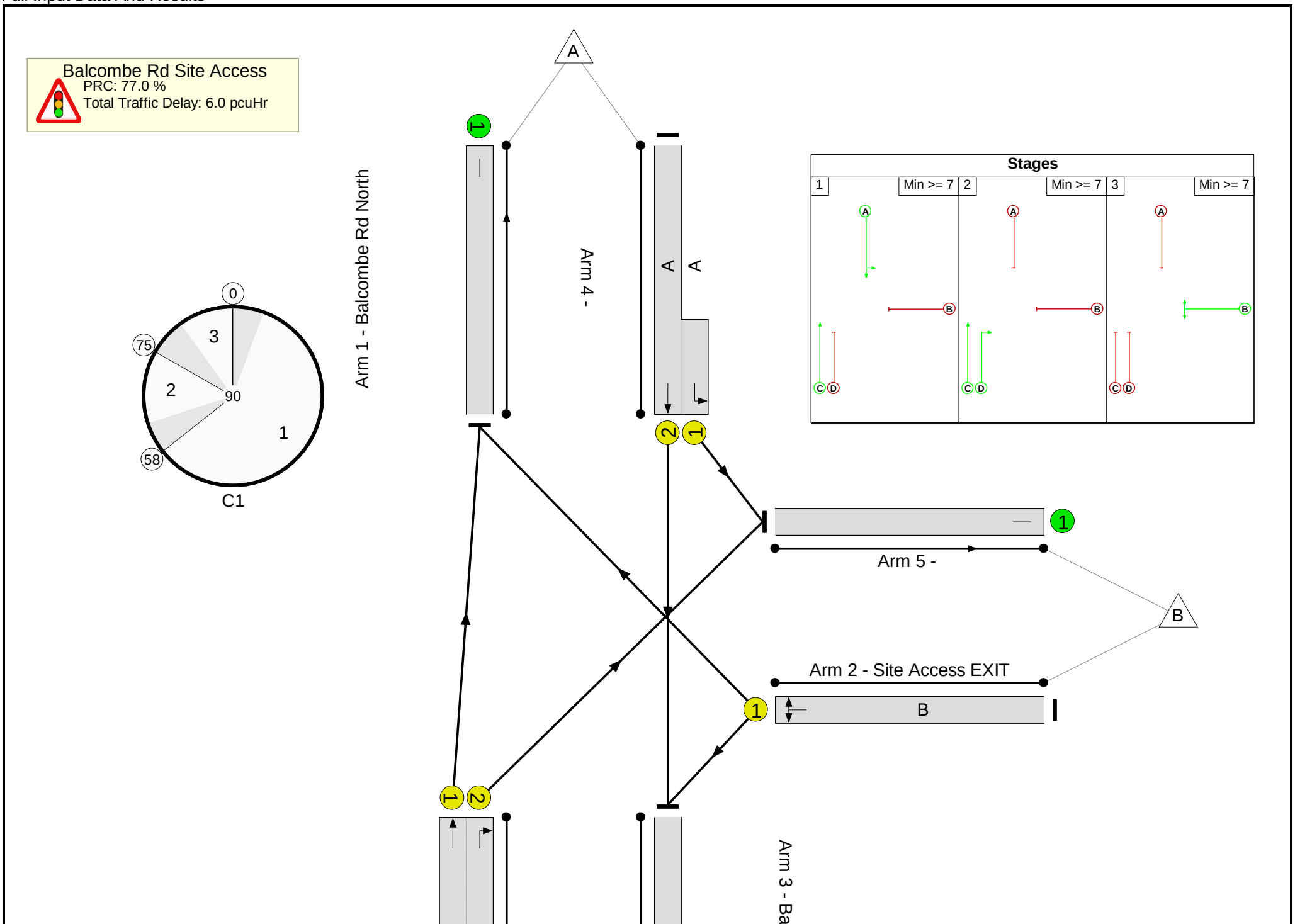
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**50.9%**
Balcombe Rd Site Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**50.9%**
1/2+1/1	Balcombe Rd North Left Ahead	U	N/A	N/A	A		1	53	-	629	2055:1725	1127+110	50.9 : 50.9%
2/1	Site Access EXIT Right Left	U	N/A	N/A	B		1	9	-	89	1746	194	45.9%
3/1+3/2	Balcombe Rd South Ahead Right	U	N/A	N/A	C D		1	70:12	-	809	1975:1856	1374+268	49.3 : 49.3%
4/1		U	N/A	N/A	-		-	-	-	704	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	188	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	635	Inf	Inf	0.0%

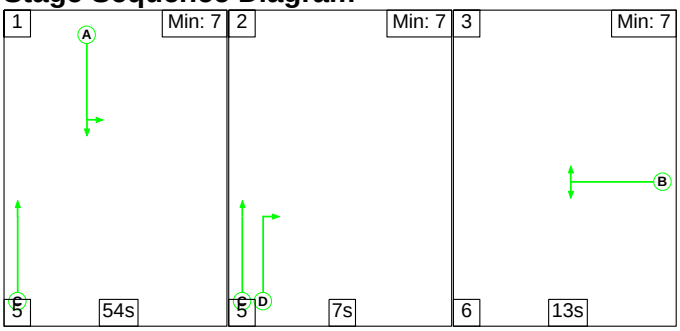
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**4.5**	**1.4**	**0.0**	**6.0**	**-**	**-**	**-**	**-**
Balcombe Rd Site Access	**-**	**-**	**0**	**0**	**0**	**4.5**	**1.4**	**0.0**	**6.0**	**-**	**-**	**-**	**-**
1/2+1/1	629	629	-	-	-	1.7	0.5	-	2.2	12.9	8.2	0.5	8.7
2/1	89	89	-	-	-	0.9	0.4	-	1.3	54.5	2.1	0.4	2.5
3/1+3/2	809	809	-	-	-	1.9	0.5	-	2.4	10.5	5.3	0.5	5.8
4/1	704	704	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	188	188	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	635	635	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 77.0 Total Delay for Signalled Lanes (pcuHr): 5.95 Cycle Time (s): 90
PRC Over All Lanes (%): 77.0 Total Delay Over All Lanes(pcuHr): 5.95

Full Input Data And Results

Scenario 2: 'PM Peak' (FG2: 'PM Peak', Plan 1: 'Network Control Plan 1')

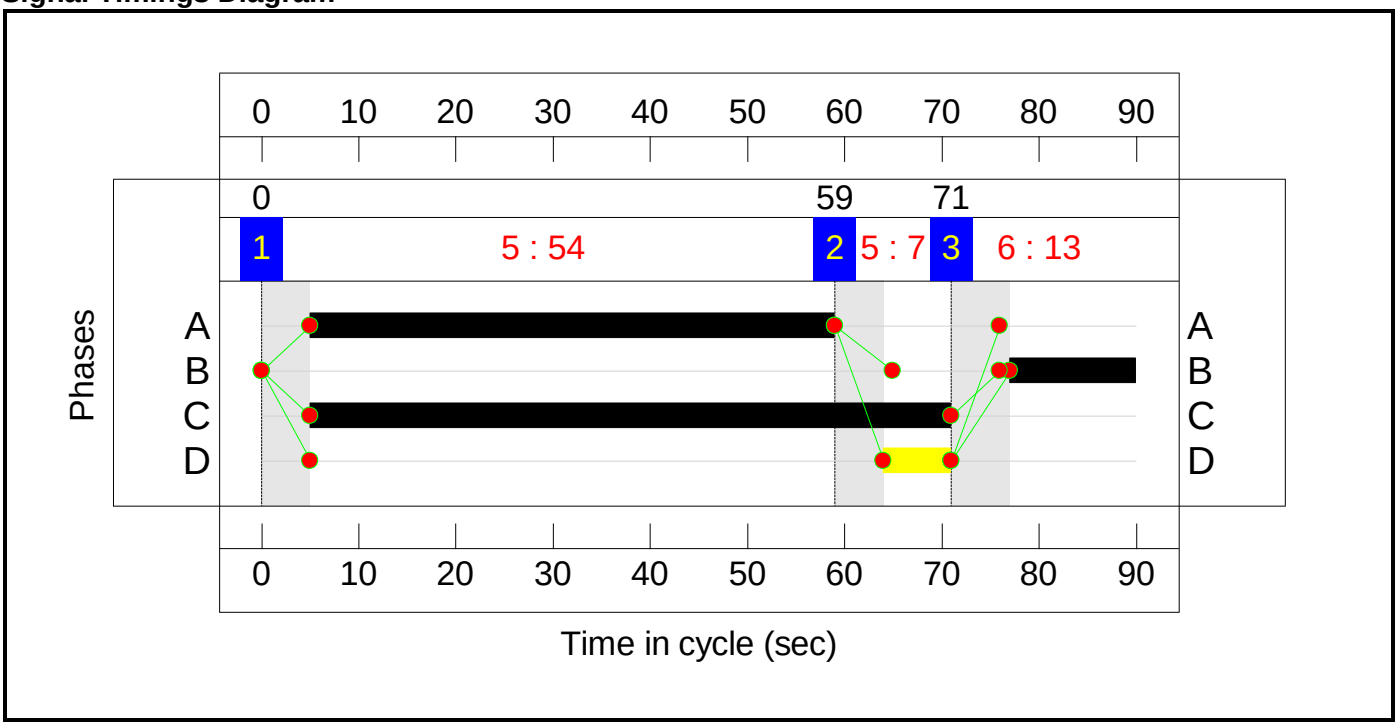
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	54	7	13
Change Point	0	59	71

Signal Timings Diagram

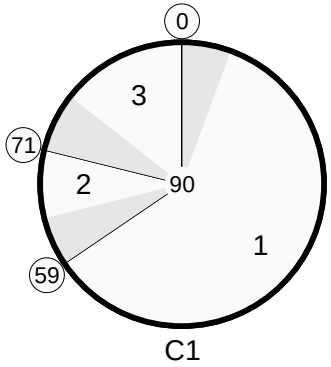


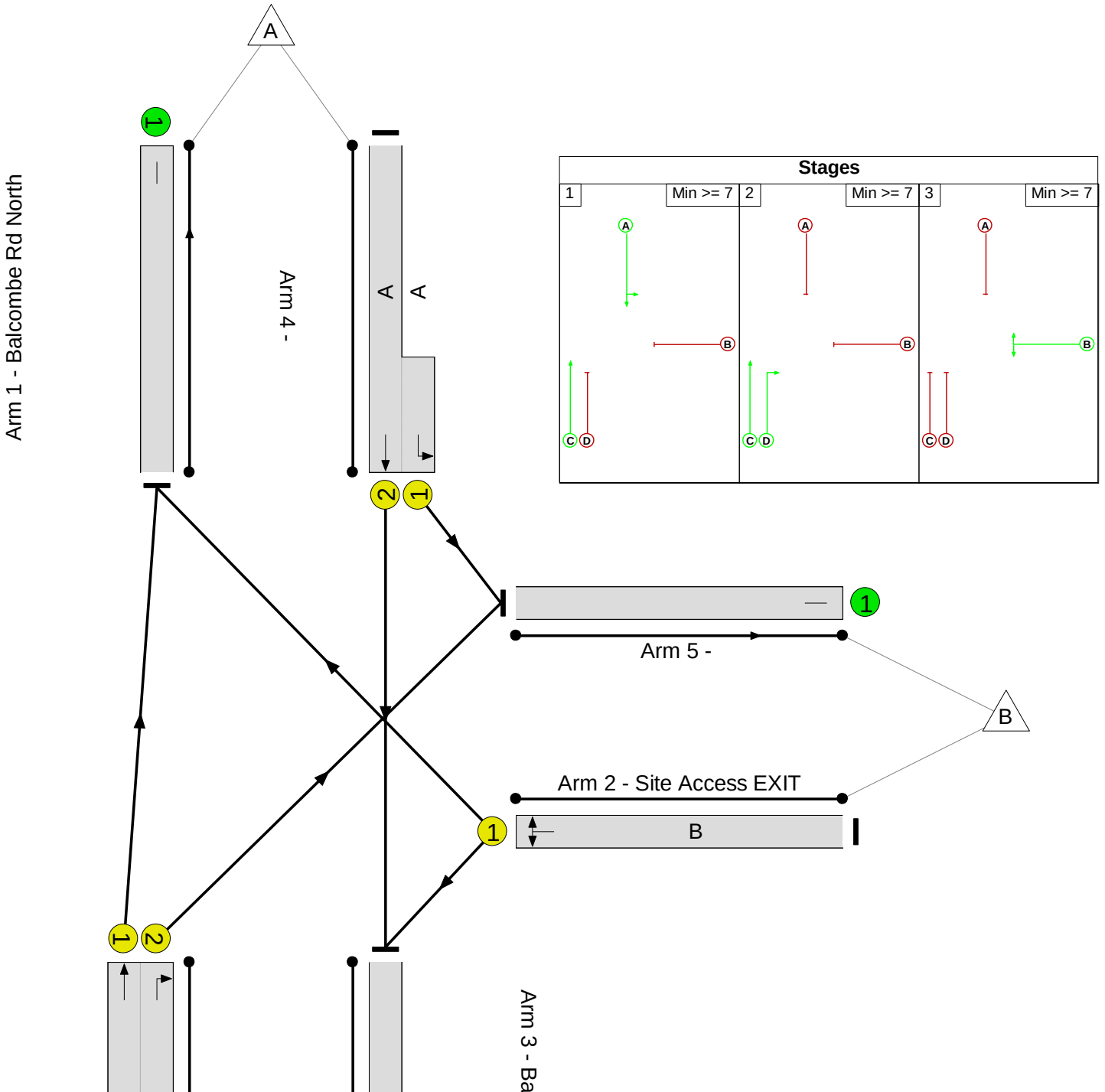
Full Input Data And Results

Network Layout Diagram

Full Input Data And Results

Balcombe Rd Site Access
PRC: 49.7 %
Total Traffic Delay: 7.7 pcuHr





Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**60.1%**
Balcombe Rd Site Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**60.1%**
1/2+1/1	Balcombe Rd North Left Ahead	U	N/A	N/A	A		1	54	-	755	2055:1725	1220+37	60.1 : 60.1%
2/1	Site Access EXIT Right Left	U	N/A	N/A	B		1	13	-	162	1746	272	59.6%
3/1+3/2	Balcombe Rd South Ahead Right	U	N/A	N/A	C D		1	66:7	-	882	1975:1856	1413+89	58.7 : 58.7%
4/1		U	N/A	N/A	-		-	-	-	879	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	74	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	846	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**5.5**	**2.2**	**0.0**	**7.7**	**-**	**-**	**-**	**-**
Balcombe Rd Site Access	**-**	**-**	**0**	**0**	**0**	**5.5**	**2.2**	**0.0**	**7.7**	**-**	**-**	**-**	**-**
1/2+1/1	755	755	-	-	-	2.2	0.8	-	3.0	14.2	11.2	0.8	11.9
2/1	162	162	-	-	-	1.6	0.7	-	2.3	51.6	3.7	0.7	4.5
3/1+3/2	882	882	-	-	-	1.7	0.7	-	2.4	9.9	9.0	0.7	9.7
4/1	879	879	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	74	74	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	846	846	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 49.7 Total Delay for Signalled Lanes (pcuHr): 7.73 Cycle Time (s): 90
PRC Over All Lanes (%): 49.7 Total Delay Over All Lanes(pcuHr): 7.73

Appendix 5. Ecology Note Prepared by GE

Fernlands, Gatwick Green, Fernhill Road, West Sussex

Technical Note - Ecology

June 2021

A report on behalf of WT Lamb, Staminier and the Elliot Family

Ref: 1282-ETN-FM

www.ge-consulting.co.uk - 01647 253652 - info@ge-consulting.co.uk

Site Details

Site Name	Fernlands
Site Location	Gatwick Green, Fernhill Road, West Sussex
Central OS Grid Reference	TQ 296 413
Client	WT Lamb, Staminier and the Elliot Family

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	25 June 2021
Summary of Changes	N/A
Revised By	N/A
Approved By	N/A

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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 WT Lamb, Staminier and the Elliot Family 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.

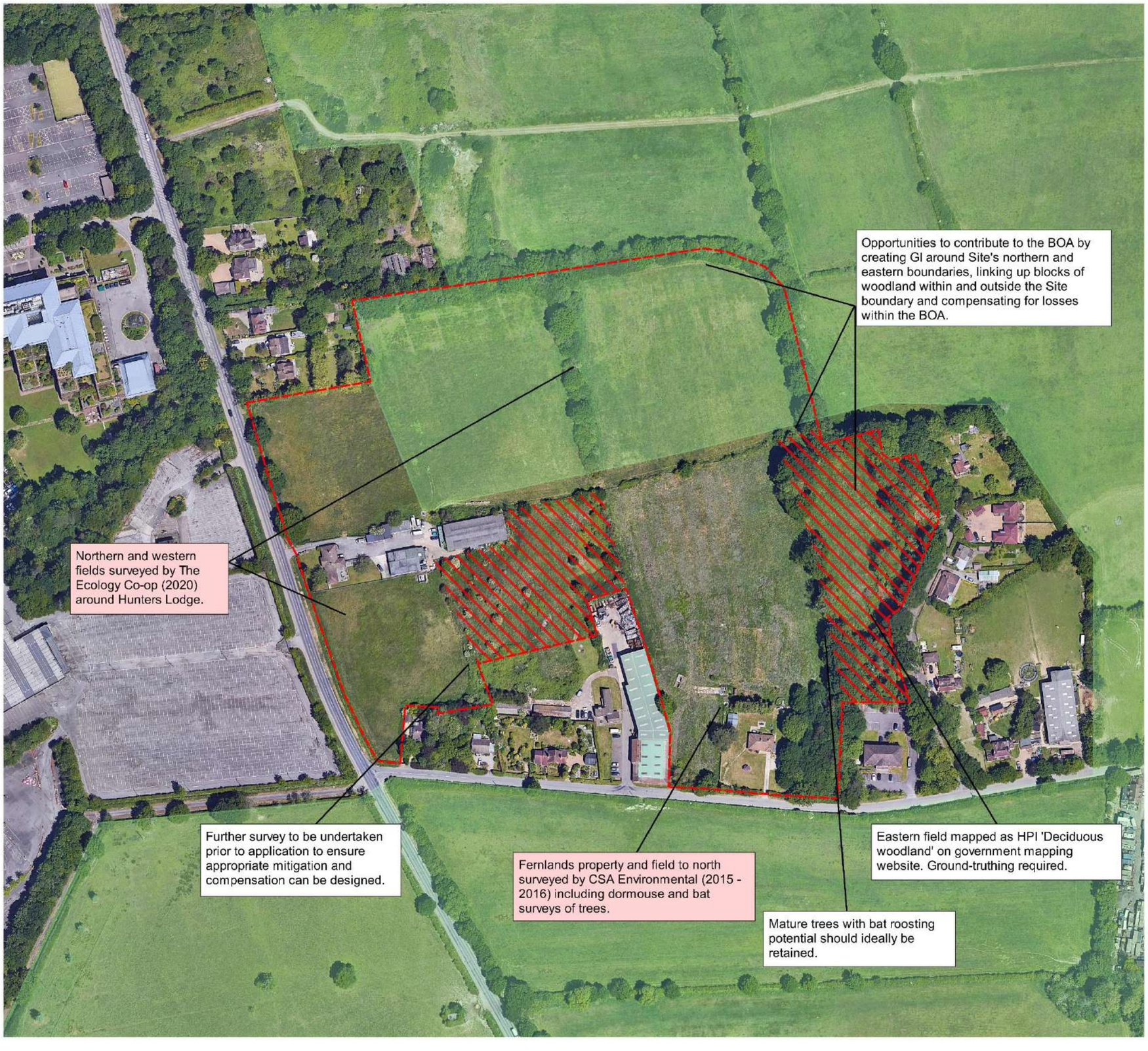
CSA Environmental (2017) *Former Fernlands Nursery, Fernhill Road, Horley – Ecological Impact Assessment.* Report ref: CSA/2776/05.

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

Figure 1:
Ecology Technical Note Plan

Project:
Fernlands, Gatwick Green

Client:
WT Lamb, Staminier and the Elliot Family

Date:
25/6/2021

Drawn:
FM

Ref:
1282-ETN-F1

Revision:
1

ge consulting
ECOLOGY
ARBORICULTURE
LAND MANAGEMENT

N

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;

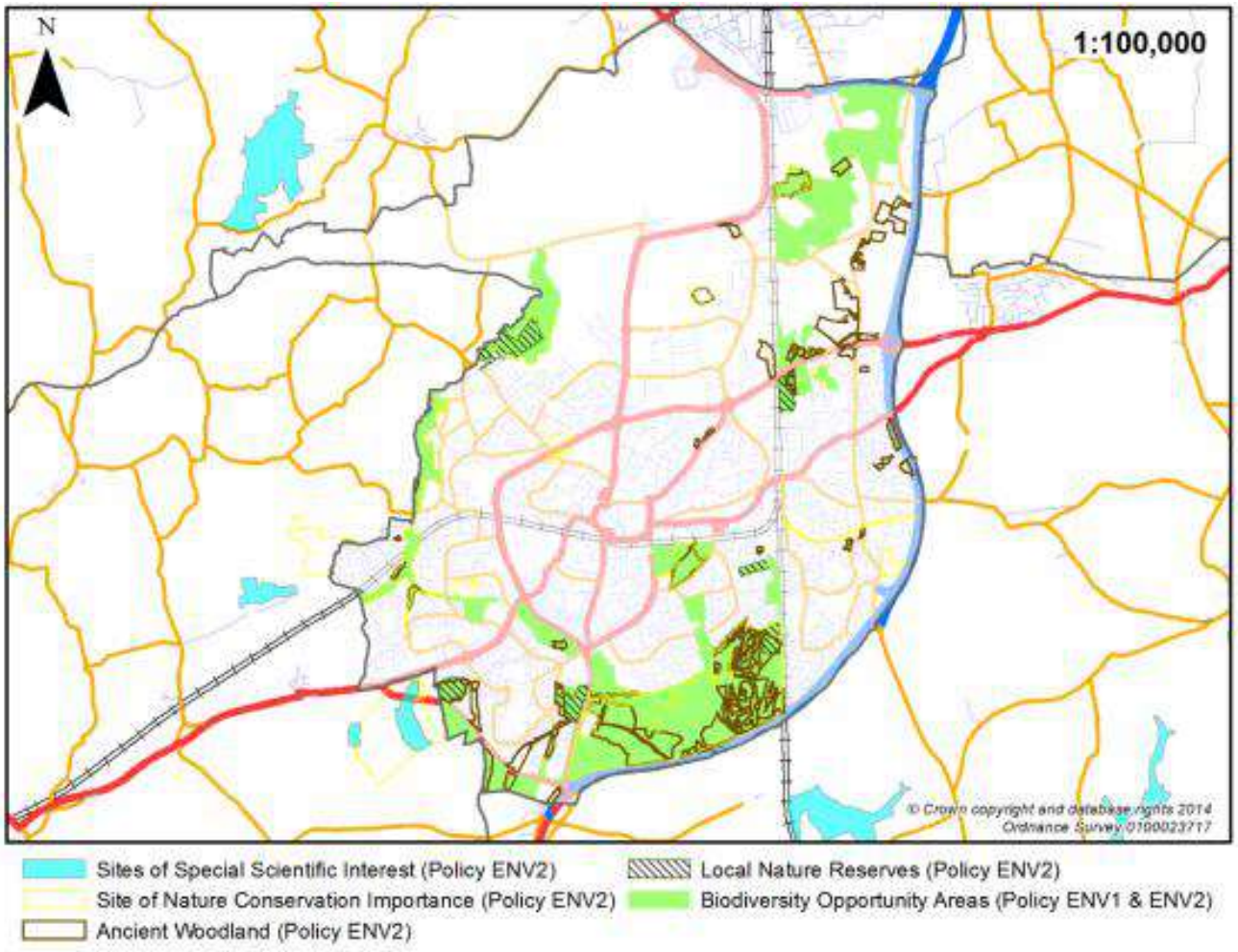
e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such 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)

MAGiC **Magic Map**

Legend

Priority Habitat Inventory - Deciduous Woodland (England)

0 0.15 0.3
km

Projection = OSGB36
xmin = 528800
ymin = 141100
xmax = 530600
ymax = 141900

Map produced by MAGIC on 16 March, 2021.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

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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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.

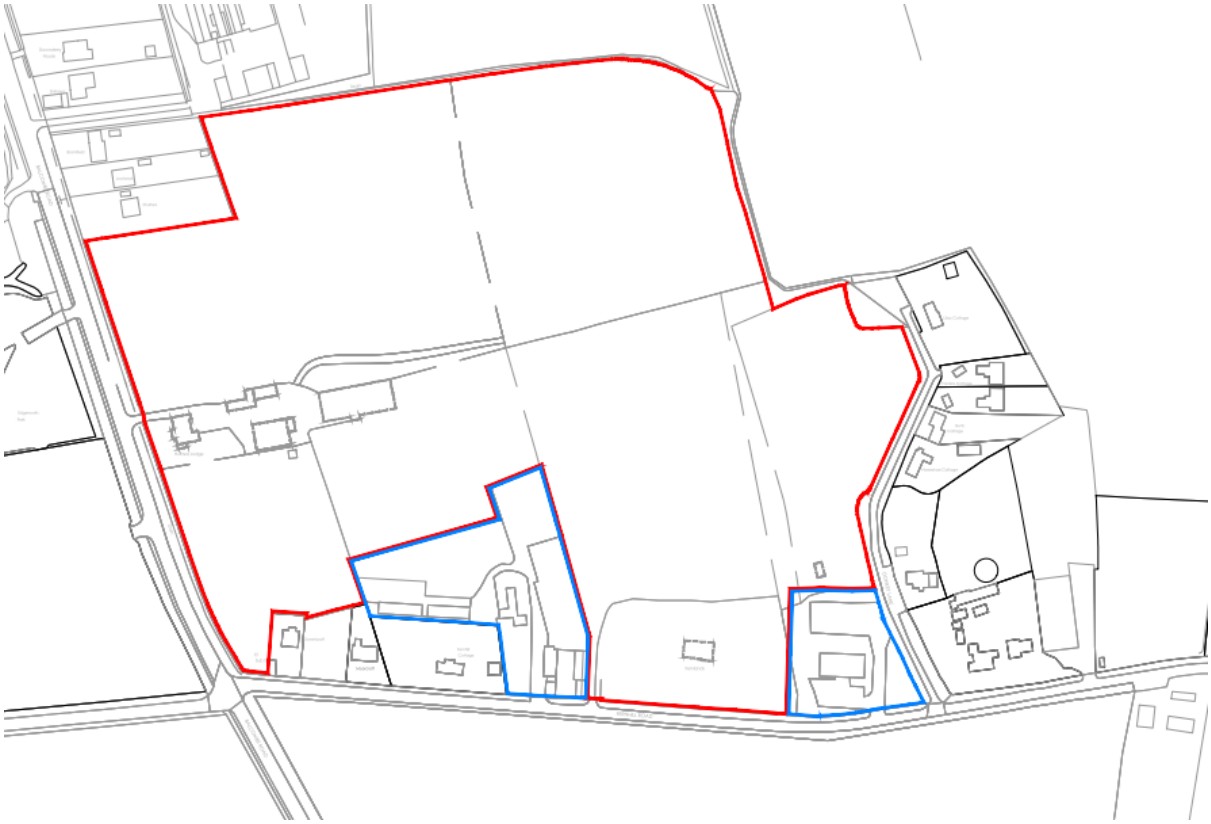

Figure 1 – Site Location

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

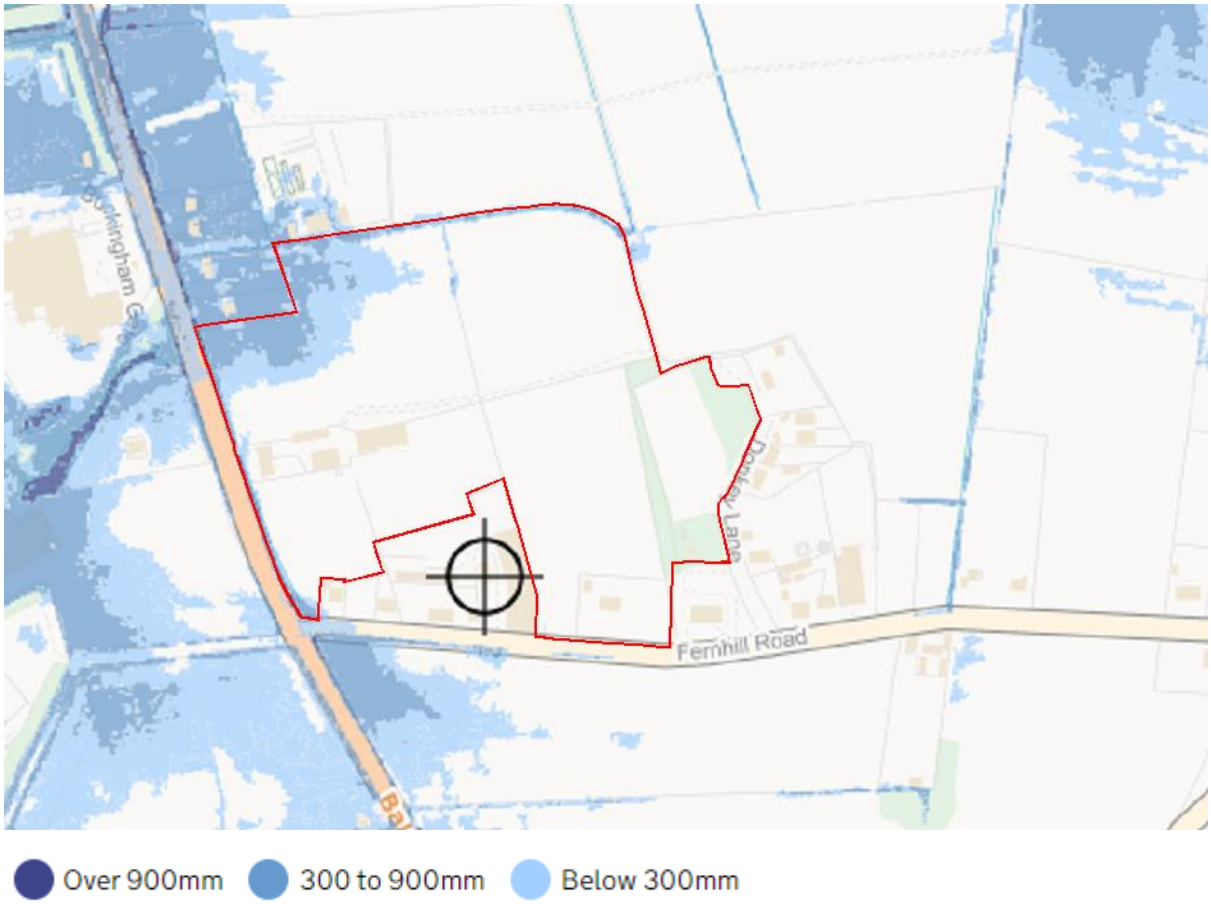

Figure 4 – Surface Water Flood Depths from Gov.UK

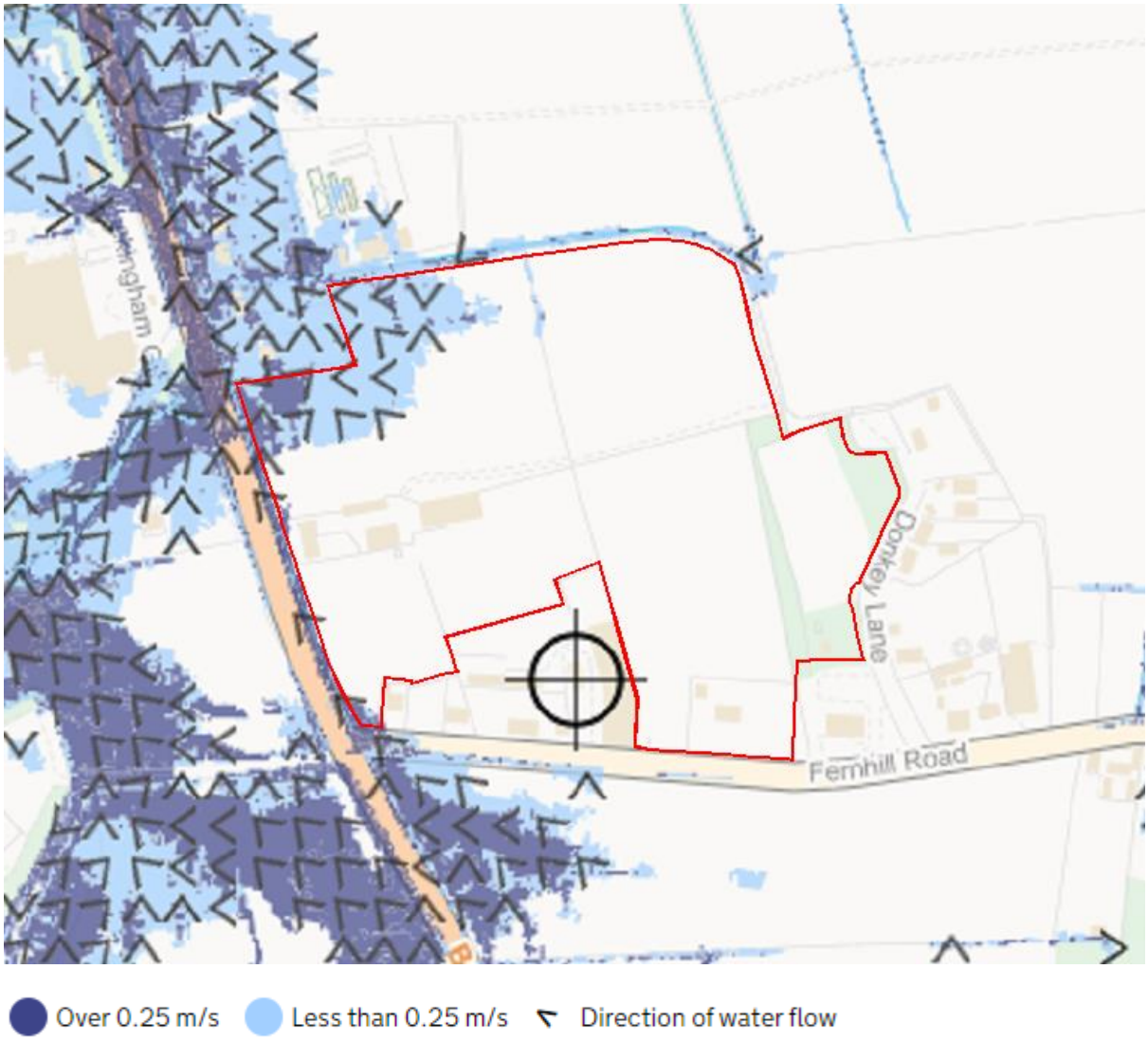

Figure 5 – Surface Water Flood Velocities from Gov.UK

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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