

Cambridge North Masterplan

Masterplan & Design
- Proof of Evidence
SUMMARY

APP/W0530/W/23/3315611

acme

*Friedrich Ludewig - Dip Arch, RIAI
9th May 2023*

1.0 / Qualification and Experience

- 1.1 My name is Friedrich Ludewig. I am a registered architect (Berlin BE-13159) and founding director of ACME, an international design practice based in London, Berlin and Madrid.

- 1.2 I have extensive personal experience in masterplanning across complex scales and continents, often involving highly significant historic townscapes.

- 1.3 I have worked on the Cambridge North project with Brookgate since 2019, appointed as masterplanner for the entire site and as architect for 14 buildings in the masterplan.

1.4 Declaration of Truth

I confirm that I have made clear which facts and matters referred to in this Proof of Evidence are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

Signed:



Friedrich Ludewig

9th May 2023

2.0 / My Evidence

2.1 The Appeal Site is an urban brownfield location with excellent new transport infrastructure, designated in policy as a major new employment-led expansion of Cambridge. In my opinion, the proposals for the Appeal Site are embedded in a resilient, long-term masterplan vision for the wider site, and well considered in their use, density, configuration and townscape impact.

I will argue that the design of the Appeal Site has developed in close consultation with the Local Planning Authority, and has incorporated a significant quantum of design change in response to the feedback received.

2.2 I will argue that the townscape impact of the masterplan as a whole has been considered under its three constituting aspects

1. It is of a very high quality and would create an excellent new place within the city of Cambridge.
2. It has been designed to create good new townscape, including a carefully-considered new eastern edge to this part of the city, and interesting high quality interfaces to the south, north and west.
3. It is in character with the townscape of Cambridge, and builds on the spatial qualities, materiality and ethos of the city to create a vibrant new quarter.

I will therefore argue that the proposed mix, its visual appearance and the configuration of the build form & open space has been designed with heights, density and distribution of uses consistent with best urban design practice, supported by precedent studies.

Lastly, I will argue in review of individual areas of the Masterplan that the configuration of hard and green open spaces and residential spaces creates a rich tapestry of character areas, diverse in play and leisure opportunities, rich in wildlife and habitats, and well considered in its residential configuration. In my professional opinion, the scheme will become a beautiful, sustainable new quarter for Cambridge that will enable wider development around it and deliver much needed spaces for science & research and housing.

3.0 / Site & Context

- 3.1 I established the Appeal Site, the wider ownership of the Appellant, and the North Cambridge context of the Appeal Site. I outline its history as brownfield land, and its relevant relationships to its neighbours as have been considered by the Appellant and discussed with the Local Planning Authority.
- 3.2 Its immediate surroundings are characterised largely by industrial and commercial developments, with infrastructure in the form of trainlines and roads providing transport connectivity but also urban severance.
- 3.3 I set out that when approaching the Appeal Site by car, train or cycle, at present there is no clear sense of place, it is a place in transition. The infrastructure constructed since 2014 illustrates the potential for the wider area to be stitched together and for the Appeal Site to become a key stepping stone for change in the wider context, to become a place that can be walked and explored as a neighbourhood.

4.0 / Brief & Consultation

- 4.1 In this section, I outline ACME's role as Masterplanner since November 2020, the brief that has been provided to ACME, and how it has evolved and changed over time.
- 4.2 Elements of the brief which are important to highlight are:
- a) the ambition of the brief to deliver high quality science and research employment floorspace not as a campus, but as part of a true mixed use community that enables connections with the existing community and the future AAP context;
 - b) to challenge parking requirements given the Site's excellent transport infrastructure;
 - c) to create a townscape that creates high quality open spaces internally and minimises impact and harm externally.
- 4.3 There is full alignment at statement and strategic objectives level between the masterplan brief and the aspirations of the AAP.

5.0 / Masterplan Vision

5.1 I explain the vision set out for North Cambridge as a new quarter of Cambridge that is healthy, inclusive, walkable and low-carbon with a vibrant mix of science, workplaces, homes, services and social spaces. We aspire for the Appeal Site to become a stepping stone for the wider regeneration of North-East Cambridge, creating a thriving community in the first phase but incorporating the connections indicated in the AAP vision to become part of a much larger community over the course of time.

The Key design principles are:

- Excellence in Science.
- A great place to stay.
- A place embracing the future of transport.
- A fitting addition to the visual townscape of Cambridge in the Cam River valley.
- Ready for Zero Carbon.
- The centre of a new neighbourhood.
- A Transformational Scheme.

5.2 In order to successfully deliver on its aspirations, the masterplan has been mindful of the significant constraints that require careful consideration.

5.3 Careful modelling has been undertaken to understand the constraints imposed upon the Site by long-distance views from the context, and to understand where harm may arise, and how it can be mitigated. Visibility cannot always be equated with harm, and it is inevitable that the development of previously vacant brownfield land in a very flat visual landscape will likely be partially visible. How this impact can best be articulated, and how to define the balance

between beneficial impact and harmful impact has been informed by Townscape assessments from the earliest stages of masterplan thinking. Prominent new buildings, if well designed, can result in positive landscape and visual effect, and care has been taken in the establishment of design guidelines and principles to create a well-designed scheme fit for such purpose. More detailed assessments are provided for the Eastern and Western Edge of the development, explaining the townscape approach in these more sensitive areas in detail.

5.4 An innovative approach to water management is envisaged both for supply and discharge.

5.5 Given the uncertainty of the timeframe for the relocation of the sewage works, the Masterplan for the Appeal Site is a resilient vision that anticipates and enables future development, assuming the sewage works move by 2027, but also allow for alternative long-term scenarios for the next phase in the North of the Appeal Site with retained sewage works.

5.6 I explain how the Design Team have defined the overarching Design Principles for the Appeal Site into four sets of Principles, which have informed the design of the masterplan and provides the framework for all architectural design of plots.

The four sets of principles are:

- Urban Design Principles (UDP)
- Architectural Design Principles - Commercial (ADPC)
- Architectural Design Principles - Residential (ADPR)
- Sustainability Design Principles (SDP)

- 5.7 In conclusion, the Masterplan Principles have emerged from a long series of planning and design workshops. Both the Appellant's Masterplanning design team and the Local Authorities NEC AAP team have prepared extensive studies of precedents and comparison studies to illustrate what successful masterplanning and place making can look like. The Design Principles seek to distil the learnings from this research into a set of parameters that define key qualities while allowing for future change and evolution.
- 5.8 The Masterplan Design Principles are a robust set of parameters that enshrine important qualities, while allowing for emerging detailed designs to adapt, as the context of the Appeal Site begins to materialise.

6.0 / Masterplan Proposal

- 6.1 In this section, I set out the proposed masterplan of the Appeal Site in detail, setting out its character areas, key streets and open spaces, and their intended use. I set out how residential and employment uses have been distributed across the Site, to achieve a balanced masterplan with strong character areas and how the ground floor has been activated with complementary uses to support and inform these characters. Milton Avenue and Station Row, the main north-south routes, define three Urban Blocks, which are described in detail.
- 6.2 I will set out my professional opinion that train station and high quality transport nodes are the best possible, sustainable location for employment and housing to minimise car usage. In review of the overall scale of the development, I conclude that the overall density proposed is comparable to other schemes of similar nature, and is appropriate for a new urban quarter on brownfield land directly adjacent to a train station in the Cam River Valley.
- 6.3 The masterplan strikes a careful balance in defining density with a tight set of rules that ensure the scheme delivers beautiful and sustainable place-making and minimises townscape harm.
- 6.4 Given the flat geography of Cambridge and the Appeal Site, all development of any significance is visible. Good design is thus of clear townscape significance to ensure development has a positive impact on long distance views, and creates an attractive urban edge of Cambridge when seen from the Cam Valley.
- 6.5 I review the townscape appearance of Cambridge historically, to illustrate the prevailing character of the city in the landscape and set the Appeal Site into context. Cambridge is a city defined by its natural fen landscape context. The city's origins are closely linked to the river Cam. The river formed a natural linear edge to the city, and the city responded by building linear structures along this edge, which became the dominant appearance of the city when seen from further afar.
- 6.6 I outline the appearance of the Appeal Site in the context of the draft AAP heights anticipated for the Site and the wider core site. I argue that the Appeal Site heights and massing approach is in line with the wider strategy developed by the Local Planning Authority, and that the future delivery of up to 30,000 new homes in the NECCAP area will go hand in hand with significant development height and massing. I conclude that height and massing proposed for the Appeal Site must be considered on its own and within the context of the potential future NECAAP massing.
- 6.7 I outline the detailed work undertaken in regards to Townscape and LVIA, and the design solutions adopted in response in the masterplan and in individual buildings. Following a long iterative process, the proposed buildings are set in a range of heights from 4-7 floors, mediated by setbacks, with street widths of 18m to 26m for primary routes and 12m for laneways. The height concept for the Appeal Site defines two high points at the centre of the Site, clustered around Cambridge Square (S1/S2 - existing) and Chesterton Square (S8/S9).

- 6.8 Heights taper down from these high points towards the edges, to create articulation and variation in the long distance views and create a varied streetscape at local scale. In order to give all the buildings articulated roofscapes and prevent the buildings from creating an overtly long, blocky appearance in long distance views, which was considered harmful by the Local Planning Authority, Masterplan design guidelines for Commercial and Residential buildings were devised, mandating how masterplan building heights must be articulated to achieve a successful townscape and appearance across scales.
- 6.9 Through an iterative process we have defined heights of 14m to 22.1m for the buildings along the train tracks, heights of 14.5 to 31m for the buildings along the busway, and 21m to 26m in the centre of the site. Masterplan Design Principles provide principles that define how these minimum and maximum heights must be deployed to achieve a townscape that feels 'of Cambridge' and minimise harm caused by new buildings appearing incongruous and out of character with the wider townscape context.
- 6.10 The Site is invisible from the centre of Cambridge. The site is visible from a number of viewpoints within the landscape that affect the perception of Cambridge as an urban form within open landscape, which have been carefully assessed as visible in the townscape evidence. It is my professional opinion that the heights and urban silhouette as illustrated in the application creates a varied townscape that successfully modulates large buildings into a varied urban experience at street level. I consider the variations in heights and stepping of massing to be successful to modulate the massing and create a streetscape that feels human and comfortable, and in keeping with the urban character of Cambridge. Ever since the construction of the first significant colleges in Cambridge, the silhouette of the city has been characterised by empty foregrounds defined by the River Cam, with a clearly defined urban edge consisting of long horizontal buildings appearing behind it. Cambridge North is a significant new extension of Cambridge. It will and it should have a presence within the urban silhouette for the city. Being visible does not equate with harm. It should not be judged on its 'invisibility', but the quality of the townscape. Well designed buildings can have a positive landscape and visual effect and great care has been taken to create design guidelines and principles that will bring about good design, benefiting the landscape and appearance of the scheme.
- 6.11 As the Application is the first part of a wider regeneration, careful consideration must be given to the concept of 'blending in'. Blending in becomes hard to define, or use as a design yardstick in areas where there is a very diverse context, ranging from floodplains to caravan parks to allotments to business parks and industrial batching facilities.
- 6.12 The historic city context of Cambridge itself is a clear historic precedent of a city as a series of long horizontal structures, clearly visible from afar. It is my professional opinion that a significant new urban quarter of Cambridge should not 'blend into' the neighbouring caravan park, allotments or NR maintenance yard. It should stand as the beginning of a proud new city quarter. An extension for Cambridge through a whole new city quarter as envisaged in the AAP should be

done with careful consideration but also with confidence, in the spirit of the traditional Cambridge townscape, which never sought to disappear, but created a varied set of facades defining a clear edge of the city to come.

6.13 The Eastern Edge of the Appeal Site will be formed through a group of buildings carefully composed to create a varied edge to the development. By its nature as a development against train tracks, the edge will appear linear when seen from a long way away. This is not unique to the Appeal Site, but needs to be seen in the context of the wider edge eventually anticipated in the Draft AAP, and the traditional appearance of other parts of Cambridge, including the historic centre, which by its nature as a city on the edge of a river, will appear linear when seen from long distance. In my professional opinion, the appearance of the development on its eastern edge is appropriate in scale, composition and appearance, and befitting the appearance of a new urban neighbourhood in Cambridge.

6.14 The Western Edge of the Appeal Site will be formed through a group of buildings carefully composed to create a varied edge to the development. The proposed buildings are low to mid-rise, located at least 80m away from the next habitable dwelling, buffered by extensive existing vegetation and proposed new vegetation on the Appeal Site. The western edge does not visually appear in any important local views. In my professional opinion, the appearance of the development on its western edge is appropriate in scale, composition and appearance, and befitting the appearance of a new urban neighbourhood in Cambridge.

6.15 The urban and architectural identity of Cambridge can be recognized in a number of scales, from the urban scale of the city in the fen landscape to its unique college typologies and its emphasis on strong horizontal facade articulation. The material use of Cambridge is characteristic and consistent, with a limited palette of local stone, brick and timber. In line with the masterplan design principles, the scheme has reflected Cambridge street scale and proportions in its urban design, with a variety of public space ranging from grand, semi public, to informal, but with a sense of overall coherence. The scheme has incorporated Cambridge materiality and facade emphasis in its building blocks, to create a new extension of Cambridge that feels grounded in its architectural context.

6.16 The Masterplan has been developed as a wider masterplan for the entire site, to ensure it is a comprehensive development proposition and anticipates, enables and is complementary to the wider AAP. The Application brings forward the first phase of the masterplan, and preserves the ability for later phases to adjust to the evolving Sewage works and AAP development.

6.17 Proposals have been included as part of the Application to illustrate how the wider part of the site north of the current Planning Application can come forward once the Sewage works are relocating, which will enable parts of the site further north to have residential uses.

- 6.18 Alternative proposals have been included if the Sewage works do not relocate, and the Odour Contour maps thus remain in place, indicating now the wider part of the site north of the current Planning Application can come forward as an employment-led development.
- 6.19 The development of the Appeal Site will enable other developments to come forward. The development vision is complementary to the Council's evolving AAP, and will not prejudice the NECAAP or other schemes in the area from coming forward. The development will bring about transformational change that will benefit not only the local area and Cambridge but support broader strategic national policy objectives as well.

7.0 / Building Blocks

- 7.1 In my last part of my evidence, I set out the characteristics of all individual streets, open spaces and buildings in the Appeal Site masterplan except for Buildings S3, S5 and S6, which are covered by Greg Willis.
- 7.2 In regards to buildings S11 to S21, I will set out how the Outline Parameters for the site allow for a varied set of residential buildings to be delivered on this site. The Guidelines are flexible enough to preserve a large degree of flexibility for these buildings to evolve in conversation with the Planning Authority in the future to address further questions of design, materiality and detail. The residential proposals can deliver a balanced quantum of types and sizes, to ensure this is a residential development attracting a diverse group of residents. This has been achieved through provision of affordable housing, housing for sale and housing for rent, with a wide range of unit sized and typologies, including apartments as well as duplex units with private garden spaces at ground and first floor.
- 7.3 The illustrative unit mix provides a broad range of unit types, catering for affordable housing, Built-to-Rent units as well as private for sale units. It is the shared ambition by the Appellant and the Planning Authority to find the optimum use of the site for residential use, and to deliver the highest possible housing standard. One of the key considerations is the quantum of single aspect versus double aspect units in any development.
- 7.4 We have reviewed the Appeal Site proposals against Greater London Authority guidance and precedents as the Local Planning Authority does not have guidance on this matter. The illustrative plans for the Appeal Site show a ratio of 25% single aspect dwellings, with 5% single aspect north-west facing units. None of the north-west facing units are allocated to affordable housing. I consider these ratios to be an acceptable quantum of single aspect units that compares well to other schemes considered exemplary.
- 7.5 The plans as provided are illustrative, and a range of other layouts can be drawn within the same outlines with more, less or no single aspect units. As defined in the London Housing Design Standards, single aspect units can be acceptable where their shortcoming on daylight and ventilation are actively mitigated through design. This can be demonstrated at the Reserved Matters stage.

8.0 / Conclusion

The proposal is driven in every aspect by “the achievement of sustainable development,” in line with the NPPF and the National Design Guide. The proposals provide an employment-led masterplan, on urban brownfield land, with outstanding transport connections, in line with LPA Policies for Sustainable Urban growth of the Cambridge Knowledge economy. The proposals carefully balance townscape considerations, identity and character to create a new extension of Cambridge that is beautiful, biodiverse, inclusive, sustainable and of its place.

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