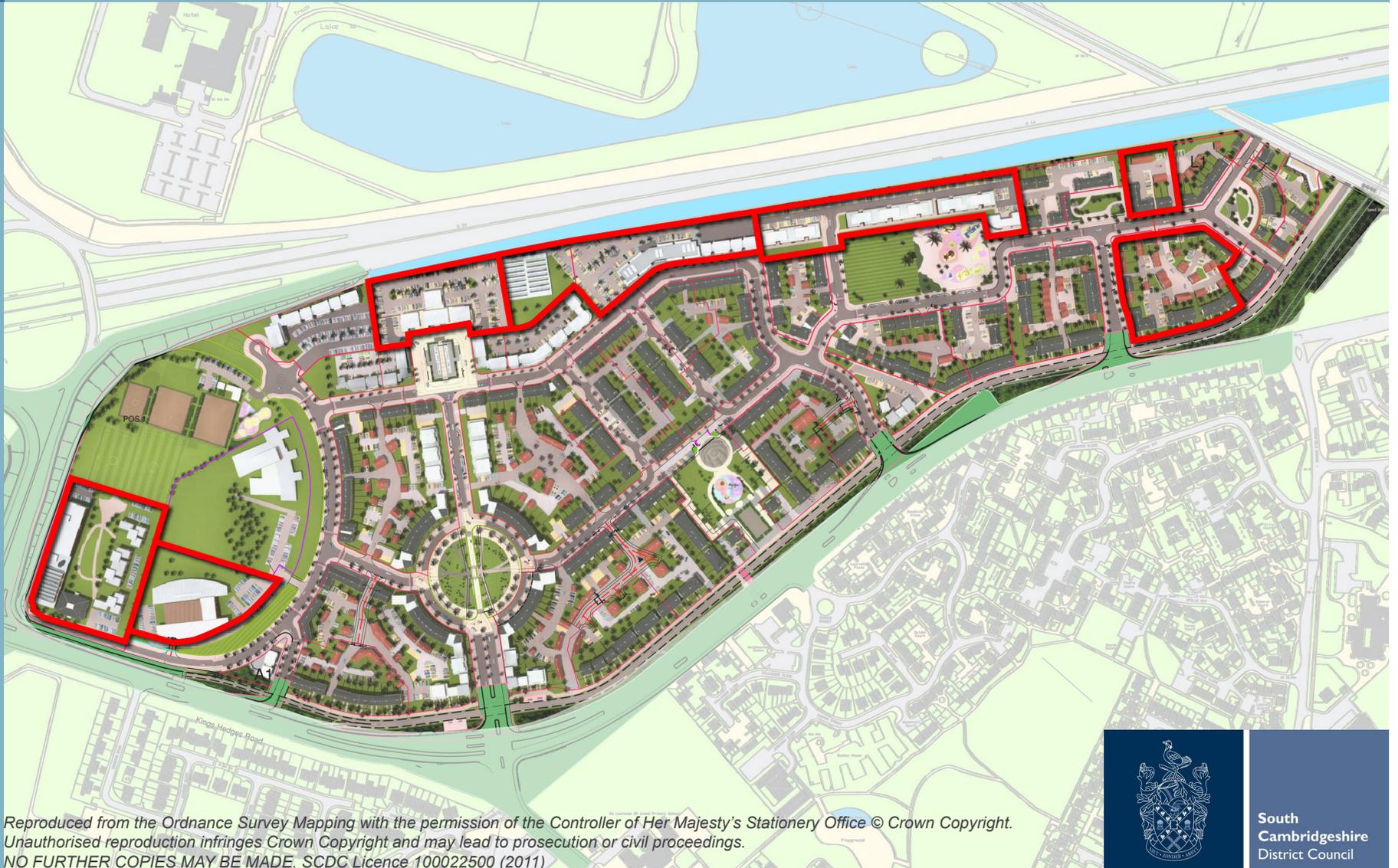


Local Development Framework Orchard Park Design Guidance

Supplementary Planning Document - Adopted March 2011



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South
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1. Introduction

1.1. This South Cambridgeshire District Council (SCDC) Supplementary Planning Document (SPD) forms part of the South Cambridgeshire Local Development Framework (LDF).

1.2. The SPD provides design guidance to support the policy for the development of an area known as Orchard Park, which is contained in the Site Specific Policies Development Plan Document (DPD), adopted in January 2010. However, it remains the developer's responsibility to demonstrate that their proposals are appropriate for the location in question, both on-site and in relation to their off-site impacts.

1.3. Those preparing planning applications for land within Orchard Park are advised to contact the Council to discuss their proposals during the preparation of the application and before it is submitted, in order to speed up the application process.

Purpose & Scope

1.4. The specific purpose of this SPD is to set out the design principles the Council expects to be addressed by developers in any planning application, to ensure the creation of a high quality desirable 'place', for the remaining undeveloped land parcels at Orchard Park. The SPD will provide a clear framework that will assist in the assessment of applications. The land parcels as referred to on the approved masterplan for Orchard Park are COM 2a, COM 2b, COM 3, COM 4 and L2, along the northern boundary adjacent to the A14, K1, at the eastern end of Orchard Park fronting onto Kings Hedges Road, and Q and HRCC, in the south-west corner of Orchard Park fronting Kings Hedges Road and Cambridge Road. Land parcels

E3, E4, G and H1, although currently vacant, are not included in this SPD as development on these land parcels is addressed in the existing guidance set out in the Arbury Camp design Guide.

1.5. The SPD provides design direction that is not land use specific and will apply to any development proposals that may come forward for these land parcels. Appropriate land uses for the remaining parcels will be determined having regard to the planning policy framework and the design principles. It is for the developer to undertake the necessary studies to adequately demonstrate that the development proposals being presented are fully appropriate for their location.

1.6. Based on the requirements of the Site Specific Policies DPD (2010) and good practice design principles the future development of the sites at Orchard Park presents an opportunity to:

- assist in meeting the demand for housing in South Cambridgeshire;
- integrate new development with the existing community and development;
- introduce sustainable design solutions to address the social, economic, transportation, construction and landscape issues pertinent to Orchard Park;
- and, create high quality development to ensure viable and vibrant buildings and spaces.

Policy Background

1.7. Orchard Park is addressed in Policy SP/1 of the Site Specific Policies DPD (2010) (as set out with its supporting text in Appendix 1). Policy SP/1 carries forward proposals from the earlier South Cambridgeshire Local Plan 2004 for a sustainable housing-led urban extension to Cambridge providing

900 dwellings, employment provision and supporting community facilities and open space.

1.8. The policy reflects the location of Orchard Park at the top of the search sequence for new housing development in South Cambridgeshire, being close to the employment, services and facilities provided by Cambridge and having high quality public transport provision, particularly once the Cambridgeshire Guided Busway opens. Resultantly the policy identifies Orchard Park as a suitable location for the location of up to 220 additional homes on sites where other non-residential uses will not, or may not, now be brought forward.

1.9. The Secretary of State has indicated the Government's intention to revoke the Regional Spatial Strategy, however they remain part of the statutory development plan until such time as they are formally abolished when the Localism Bill becomes law, assuming that is the case. The Council's Local Development Framework including the Core Strategy, 2007 and Site Specific Policies DPD 2010 are statutory documents and the Core Strategy sets the development strategy for the area and the housing target to 2016. They were independently tested through public examination and concluded to be sound as adopted, having regard to the evidence supporting them. All Councils in the Cambridge sub-region, including South Cambridgeshire, have reaffirmed their shared commitment to the development strategy for the area that underpins the LDF and was contained in the Structure Plan 2003 and carried forward to the East of England Plan to address the identified needs of the sub-region.

1.10. The Council's Core Strategy, adopted January 2007, states "taking a sustainable approach to

economic, social and environmental issues will be at the heart of the plan and will be closely related to the national strategy for sustainable development which has four objectives:

- Social progress which recognises the needs of everyone;
- Effective protection and enhancement of the environment;
- Prudent use of natural resources; and
- Maintenance of high and stable levels of economic growth and employment.”

1.11. Planning Policy Guidance 13 (PPG13) Transport was updated on 3rd January 2011, with amendments to paragraph 51 Parking Standards. PPG13 still requires parking standards to be set locally through development plans and the emphasis remains on the efficient use of land and promoting sustainable transport choices. However the change allows Councils to set appropriate standards for their area, rather than being specifically required to set a maximum standard. South Cambridgeshire District Council will, as part of the review of the Core Strategy / Development Control Policies DPD that will begin in 2011, review the standards included in the Development Control Policies DPD, and consider what types of standard, and what levels of parking, are appropriate for the district. In the meantime, Development Control Policies DPD Policy TR/2 ‘Car and Cycle Parking Standards’, (with standards set out in appendix 1), remains the adopted policy of the Council.

1.12. During the preparation of the SPD full regard has been taken to the recommendations made by the “Arbury Park Scrutiny Review Final Report October 2008”. The preparation of this SPD is in accordance with recommendation 1e of the “Arbury Park Scrutiny Review Final Report October 2008” to provide design

guidance for “design aspects not covered in the main Design Guide”.

Working in Partnership

1.13. The preparation of the Orchard Park Design Guidance SPD has been undertaken in consultation with the Council’s primary partners, the Orchard Park Community Council, who formally took on local parish responsibilities for the new community on 1st April 2009, the land owners, Gallagher Estates, Unex Holdings Limited and Cambridge City Council and with local residents. The Council intends to continue to work with its partners, generally and specifically, to facilitate the completion of the development at Orchard Park. South Cambridgeshire District Council urges developers to fully embrace the partnership approach and engage with the Council, and the Orchard Park community through the Orchard Park Community Council, from the outset of formulating development proposals.

Determination of Planning Applications

1.14. All planning applications for development proposals will be determined on their individual merits, having regard to the Council’s adopted planning policies, Supplementary Planning Documents and other material planning considerations, including traffic flows and volumes, noise and air pollution, for which assessments will be required to be submitted as part of any planning application.

2. Background

Site Location

2.1. Orchard Park, previously known as Arbury Park, forms the western part of the Cambridge Northern Fringe (CNF). Development started in 2005 and much of the site is completed and occupied. The remaining undeveloped land parcels at Orchard Park, indicated on Figure 1, lie along the northern edge of the development adjacent to the A14 dual carriage way (COM2a, COM2b/3, COM4 and L2); the south west corner land parcel bounded by Cambridge Road, Kings Hedges Road and Ring Fort Road Q and HRCC); and a large land parcel to the east bounded by Kings Hedges Road, Graham Road and Topper Street (K1).

2.2. The northern edge of Orchard Park is bounded by the A14 embankment with a noise barrier on top of it. The current noise barrier was intended to be temporary with an aspiration to replace it in the long term by commercial buildings acting as a noise barrier / screen. The building of residential developments to the eastern part of the A14 frontage and potential for further residential development instead of commercial development adjacent to the A14, means that the A14 noise barrier must remain.

2.3. The Government’s proposed A14 Ellington to Fen Ditton Improvement scheme had been identified as an opportunity to upgrade the noise barrier fence when it was being moved as part of the scheme, using developer contributions. However, the Government’s decision as a result of the Comprehensive Spending Review in autumn 2010 not to take forward the scheme in its proposed form removes an identifiable means of implementing a change in the noise barrier at the time of writing, although work is in hand to explore

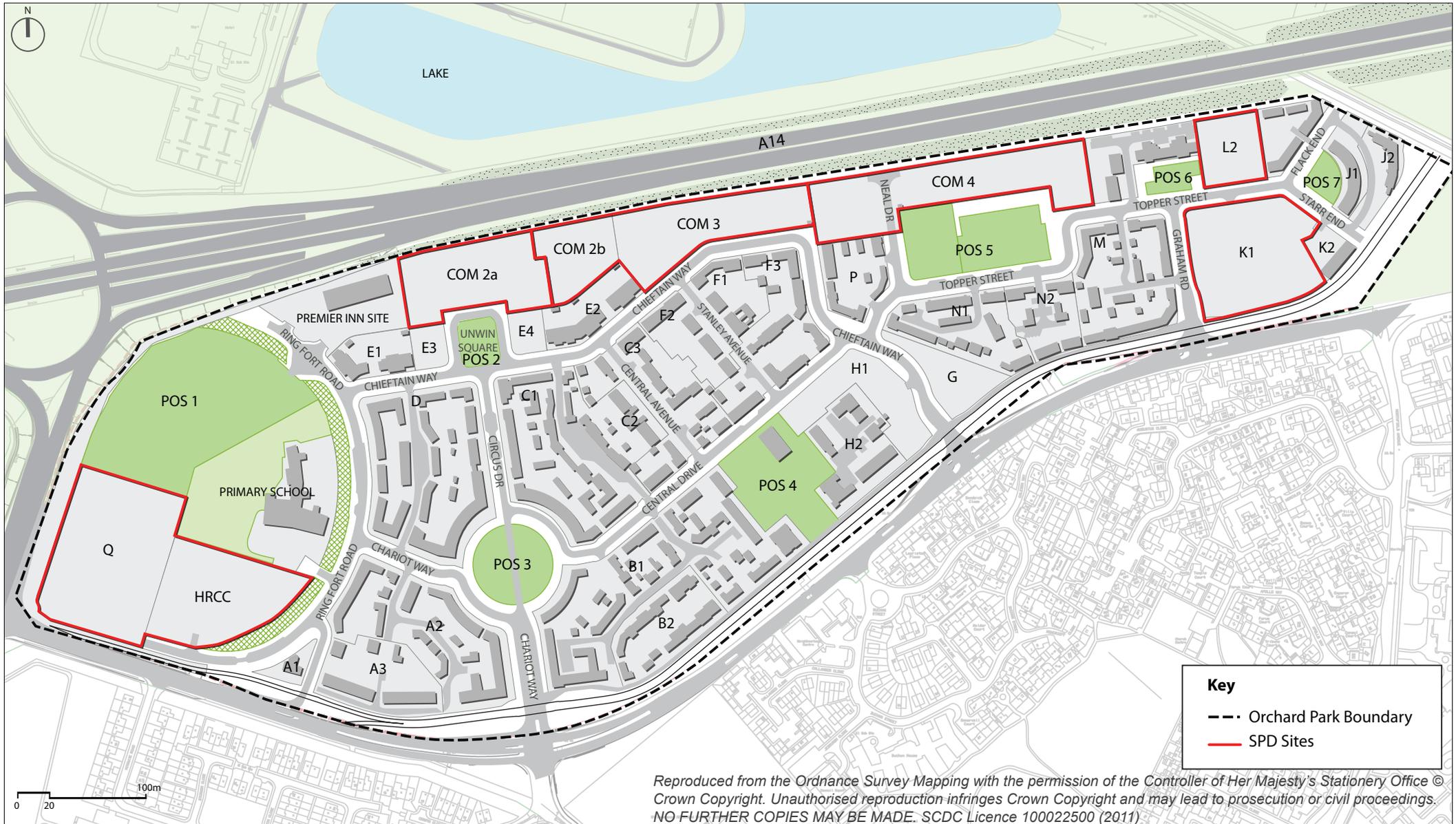


FIG 1 - LAND PARCELS

alternative measures to deal with the congestion problems on the A14. The policy objective to seek the upgrading of the noise barrier remains the policy for the barrier, with or without improvements to the A14.

Site Area

2.4. The land parcels cover an approximate area of 5.93 hectares in total, comprising of 6 land parcels:

Land parcel COM2a	- 0.73 hectares
Land parcel COM2b/3	- 1.08 hectares
Land parcel COM4	- 0.94 hectares
Land parcel L2	- 0.29 hectares
Land parcel K1	- 0.96 hectares
Land parcel Q/HRCC	- 1.93 hectares

2.5. Land parcel COM2a lies adjacent to the A14 immediately east of the Premier Inn and forms the northern edge to Unwin Square. COM2b/3, lies immediately east of COM2a, with COM3 fronting onto Chieftain Way. Land parcel COM4, lies adjacent to the A14, immediately to the east of COM3. Land parcel L2 is an undeveloped island within existing residential development further east from COM4, is also adjacent to the A14 and fronts onto Topper Street. South of L2 is land parcel K1, which is surrounded by residential development and faces the King's Hedges Road boundary, Graham Road, Topper Street and Starr End.

2.6. The south west corner site comprises land parcels Q and HRCC. It is adjacent to the Orchard Park Primary School and the Public Open Space (POS 1), which lie to the north of the site. To its south the site is bounded by the Guided Busway Route that runs parallel to King's Hedges Road and

to the east is bounded by Ring Fort Road, the main approach road to the site within which lies the Iron Age Bund adjoining the road. To the west, lies the embankment to Cambridge Road.

Site History

2.7. Land parcel COM2a was originally zoned for purely commercial uses but was granted planning permission in August 2009, for a Local Centre, comprising 10 shops with 20 residential flats above and a small area of commercial (B1) uses to the rear, adjacent the A14, planning reference S/0620/08/RM. The outline planning consent S2379/01/O required a Development Framework Plan (conditions 1 & 2), whereby the agreed details showed a mix of Commercial/Local Centre uses. Condition 28 agreed the detailed floor space. The local shops were initially proposed at the front of the site by Kings Hedges Road, but during the master plan stage this was moved into the Circus and finally at the request of Gallagher's moved to its current position at the back of the site around the open space POS/2. Its position was agreed by a planning condition (No.28) of the outline planning consent.

2.8. An application for commercial B1 uses of 4,180sqm was granted consent by planning committee in November 2009 on COM2b and COM3, reference S/0621/08/RM. Subsequently an application for an hotel was granted permission for COM3 on 29th September 2010, reference S/0428/10/F, for which work commenced on site in late 2010.

2.9. Land parcels COM4 & L2 were the subject of an application by Barratt Homes for 182 dwellings, reference S/1734/07/F. This application was dismissed on appeal in November 2008 but confirmed

the principle of residential use on these sites.

2.10. Land parcel HRCC was allocated Outline approval for a Historical Resource and Cultural Centre (HRCC) for Cambridgeshire County Council, reference S/2379/01/O. However an alternative site was found and Reserved Matters on the site were not applied for. Planning application, reference S/2379/01, submitted on 17th December 2001 proposed 4.72ha of open space distributed on the site. The development framework at this time showed 3ha at the western Circus area with 1.26ha allocated for the school (on the site of the HRCC) and 1.41ha of mixed use on the south west corner site. The Development Plan Framework, the masterplan that was approved as part of the original outline planning permission, was amended to reposition the school on part of the open space reducing this open space to 1.93ha including the archaeological mound area, thus combining this site with the originally allocated Mixed Use Land, the District Council now looks to achieve a comprehensive and attractive development on this part of the site.

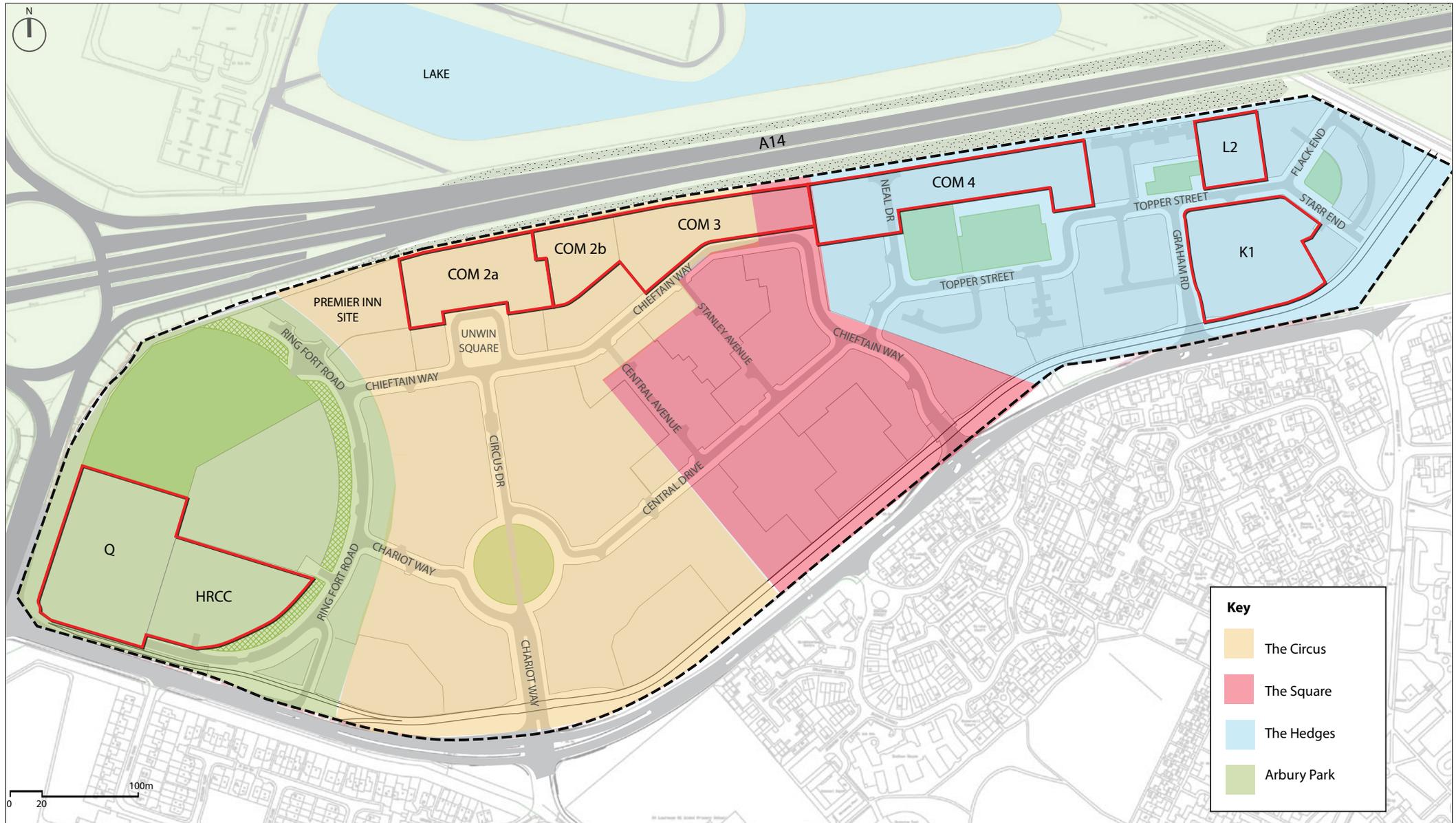


FIG 2 - CHARACTER AREAS

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3. Vision and Objectives for the SPD

Vision

3.1. The overall vision for Orchard Park was set out in the Arbury Camp Design Guide 2007, which established the structure of Orchard Park, together with establishing the character areas and the design parameters for buildings, public realm and open spaces. The vision for this SPD relates specifically to the design and appearance of the remaining vacant land parcels at Orchard Park, excluding Land Parcels G and H1, to address the changes in the context of further development since 2007, within the established masterplanned structure and hierarchy of sites at Orchard Park and the objective of achieving a sustainable housing-led mixed-use development.

3.2. The vision is for the remaining developments to contribute to making Orchard Park an attractive, vibrant and contemporary new neighbourhood for Cambridge. New development should take its inspiration from the “unique Cambridge context, by linking high quality public open spaces and buildings that are formal, with fine grain and domestic scale streets” (Arbury Camp Design Guide, 2007), in order to create opportunities for a high quality of life and living for site users.

3.3. New development should reinforce the distinct character areas established by the Arbury Camp Design Guide 2007, see Figure 2.

- The vision for Arbury Park is for a cluster of uses, with integrated facilities and amenities, designed holistically and incorporating high quality accessible open spaces and providing a ‘gateway’.
- The vision for the Circus, is the active heart of Orchard Park, centred on the avenue linking Kings

Hedges Road to Unwin Square via the Circus, with mixed-use development around Unwin Square. The formality of this route should direct the design of development along its length.

- The Square is a predominantly residential area.
- The Hedges character area comprises residential, commercial and mixed-use, oriented around open spaces. Residential development is designed around the streets and mews pattern, with a clear distinction between public and private space.

3.4. Of key importance is the creation of a place that is safe, accessible and easy to move around. The development of pedestrian and cycle connections into and through developments will encourage walking and cycling in support of a healthy lifestyle, will increase opportunities for connectivity with neighbouring developments to increase social cohesion in support of the development of the wider Orchard Park community.

3.5. Embedded within the design approach for all developments, from initial concepts through to the detailed design, should be measures to address the range of environmental sustainability issues and to address climate change to ensure the development remains viable throughout its lifetime. The strategy for sustainable development for Orchard Park includes the use of mixed-use walkable neighbourhoods, supported by appropriate and efficient residential densities, energy efficient site layout and the impact of building orientation in relation to microclimate, and access to green infrastructure. The Developer’s Sustainability Action Plan, submitted in support of the original outline planning application, provides guidance on building design and the Code for Sustainable Homes and BREEAM environmental certification schemes, renewable energy and waste. “Developers are encouraged to promote

these environmental measures and exploit their market potential and value to respond to the rising demand for sustainable residential and commercial buildings. Further advice regarding the delivery of a sustainable biodiversity and ecology can be found in the Biodiversity and Ecology Management Plan.” (Arbury Camp Design Guide, 2007). General direction on sustainability and climate change can be found in Planning Policy Statement (PPS) 1: Delivering Sustainable Development, and Planning and Climate Change – Supplement to PPS1; the Local Development Framework Core Strategy and Development control Policies Development Plan Documents and District Design Guide: High Quality and Sustainable Development in South Cambridgeshire Supplementary Planning Document.

Objectives

3.6. The primary objective for the development of Orchard Park as a whole, as set out in the policy for the new neighbourhood, is to provide a high quality sustainable housing-led mixed-use development.

3.7. New developments should reinforce the character area for Orchard Park in which it is located:

- for Arbury Park, development should be located within high quality accessible open spaces, provide an appropriate ‘gateway’ to Cambridge and Orchard Park and should integrate with existing developments;
- for the Circus, development should encompass the active heart of the new community and reflect the formality of the avenue route from Kings Hedges Road to Unwin Square via the Circus, terminating in the civic space of Unwin Square;
- the Square character area influences only

Plot COM3 and it is envisaged that the hotel under construction there, will be successfully completed; and

- for the Hedges character area, development should comprise a mix of uses oriented around open spaces; with residential development embracing the streets and mews form.

3.8. Additionally all developments should:

- embed within their design proposals the principles of sustainable design and construction and to address climate change and in so doing maximise the standards of sustainability achieved;
- from the outset, through careful site planning and the design of individual buildings, incorporate preventative measures to create a safe and hospitable environment for the site occupants in relation to the issues of noise and air quality emanating from traffic associated with the A14;
- allow for the adequate provision of high quality amenity space to serve the needs of the development, designed in a manner to reinforce the quality of public open space and play areas already established;
- complete and complement the townscape of Orchard Park;
- create strong positive closure to views along streets;
- provide strong containment of public realm areas;
- provide natural surveillance of all adjacent public realm areas;
- provide a clear delineation between public and private space;
- ensure private space is secure from unwanted access from public areas.

3.9. Developments alongside the A14 should, through careful site planning, screen the unsightly

embankment for the benefit of both individual sites and the existing developments.

4. Context & Site Appraisal

Implementation of the Masterplan

4.1. The design concept and masterplan for Orchard Park were established and published in the Arbury Camp Design Guide. In accordance with this the primary road network has been constructed, with much of the original housing proposals also constructed or under construction, together with the primary school, the community centre and the primary open spaces and play areas. One hotel has been constructed and another is currently under construction.

4.2. Photographs, Figures 3– 15, provide panoramic views of the land parcels discussed in this section.

4.3. The contextual appraisal of the land parcels identifies a number of key issues that design proposals will have to address. The key constraints and opportunities for the land parcels are illustrated on Figure 17.

Movement, Circulation & Access

4.4. The existing infrastructure in place on land parcels creates a framework for clear linkages, however appropriate access points to land parcels and pedestrian routes is considered further as part of this guidance document.

4.5. The main vehicular access to COM2a is via

Circus Drive on the approach to Unwin Square, Figure 3. This route linking to Chieftain Way provides the main access to COM2b/3, Figures 4 and 5, and the western end of COM4. Alternatively COM3 and 4 can be accessed more directly along Chieftain Way via its junction with Kings Hedges Road. Graham Road linking to Topper Street provides access to the eastern end of COM4, L2 and K1.

4.6. The main vehicular and pedestrian access to the south west corner land parcels Q & HRCC, Figures 9 to 11, is via Ring Fort Road accessed via Icen Way, for traffic travelling east bound along Kings Hedges Road, or via Chariot Way into Ring Fort Road for traffic travelling west bound along Kings Hedges Road. The existing vehicular access point for the school abuts the northern boundary of HRCC, Figure 10.

4.7. The guided bus route runs parallel to King's Hedges Road along the southern boundaries of land parcels Q/HRCC and K1.

4.8. Other routes provide permeability through blocks, especially for pedestrian and cycle connectivity to the primary public open spaces and bus stops.

Built Form & Frontage

4.9. The overall form of Orchard Park in accordance with the masterplan is of residential or mixed-use streets, squares and mews. The scale and massing of existing developments fronting the main streets and spaces, in terms of frontage treatment and building design follows the form and hierarchy set out in the Arbury Camp Design Guide. Many of the vacant land parcels front directly onto the existing road network, and the Arbury Camp Design Guide considers them



FIG 3 - PANORAMIC VIEW LAND PARCEL COM2a LOOKING WEST

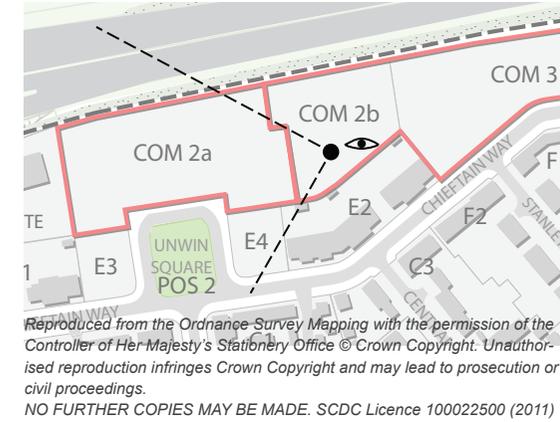


FIG 4 - PANORAMIC VIEW LAND PARCEL COM2b LOOKING WEST

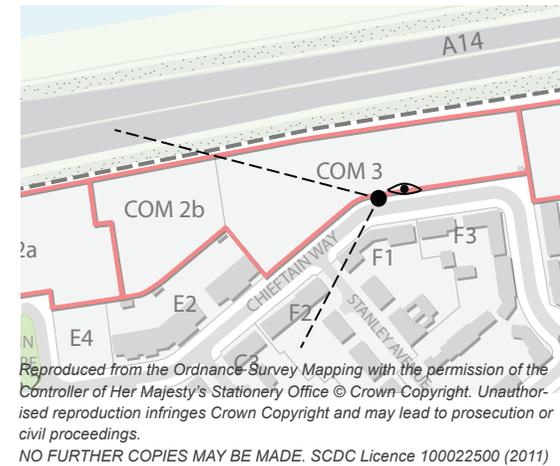
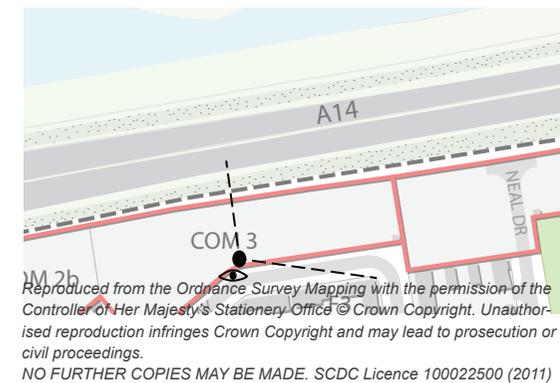


FIG 5 - PANORAMIC VIEW LAND PARCEL COM3 LOOKING EAST



a key opportunity to provide an active frontage and a positive streetscape to enclose the road and public realm network, and respond positively to the existing neighbouring residential developments.

4.10. The north boundary of land parcel HRCC is a sensitive boundary with the primary school, requiring sensitive design to maintain security of the school site and the safety and privacy of pupils, Figures 9 and 10. Plot Q has a common boundary with the large open space POS1, which currently does not have a positive neighbouring frontage that overlooks it to provide natural surveillance. The intended form and character of the Arbury Park character area has been established by the existing single storey school buildings standing in isolation in its own grounds adjacent to POS1.

Scale & Massing

4.11. To the south of the northern edge land parcels lies residential developments of domestic scale along Chieftain Way and Topper Street, Figures 3, 4 and 8. Many of those land parcels have taller properties around the perimeters of the parcels, mainly two-and-a-half or three stories with some four and two storey properties, with lower two storey properties mainly concentrated in the core of the land parcels.

4.12. To the east and west of Unwin Square four-storey residential apartments have been constructed on land parcels E1 and E2, Figure 5, with three and four-storey developments around the perimeter of the land parcels on the south side of Chieftain Way. To the south west of COM2b/3 is 4-storey residential development, Figure 4. South of the western end of COM4 are 2-3 storey buildings, Figure 6. There are higher density 4 storey residential developments to

the west of L2, and 2-3-storey development to the east, Figure 8.

4.13. The western edge of The Circus character area fronting onto Ring Fort Road is primarily three storey residential properties, with some higher and some lower, that visually contains the Arbury Park character area, Figure 11. To the north of land parcel HRCC is the single storey Orchard Park Primary School, Figure 10. Further north of which is the higher five-storey Premier Inn, Figure 3, adjacent to the western end of COM2a.

4.14. Buildings within Orchard Park fronting onto Kings Hedges Road are mainly 3 storeys scaling down to 2 storeys.

4.15. Note: Building heights for the purposes of this document assumes storey heights based on a typical residential storey of 2.70 metres and an average commercial storey height of 4m.

Existing Views & Vistas

4.16. The key view into Orchard Park is from the elevated section of Cambridge Road down into land parcels Q, HRCC, POS1 and the primary school and across them further into Orchard Park.

4.17. The restrictive depth of the northern boundary land parcels means that developments that offer active frontages to the streets and spaces to their south, will present their backs to the A14 to the north. Parts of the backs of these buildings will be visible from the A14, either over the noise barrier, or through the clear Perspex panels, therefore the backs of these buildings should be designed in a manner that presents a positive aspect to any views from

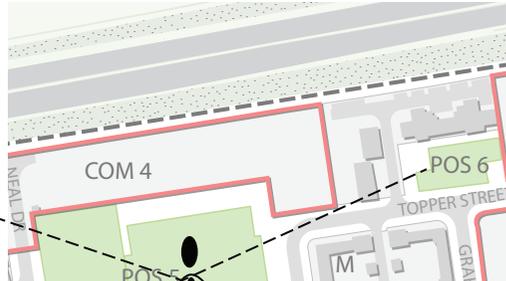
the A14 to the north to contribute to the retention of an attractive urban edge to Cambridge, as required under Policy SP/1 of the Site Specific Policies DPD. The height of the noise barrier varies in relation to ground level of the sites therefore designs need to be considered on an individual site basis.

4.18. A key view within Orchard Park is identified along Circus Drive in the approach to Unwin Square. A significant view exists from the eastern end of Topper Street, towards the public open space at which point the view opens up to the Com4 development site along the northern edge of Orchard Park.

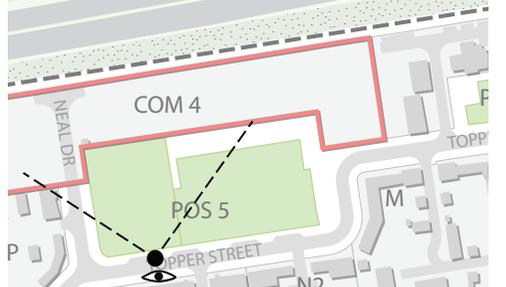
4.19. COM2b/3 is a particularly prominent location with respect to views, being adjacent to a main access route through the northern part of Orchard Park, and visually along the Chieftain Way and Stanley Avenue approaches from the south.

4.20. The A14 embankment and acoustic barrier acts as the backdrop to development on the land parcels along the northern edge of Orchard Park. The Government in its Comprehensive Spending Review in November 2010 withdrew the funding for the A14 Ellington to Fen Ditton Improvements scheme for the foreseeable future. The existing A14 noise barrier alongside Orchard Park will therefore remain in place for the foreseeable future. In the event that a scheme is brought forward for improvements to the A14, Policy SP/1 of the Site Specific Policies DPD establishes South Cambridgeshire District Council's requirements in relation to the appearance and functionality of any replacement noise barrier, or of any development. The impact of the long-term setting of Cambridge will be taken into account in determining planning applications.

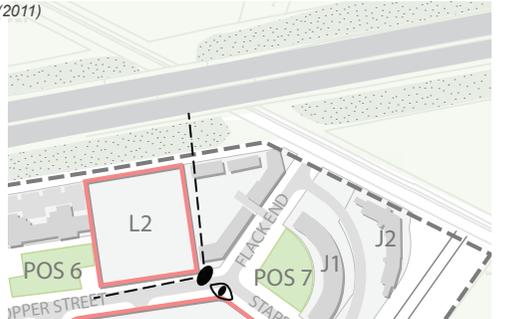
4.21. Orchard Park is developed on an area of



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FIG 6 - PANORAMIC VIEW LAND PARCEL COM4 LOOKING NORTH



FIG 7 - PANORAMIC VIEW LAND PARCEL COM4 LOOKING NORTH



FIG 8 - PANORAMIC VIEW LAND PARCEL L2 LOOKING NORTH WEST

generally uniform ground level. There is no variation of landform to present opportunities for enhanced views within or out of Orchard Park. However views into Orchard Park can be gained from the higher vantage position of the A14 and Cambridge Road as it rises to join its junction with the A14.

Public Open Space

4.22. The public open space provision for the original development proposals, for up to 900 dwellings at Orchard Park has been provided in the seven public open space areas POS1 – POS7. Similarly the play area provision for up to 900 dwellings has also been provided or allowed for in the original residential plots and associated open spaces.

4.23. A major public open space, POS5, has already been provided to the south of COM4, Figures 6 and 7. This space is overlooked by residential properties from all sides except from the north. The space is of high quality and is actively used as it includes a children's playground, Figure 6. The Arbury Camp Design Guide envisaged the development of COM4 to create a strong frontage to define and enclose POS5, further developing the built fabric surrounding this site, to create an attractive and secure public amenity.

4.24. Plot L2 abuts the eastern end of POS6, where the Arbury Camp Design Guide directs it will create a strong frontage and define that edge of this smaller scale residential open space amenity, Figure 8.

4.25. The south western land parcels adjoin an area of significant open space, POS1, that currently is not strongly defined, is isolated and is afforded little natural surveillance. The Arbury Camp Design Guide

envisages land parcels Q and HRCC will provide the frontage to define POS1 and overlook it to provide natural surveillance by the building users.

4.26. The site of an Iron Age Encampment lies beneath the south west corner land parcels and is of archaeological importance. Research suggests that it is of regional importance and the form of camp is worth preserving (Arbury Camp Design Guide, March 2007). The archaeological strategy for the Camp has not only influenced the Development Framework Plan and Arbury Camp Design Guide but has informed the alignment of Ring Fort Road outside the camp and resulting building frontages. To support this, reinstatement of the old 'Iron Age' fortification bank and ditch has been implemented along the eastern edge of land parcel HRCC alongside the footpath to Ring Fort Road, Figure 9.

Noise

4.27. The ambient noise environment of the Orchard Park vacant land parcels is dominated by traffic noise from the A14. Noise can have a significant effect on the environment and on the quality of life experienced by individuals and communities.

4.28. Being located alongside the A14 embankment, Orchard Park has always been vulnerable to issues of noise disturbance, addressed during the course of the original outline planning approval, resulting in the erection of an acoustic barrier, originally intended as a temporary measure but which will remain in place for the foreseeable future following the indefinite postponement of the planned A14 improvements. The acoustic impact of traffic noise emanating from the A14 is therefore a major influence for development choices on sites and developers should plan for the

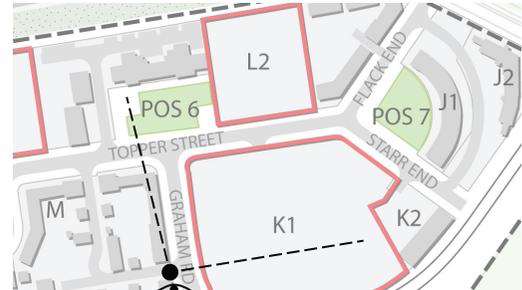
worst-case scenario.

4.29. The control of noise to an acceptable level is a key design issue, and a requirement of the original design brief is to address the exposure to noise levels, highlighting that it is essential that the detailed design of built form within the study area achieves a maximum 'screening' affect from traffic noise emanating from the A14.

4.30. The SPD provides general advice about how acoustic challenges could be addressed but the quality of development should not be compromised in addressing issues of noise attenuation in response to any future acoustic studies. Each application for development will need to undertake further noise assessments and plan development based on the worst-case scenario. In particular the key issue for these land parcels will be addressing impact on worker or residential amenity and the health and wellbeing of future residents in terms of providing acceptable noise levels both internally and in any external amenity areas.

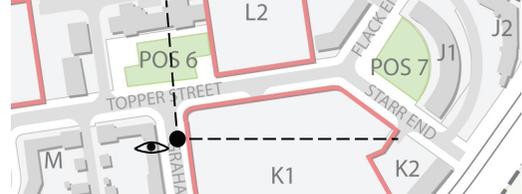
4.31. Noise implications of the A14 for the study land parcels should be assessed in accordance with the Noise Exposure Categories (NECs) for new residential dwellings in Planning Policy Guidance 24: Planning and Noise. For non-residential uses British Standard 8233: 1999 'Sound Insulation and Noise Reduction for Buildings Code of Practice' identifies specific internal noise level guidance that should be achieved within developments. The World Health Organisation "Guidelines for Community Noise" and "Night Noise Guidelines for Europe" should also be consulted.

4.32. Acceptable internal noise levels shall be achieved whilst meeting background and purge



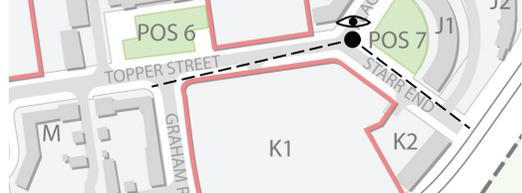
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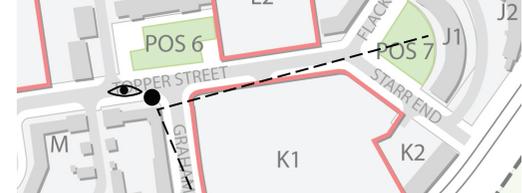
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FIG 12 - PANORAMIC VIEW LAND PARCEL K1 LOOKING NORTH



FIG 13 - PANORAMIC VIEW LAND PARCEL K1 LOOKING NORTH EAST



FIG 14 - PANORAMIC VIEW LAND PARCEL K1 LOOKING SOUTH



FIG 15 - PANORAMIC VIEW LAND PARCEL K1 LOOKING SOUTH EAST



FIG 9 - PANORAMIC VIEW LAND PARCEL Q/HRCC LOOKING WEST



FIG 10 - PANORAMIC VIEW LAND PARCEL Q/HRCC LOOKING NORTH WEST TO SCHOOL

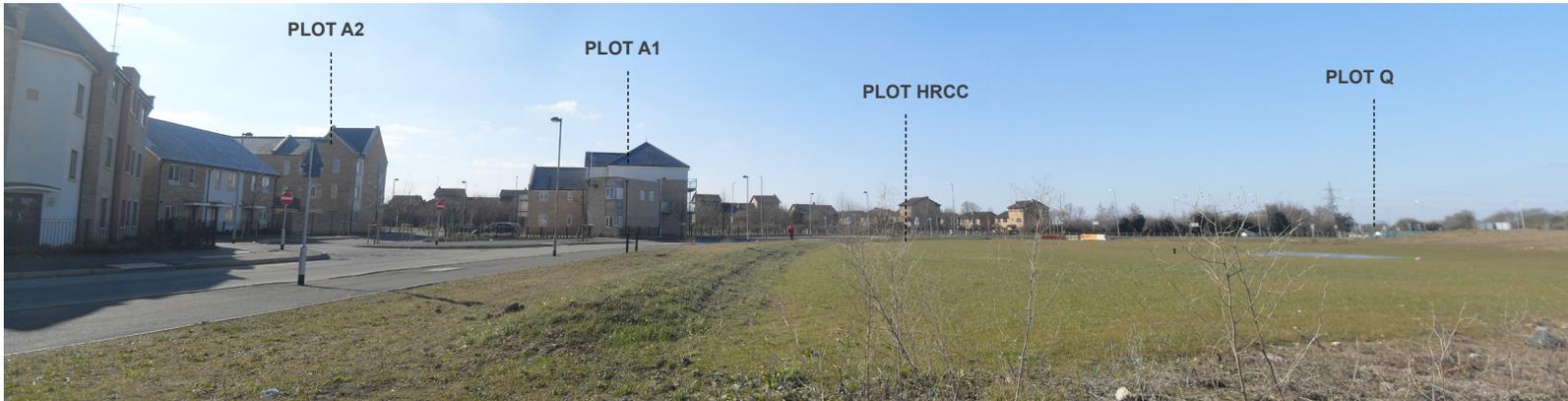
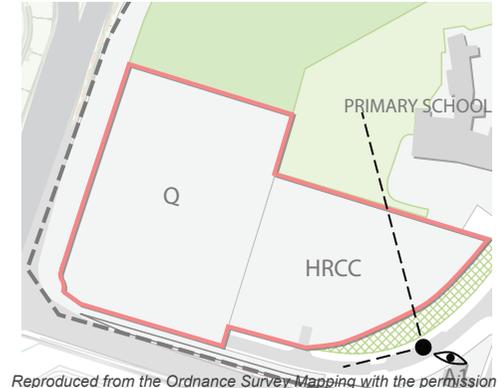
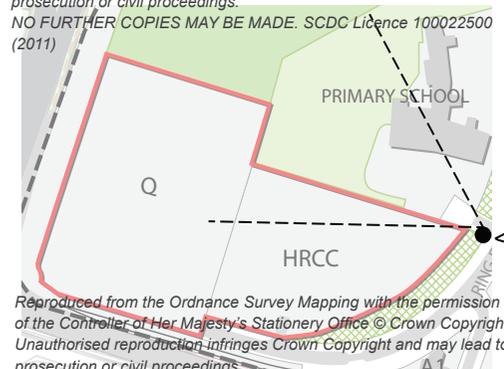


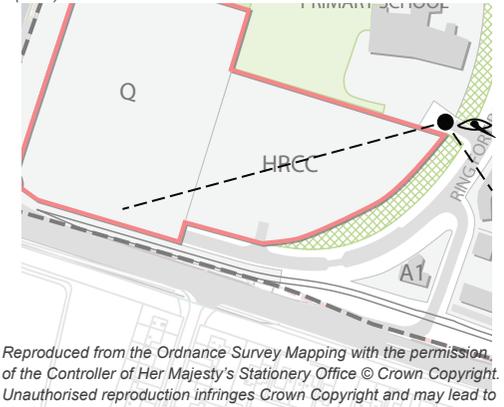
FIG 11 - PANORAMIC VIEW LAND PARCEL Q/HRCC LOOKING SOUTH



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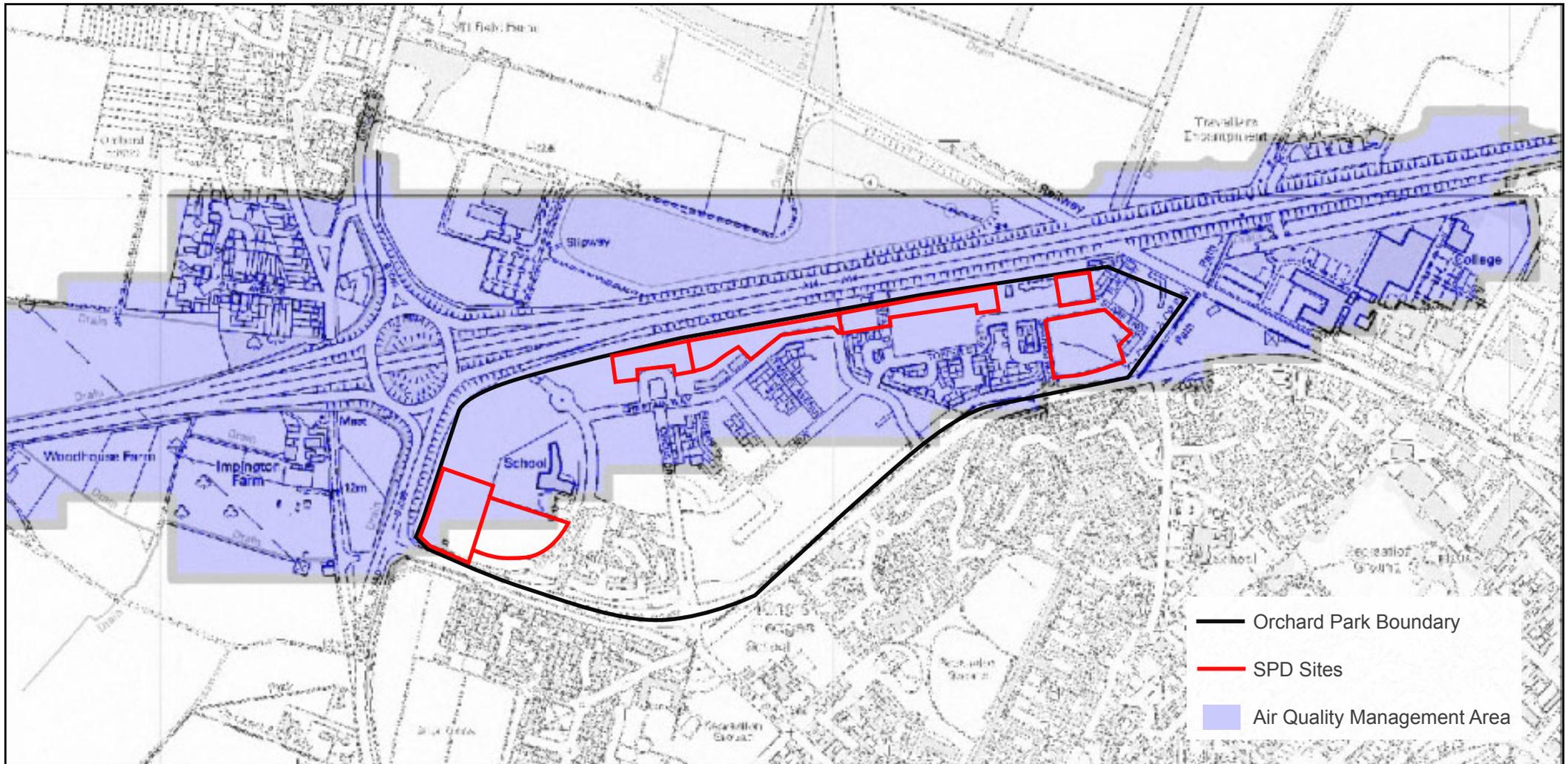


FIG 16 - AIR QUALITY MANAGEMENT AREA

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ventilation requirements at all times. The opening of any glazing / windows shall not compromise acceptable internal noise levels. Of particular concern is noise in relation to any rooms facing the A14.

4.33. Full consideration shall also be given to ensuring noise levels to external amenity spaces are also acceptable in accordance with the guidelines stated above.

4.34. Any considerations for the replacement of the noise barrier should ensure that any reflective noise is minimised to protect the villages of Histon and Impington to the north of the A14.

Air Quality

4.35. Most of the proposed development land parcels at Orchard Park lie within the SCDC Air Quality Management Area (AQMA) for nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀) as shown in Figure 16. The two main issues relating to air quality at this location are discussed in more detail below.

4.36. SCDC has a duty to protect future residents from the health effects of poor air quality. Such development should only take place if air quality objectives are being met and are likely to be met in the future or if adequate mitigation can be implemented.

4.37. With this in mind, if residential development is considered, appropriate mitigation measures may need to be sought by the developer to protect residents from emissions emanating from the A14. In addition, given the closeness of the land parcel to the carriageway of the A14, prospective developers may reasonably be asked to carry out air quality monitoring for a duration of no less than 6 months, which will aid

in the determination of appropriate detailed design and mitigation measures.

4.38. Given the locations detailed within the design brief, aspect and orientation are unlikely to have a significant effect on air quality although certain layout designs will pose a greater risk in terms of air quality than others, such as:

- Open/amenity space close to the carriageway upon which residents could reasonably spend 1 hour or more;
- Layouts that create courtyards or “canyons” where pollutants may settle rather than disperse.

4.39. Any new development adjacent to or within the AQMA should not cause a worsening of the air quality conditions predicted in the original assessment for the Orchard Park development. It is expected and advised that the developer will have regard to low emissions development and enters into early discussion with SCDC to agree the terms of a Low Emissions Strategy and ensure that LDF Policy NE/16 (Emissions) is achieved.

4.40. It is essential that if these locations are considered for residential development, early pre-application discussions take place in order that air quality assessments and consequently any monitoring, modelling and mitigation measures are discussed and agreed prior to the granting of planning consents. Development should only take place if air quality objectives are being met and are likely to be met in the future, or if adequate mitigation can be implemented.

Drainage

4.41. The land beneath Orchard Park experiences

a high water table. Resultantly, a drainage strategy was devised for Orchard Park, with holding tanks constructed to reduce the discharge rate from the area into the river system. The high water table and the existence of a drainage infrastructure will impact on drainage considerations for the remaining land parcels at Orchard Park.

5. Design Principles

Character Areas

5.1. The character areas established by the Arbury Camp Design Guide to help differentiate between different areas of the site must be considered when designing for the vacant land parcels. Designs must reflect the range of uses, density, movement through the site and architectural style. These overarching principles outlined in the Design Guide should be considered against any proposals for the development land parcels.

5.2. As outlined in Figure 2, the vacant land parcels fall within all four character areas, Arbury Park, The Circus, The Square (in small part), and The Hedges. Designs should consider how proposals could reinforce these established character areas of Orchard Park.

5.3. Land parcel COM2a and most of COM2B/3 should respond to the desired character of The Circus, which is intended to be the ‘active heart’ of Orchard Park. This character area is centred on the avenue that links the ‘gateway’ at King’s Hedges Road, via the circus to Unwin Square to the north. The boulevard terminates at the south facing Unwin

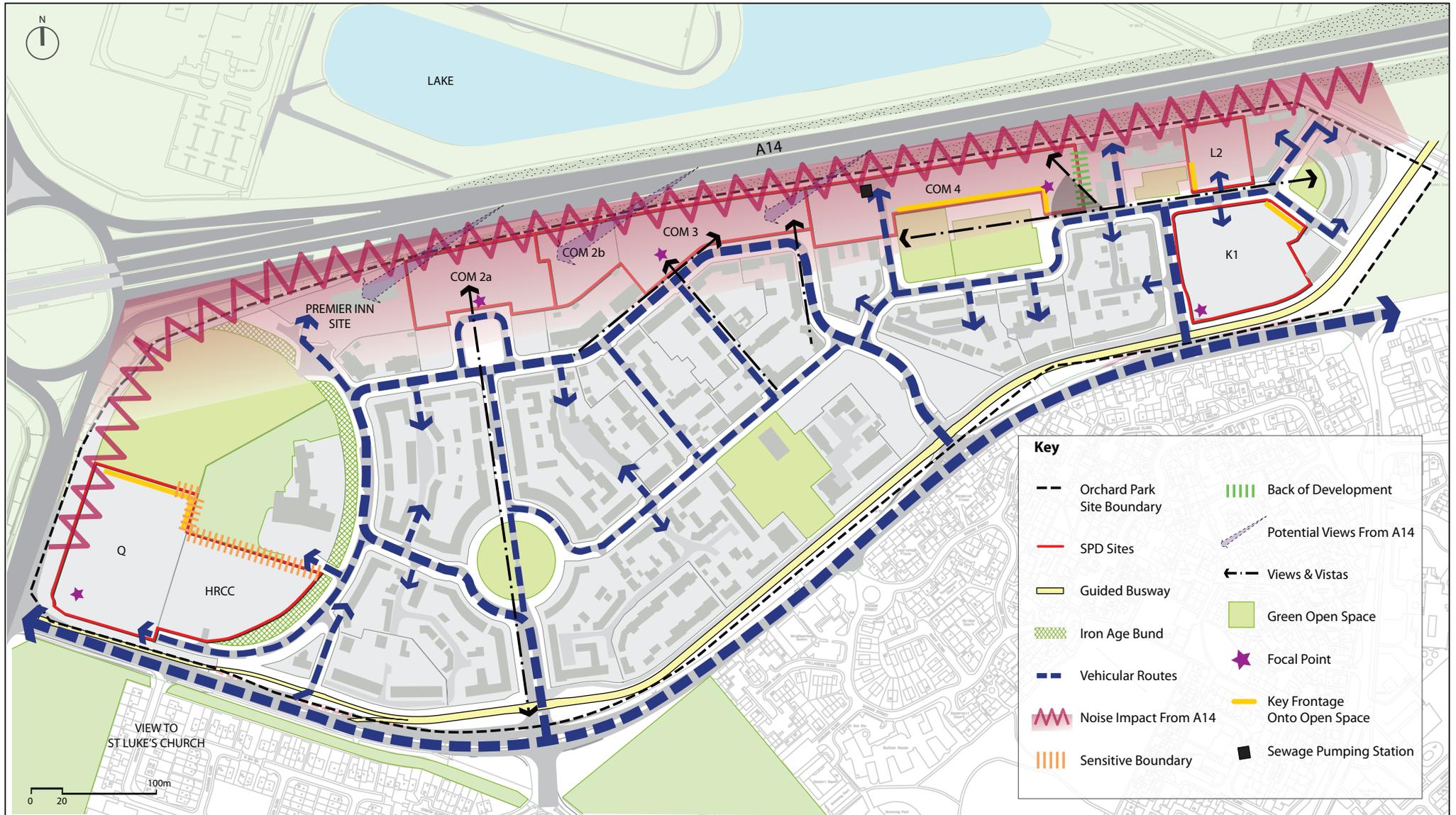


FIG 17 - CONSTRAINTS & OPPORTUNITIES

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Square, which presents the opportunity to be formed by high quality mixed-use buildings creating a local centre. As identified by the Arbury Camp Design Guide, there is a formality along this avenue that should be reflected in the design of buildings and landscape in this area and at Unwin Square as an appropriate end to this formal avenue.

5.4. The Square character area is predominantly residential, and this land parcel lies on an area of Orchard Park where attractive buildings should be designed to a high specification. This affects the eastern end of land parcel COM2B/3, where there is potential for a transition between western and eastern character areas. This should be reflected in the design of proposals.

5.5. COM4, L2 AND K1 lie within The Hedges character area, which comprises residential, commercial and mixed use, oriented around open spaces. Residential development is designed around the streets and mews pattern, with a clear distinction between public and private space. A key concept for the layout and design on these sites is to ensure active frontage to the public open spaces, public realm and residential areas.

5.6. The south western land parcels are within the Arbury Park character area. The vision for Arbury Park is for a cluster of uses, with integrated facilities and amenities, designed holistically and incorporating high quality accessible open spaces and providing a 'gateway' to both Cambridge and Orchard Park. Here a key requirement is for an emphasis on linking open space and facilities, and creating an attractive green edge to Orchard Park with use of both hard and soft landscaping.

Movement, Access & Circulation

5.7. The road network to access the vacant land parcels is already in existence, therefore development proposals will have to address the capacity and characteristics of those access routes. Proposed site access to land parcel COM2a will predominantly be from Unwin Square upon the key approach to the Local Centre, which is a key arrival space and destination. Land parcel COM2b/3 is approached from one of the main access routes, Chieftain Way. The movement connections in this area of Orchard Park are intended to create a lively and accessible area, in keeping with the character area proposals. New development proposals will be expected to demonstrate the efficient management of traffic and reduce highway hazards through a well thought out layout and car parking design. The Council will not support development proposals that fail to meet the adopted standards.

5.8. Careful treatment of the public realm should enhance the east-west connection along the commercial frontage, encouraging pedestrian and cycle movement to permeate through the site. This can be achieved by proposing active frontages, usable entrances and shared surfaces.

5.9. Access to land parcels Q and HRCC is via Ring Fort Road. Cambridgeshire County Council, as the County Highway Authority, has expressed 'in principle' preference for an access adjacent to the Orchard Park Primary school boundary to serve any development uses on the site, with a second access for vehicles, pedestrians and cyclists via the cul-de-sac at the western end of Ring Fort Road. However it will be up to the applicants to demonstrate that such a provision is satisfactory in highways terms, especially as all traffic exiting these sites will have

to pass the entrance to the Orchard Park Primary School. Provision of level access over the 'Iron Age' ditch is also to be adequately addressed by design proposals. Of key importance however, is the creation of a place that is safe, accessible and easy to move around.

5.10. The main vehicular access point for land parcel K1 is fixed from Topper Street on the northern boundary, which allows for a consistent and strong building line along the main gateway route along Graham Road. Land parcels COM4 and L2 will also be accessed from existing approaches from Topper Street and Neal Drive.

Layout & Built Form

5.11. The overarching design principle for new development on the northern edge land parcels is the predominant east-west orientation of development blocks to mitigate noise impacts from the A14. The intention of development on these sites is to positively contribute to the Orchard Park development as a whole by providing essential screening from the A14 acoustically and visually, using massing and built form. However care should be taken to prevent creating building forms and scale that may reflect noise into existing quiet areas and also the creation of gaps that would channel and focus noise further into the site.

5.12. Built form and design / orientation of buildings are an important and integral part of mitigating noise but are not the only consideration. The effects of acoustic screening from buildings should then be further enhanced by a proactive design approach to the acoustic management performance of proposed commercial, mixed use or residential buildings

incorporating effective architectural detailing. These design elements should be incorporated where appropriate to help with improving acoustic benefits.

5.13. Potential applicants are encouraged to consult the Local Planning Authority at an early stage about the possible use of such measures and whether they are desirable or achievable, as this may enable the incorporation of such noise mitigation measures into the design of the proposal before it is formally submitted for determination, the concept of “sound-conscious urban design”. Noise mitigation measures integrated into the overall design of the development should be first in a hierarchy of noise mitigation measures. The control of the noise at the receiver in terms of noise insulation of the building envelope shall be a last resort and the final line of defence against adverse external noise.

5.14. The form of development on all the vacant sites should ensure it completes and complements the public realm areas it is adjacent to, be they streets, squares, footpaths, public open space areas or play areas, as identified in the Arbury Camp Design Guide. Land parcel Q encloses and defines POS1; land parcel HRCC defines and encloses Ring Fort Road; COM2a encloses and defines Unwin Square; COM3 defines and enclose Chieftain Way; COM4 encloses and defines POS5 and part of Topper Street; L2 encloses and defines POS6 and part of Topper Street; whilst K1 defines and encloses parts of Kings Hedges Road, Graham Road and Topper Street.

5.15. Careful attention should be paid to the orientation of habitable rooms in relation to the noise and air quality issues pertaining to Orchard Park. Of particular concern are land parcels COM2a,

COM2b/3, COM4 and L2, where no habitable rooms facing the A14 should be provided for any residential properties adjacent to the A14. Care should also be taken in the design of the built form to ensure air flows through all external areas to prevent pockets of poor air quality collecting.

5.16. The location and orientation of buildings on the south west corner site, land parcels Q and HRCC, must create a high quality gateway to Cambridge and also to the Orchard Park development. Development here should be carefully designed to minimise potential adverse impacts on the amenity of the adjoining properties in Orchard Park, with particular reference to protecting the safety and privacy of the Orchard Park Primary School and its pupils. Land parcel Q is the only development that can overlook and thereby provide natural surveillance for POS1; therefore the layout and form of development here should maximise this opportunity. The layout and built form of land parcel HRCC should also reflect the curved perimeter of the Iron Age encampment fronting Ring Fort Road.

5.17. Layout and built form on land parcel K1 should be strong and consistent along King’s Hedges Road to define the southern edge of Orchard Park and help create a strong gateway entrance, enhancing the sense of arrival to the development. A perimeter block approach for land parcel K1 will create a consistent building line that will also enclose and define Graham Road and Topper Street.

Scale & Massing

5.18. New development must carefully consider the existing urban fabric and its relationship to streets and public spaces in terms of massing, heights,

frontages, entrances and materials, in order to help enhance the sense of a neighbourhood environment for the community of Orchard Park. Buildings must respect the character of the locality and provide an interface between new development and the existing rhythm across the streets.

5.19. Appropriate massing at the Cambridge Road and King’s Hedges Road junction is key in achieving the required scale for a ‘gateway’ building. However, it should not exceed 5 storeys, the maximum building height for Orchard Park as specified in the Arbury Camp Design Guide.

5.20. The height, massing and detail of buildings especially those fronting Kings Hedges Road and Ring Fort Road must respect the character of the locality, the adjoining built forms, with the majority of the key frontages having building heights of 3 storeys. This needs to provide a key interface between the new development and the existing rhythm across the streets and therefore seeks high quality built form.

5.21. Roof shapes and materials are of key importance to the success of the northern and south west corner land parcels as an attractive and high quality development at the edge of Cambridge and therefore the applicant is advised to gain consensus through pre-application discussions. Additionally high quality development on plot Q is required to form a ‘gateway’ to both Cambridge and to Orchard Park.

5.22. Any proposals for development should not result in the overshadowing of existing properties, particularly the Orchard Park Primary School and should not compromise their amenity. Particular attention is required to the boundary treatment and massing along such sensitive edges.

5.23. Land parcel COM2a requires a building of sufficient mass to provide a visually strong closure to the view to it along the formal avenue and to adequately define Unwin Square. Land parcel COM4 provides the visual backdrop to the northern edge of the public open space and park POS5. A high quality built form enclosing the north side of the open space would contribute positively to the area; therefore appropriate massing dependent on land use is required to contain this space.

5.24. Where mixed use developments are being proposed, floor heights between the varied uses, including the elevation design, need to optimise the relations between scales and proportions so that the street does not feel dislocated.

5.25. Scale and massing for individual land parcels is addressed in more detail in Section 6.

Landscape & Open Space

5.26. The public spaces and play areas for the original 900 dwellings at Orchard Park have already been constructed. Additional open space and play areas are required for development associated with the additional 220 residential units permitted under Policy SP/1. All landscape design schemes should include appropriate planting to provide an attractive setting to the buildings, enhance facades and to define the edges of the public realm and public open spaces they abut. All landscape design, both hard and soft, should respect its location and integrate with its surroundings, be they existing or proposed to ensure that the interface between sites and uses is handled carefully and sensitively.

5.27. POS1 should be contained, defined and overlooked by land parcel Q. Ring Fort Road and Kings Hedges Road should be contained defined and overlooked by HRCC. Unwin Square should be contained defined and overlooked by COM2a. Chieftain Way, in part, should be contained defined and overlooked by COM3. POS5 and Topper Street, in part, should be contained defined and overlooked by COM4. POS6 and Topper Street, in part, should be contained defined and overlooked by L2. Parts of Kings Hedges Road, Graham Road and Topper Street should be contained defined and overlooked by K1.

5.28. The A14 embankment and noise barrier do not present an attractive aspect for users of the land parcels adjacent to the A14. Development proposals for land parcels adjacent to the A14 should include tree and shrub planting to improve the view towards the A14 for the benefit of the sites' users.

5.29. To break up hard landscaped parking areas, soft landscaping should be used to create an attractive environment. Parking for no more than 6 cars should be provided in individual parking bays, with planting between bays of a size no less than one standard car-parking space and preferably at least the size of two standard car-parking bays. Shrub planting species should be selected to attain a height of 1.5m, except in locations where visibility is required for vehicular movement where species of 1m height should generally be used. Tree planting should be undertaken in each planting bed, with multiple trees planted in larger areas.

5.30. The landscape design scheme for the southwest corner site should include appropriate planting to provide an attractive parkland setting to the buildings, in accordance with the Arbury Camp

Design Guide. Of particular concern are the views of and into the site from the surrounding areas. The developer should incorporate an attractive buffer along the western edge of the site to merge with that existing along the highway embankment.

5.31. Views are afforded down into the site from the elevated interchange over the A14 and from Cambridge Road as it rises to the interchange. This increases the visibility of land parcel Q and creates the potential for views of development from a higher elevation, other than that expected at the development's ground level. The layout and design of the development should therefore provide adequate planting and explore the possibility of incorporating green roofs or brown roofs and green walls to address the elevated views of the development. Similar consideration should be given to the provision of green roofs or brown roofs and green walls on the parts of development on the land parcels alongside the A14, where they will be seen above the noise barrier or through the Perspex panels. Particular attention should be paid to the design of green roofs, brown roofs and green walls, where used, in relation to their ongoing management and maintenance to ensure their successful establishment and retention.

Frontage & Public Space

5.32. The proposed built form within the study area should generate a sense of enclosure of the streets and spaces; the design of which is important to the environmental quality of these areas. In terms of block arrangements, the position of buildings must ensure positive contributions to existing streetscenes, in particular those bordering existing residential development. The east-west orientation

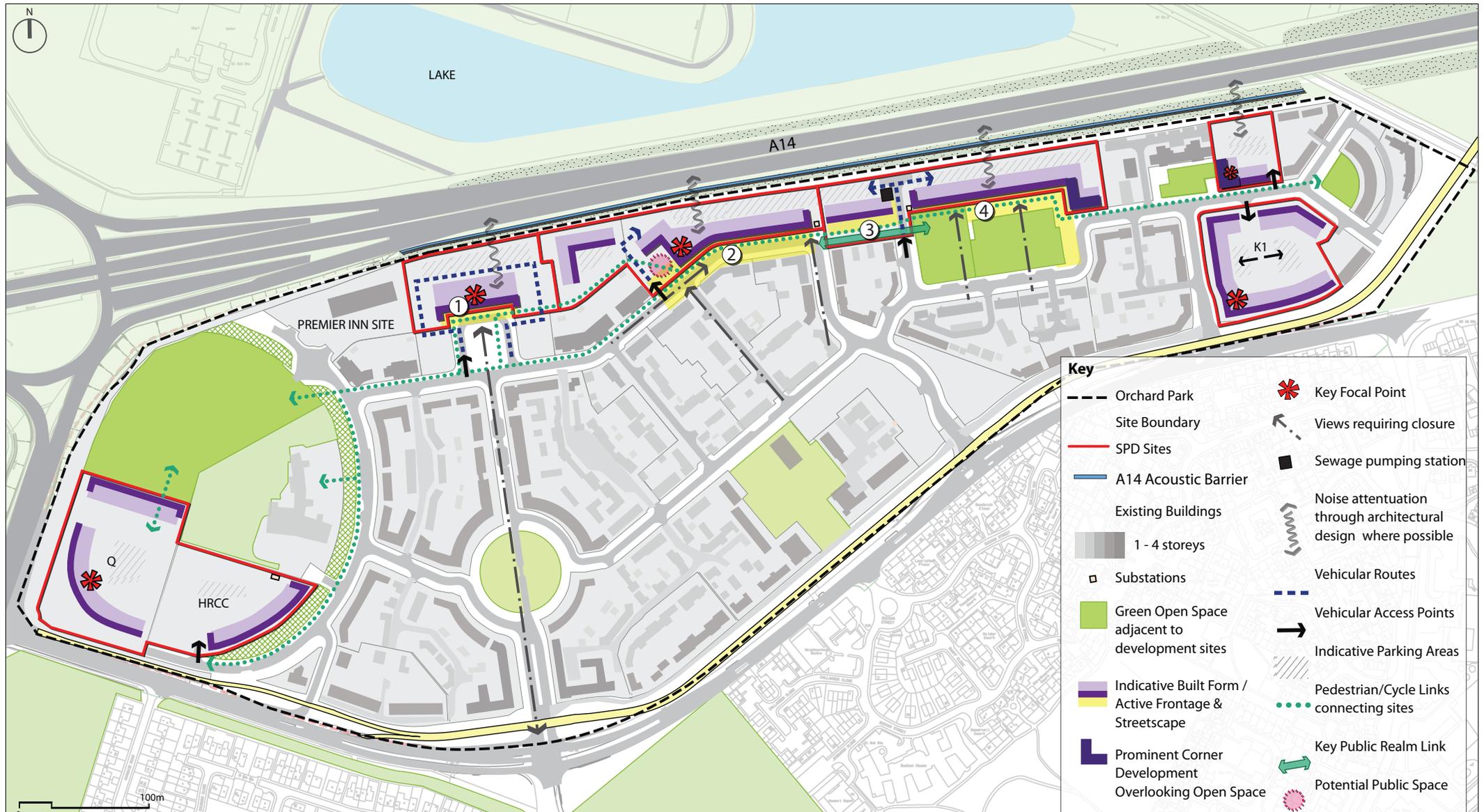


FIG 18 - OVERALL DESIGN PRINCIPLES

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of development and strategic positioning of buildings presents the opportunity for the closure of views looking towards the A14 embankment and noise barrier, therefore improving the visual conditions and benefitting the community of Orchard Park.

5.33. Key frontages are illustrated on Figure 19. There is also potential for the closure of long views at key locations throughout Orchard Park using key focal nodes, for example, on the approach to sites along Chieftain Way, and the termination of the view along Circus Drive to Unwin Square. As outlined by the Arbury Camp Design Guide, the intention of development on land parcel COM2a is for a mixed use Local Centre (key frontage 1), with the aim of providing a civic focus and area of activity. Development proposals should provide a high quality landmark with a strong frontage overlooking Unwin Square, creating a distinct arrival space.

5.34. Land parcel COM2b/3 provides an opportunity to create an active development frontage contributing to an active streetscape (key frontage 2) responding sensitively to the residential development opposite. This should be achieved by treatment of the public realm, varied articulation of built form, and entrances addressing the street. Should the approved Travelodge proposals on land parcel COM3 fail to be constructed, any subsequent proposals for development must address this issue. The undeveloped eastern end of land parcel COM2b is visible from Chieftain Way and this issue is applicable to that area.

5.35. Figure 19 - Design Principles identifies an opportunity for a public realm connection between Chieftain Way and the public open space POS5. To ensure development on land parcel COM4 does not overbear on the existing residential development on land parcel P, which presents its side and the core of

the block to COM4, the Arbury Camp Design Guide sets the face of development on COM4 (key frontage 3) back from the boundary with land parcel P. This would allow the creation of a footpath connection along the boundary without any loss of developable land, a varied townscape and sense of transition along the predominant east west elevations.

5.36. Development proposed for the remainder of land parcel COM4 should include a frontage (key frontage 4) contributing to the setting of the public open space POS5, the space being defined by the edge of development responsive to this community use, providing an attractive backdrop to open space.

5.37. Land parcel L2 should encourage proposals for a strong corner development to enclose the smaller scale residential open space setting, together with a coherent frontage alongside Topper Street.

5.38. A key focal node on the corner of land parcel K1 will draw attention to the access road as being a gateway to Orchard Park and enhance the sense of arrival.

5.39. Proposals should create clear definition of the public realm through the use of good fronts to backs relationships.

5.40. Safety and security should be promoted throughout the sites by ensuring that all publicly accessible spaces are overlooked by active building frontages.

Public Realm and Public Art

5.41. The layout should advocate the creation of safe and secure places by raising awareness and

providing practical solutions for the design of the physical environment with a view to reducing crime, fear of crime and antisocial behaviour.

5.42. The design of the public realm should be of a high quality, throughout Orchard Park with the aim of achieving a visually interesting development and undertaken in a manner to ensure compatibility with the design and materials selection for adjoining sites. The design of the public realm should be undertaken in a well-considered manner that ensures the necessary street furniture is located appropriately to avoid street clutter.

5.43. Public art can contribute to the quality of place and should be used to add to, but is not a substitute for, the design of a high quality public realm. For further guidance on Public Art Strategy and Public Realm details refer to the Arbury Camp Design Guide. For all Public art proposals developers are expected to refer to the Public Art SPD (2009).

Parking

5.44. Issues of car parking and traffic movement, form a key aspect of good design with a strong desire to reducing the dominance of the car. The District Council looks to encourage the creation of good streetscape within modern developments that provides its users with a sense of pride. Appropriate and alternative means of parking provision need to be tested to achieve the above on the South West Corner land parcel, which is more visible from the adjacent elevated A14 junction and its ramped access road. To provide appropriate well-designed proposals for parking within developments, developers should refer to the English Partnerships guidance "What Works Where". However, the car parking principles

established in the Arbury Camp Design Guide should form the foundation of the design for car parking, on the vacant land parcels, which advocates a maximum of 1.5 spaces per dwelling (a standard that will be reviewed in the light of the changes to Planning Policy Guidance 13 (PPG13) Transport, following its update on 3rd January 2011, see paragraph 1.11.). Where lower levels of car parking provision are appropriate they will be encouraged. To assist in reducing dependence on private motorcars, developers are encouraged to consider providing at Orchard Park, an extension of the existing 'car club' provision in Cambridge, which is a rapidly expanding facility within the city. Careful consideration should be given to assessing the detailed development proposals to ensure they function appropriately for the development proposed and are fully integrated with it. Where development proposals fail to meet the adopted standards they will not be supported by the Council.

5.45. Indicative car parking areas are shown on Figure 19. Car parking and servicing within the land parcels immediately adjacent to the A14 is generally indicated on the north side of buildings, to enable amenity space, especially for any residential properties, to be located in more favourable locations to the south of the buildings and enable stronger frontages to the adjacent public realm and 'land parcels. The design of buildings should define and address these rear spaces appropriately to provide secure, overlooked parking where the opportunity for crime is minimised. The opportunity also exists to incorporate undercroft parking as part of the proposals, to assist in increasing the height of buildings to better enable them to act as noise barriers for the development.

5.46. To break up hard landscaped parking areas, soft landscaping should be used to create an attractive

environment. Parking for no more than 6 cars should be provided in individual parking bays, with planting between bays no less than the size of one standard car-parking space and preferably at least the size of two standard car-parking bays. Shrub planting species should be selected to attain a height of 1.5m, except in locations where visibility is required for vehicular movement where species of 1m height should generally be used. Tree planting should be undertaken in each planting bed, with multiple trees planted in larger areas.

5.47 The Council's "District Design Guide: High Quality and Sustainable Development in South Cambridgeshire" states that garages should be provided of an adequate size for car parking and to allow circulation past the vehicle; advising the minimum size should be 3.3m X 6.0m and should have an additional allowance along one side or at the end for storage. Garage provision provides an opportunity to incorporate cycle storage, but for it to be effective the additional storage and circulation space within the garage is essential.

5.48. Higher levels of cycle parking are required due to the location of Orchard Park, close to the city centre and on bus routes, potentially reducing car dependency. Adequate levels of cycle parking, which is convenient to access and use, is covered and secure and afforded high levels of natural surveillance, should be incorporated within the design and layout of individual land parcels, as set out in the South Cambridgeshire District Council's parking standards. See also The "District Design Guide: High Quality and Sustainable Design in South Cambridgeshire". Cycle parking for employees should also be convenient, covered, secure and afforded high levels of natural surveillance. Public cycle parking should be of the "Sheffield" type to ensure cycles can be parked

conveniently and securely.

5.49. Developers should make the necessary arrangements with Cambridgeshire County Council to ensure the speedy adoption of highways.

Sustainability

5.50. All new development, whether residential commercial or mixed use, should be energy efficient in terms of design, density, location and orientation. The "District Design Guide: High Quality and Sustainable Design in South Cambridgeshire" states that "sustainability should be at the heart of good design" and provides further guidance on sustainability. Careful consideration should be given in the design of developments to maximise daylight and solar gain to premises to reduce the need for artificial lighting and heating, whilst preventing overheating that might result in a need for the mechanical cooling of buildings. Consideration should also be given to addressing the effects of the urban heat island.

5.51. Developers are encouraged to construct properties that attain the highest standards of sustainable design and construction and address the issues of climate change, for the lifetime of the development. Residential properties should exceed the minimum standards prescribed by the Government under the Code for Sustainable Homes and non-residential buildings should exceed a minimum BREEAM rating of 'Good'. Developers are encouraged to promote suitable environmental measures through building design to reduce the amount of CO₂m³ / year emitted by 10%, compared to the minimum Building Regulations requirement; and comply with District Council's policy to provide at least 10% of the development's predicted energy

requirements through the use of renewable energy technologies (Policies NE/1, NE/2 and NE/3, LDF). Developers are also encouraged to design and construct premises with greater standards of water efficiency. To assist developers in preparing to meet the Code for Sustainable Homes Level 6 requirements in 2016, they are encouraged to set a target for water consumption in residential properties of between 80 litres and 105 litres per person per day i.e. the equivalent to Code Levels 4 or 5.

5.52. Developers are encouraged to consider all options of achieving 10% of provision of energy from renewable sources. However, whilst biomass is a cost effective method of achieving 10% provision of energy from renewables, it may have an impact on local air quality due to NO_x and PM₁₀ emissions. The developer should explore biomass technologies such as pyrolysis, gasification and anaerobic digestion, which have been acknowledged to have a lesser air quality impact. Developers will be expected to justify the chosen technologies.

Acoustic Strategy / Noise Attenuation Scheme for A14 Traffic Noise

5.53. The control of noise and air quality should be the starting point for good design. Residential development is inappropriate where national standards on noise and air quality cannot be met.

5.54. It would be beneficial for buildings on the northern land parcels to be designed and placed in such a way so that they act as a noise barrier reducing the impact of noise from the A14 on the rest of the site, even with the retention of the A14 acoustic barrier. Not only should building location act as a screen to reduce noise from the A14, but also

provide adequate noise mitigation to the occupiers of any residential development that may be proposed for the edge of the site.

5.55. Residential properties should be located a minimum distance of 25m from the edge of the A14 carriageway.

5.56. Any forthcoming proposals will have to respond to future air and noise assessments resulting from proposed improvements to the A14 and set out the measures required to achieve satisfactory mitigation. The level of impact and required response is dependent on the land use proposed.

5.57. Any proposed development should address, through building design and architectural detailing, acoustic attenuation. This provides a significant opportunity to develop imaginative architectural responses to the acoustic demands of the site. As part of any noise insulation scheme, good noise mitigation measures such as appropriate configuration and layout of noise sensitive rooms should be designed into the overall development to avoid mechanical and whole house ventilation systems and acoustic glazing and ventilation schemes should be a last resort.

5.58. It should be noted that The London Mayor's Ambient Noise Strategy provides some useful advice on sound-conscious urban design and the following practical noise reduction issues / measures are viewed as relevant to the various plot options:

- Façade continuity and 'quiet side' - Buildings can be designed not only to protect their occupants, but to screen other areas from noise. High-density development following traditional street blocks can reduce noise on the 'quiet side' by 10 to 20 dB(A).

- Spaces between buildings - Although enclosed spaces can often be tranquil, tightly-enclosed spaces can also 'trap' sound, including from poorly designed, installed or maintained ventilation plant, waste facilities, vehicle manoeuvring, neighbours, or aircraft. The balance of advantage between contained and more open layouts will depend on the relative contributions of different noise sources. In noisy areas, acoustic absorbency within 'courtyard' areas should normally be maximised, especially from dense vegetation and soft ground. Rooftop planting may be useful on lower level roofs. In quieter spaces, sound reflection can help people sense where they are. Paving design should consider noise not just from road vehicles, but trolleys, and, particularly over or near bedrooms, footfall. 'Solar pergolas' with photovoltaic panels, could modify sound propagation.
- Façade reflectivity - Multiple reflections between opposing, acoustically hard building surfaces increases noise levels. Façades at the wrong angle can reflect sound into quiet areas, as can curved and outward sloping buildings. Sound absorbing panels, deep acoustic profiling, 'absorptive banners' and other elements should be considered. A wider choice of acoustically absorptive materials needs to be developed, ideally using recycled materials.
- Noise and height - High buildings, with less shielding from other buildings, may receive noise from a wider area. Stepping-back of upper floors, canopies and other projections can offer screening. Acoustic balconies, with high imperforate parapets and absorptive linings to the soffit of any projection above, can reduce noise at a window by 5 dB. The predictive capabilities of

noise models need to be improved.

- Vehicle access and parking - Waste storage and collection should be located away and/or screened from noise sensitive uses. Car parking and service areas should be screened, enclosed, or buffered with less sensitive uses.
- Enclosed car parks and bays should be designed to minimise sound reverberation and breakout. Lockable gates to residential courtyards at night can reduce disturbance from vehicles and on-street revellers, especially in mixed-use areas, while avoiding the sort of exclusion associated with the 24- hour gated enclave.
- Features of soundscape interest - Many sounds may be positive or negative depending on context (e.g. active water, wind in trees or rushes, loose surfaces, gratings, reverberant spaces).
- Balancing needs - Passive solar design, in which homes need to face roughly south, may make it difficult to create a 'quiet side'. Noise screening could increase shading. More linking of buildings to reduce noise propagation may mean accepting some change in local character, although visual monotony can be avoided by setbacks and many other design features. The balance between noise reduction and other needs should take account of potential changes in noise sources, and in competing needs, over the lifetime of the development.

(Reference / Source: "Sounder City, The Mayor's Ambient Noise Strategy, Mayor of London, March 2004", downloadable from: http://www.london.gov.uk/mayor/strategies/noise/docs/noise_strategy_all.pdf)

5.59. Any replacement noise barrier alongside the A14 should provide greater visual interest for both those travelling past on the A14 and for those viewing it from within Orchard Park. In so doing the noise barrier should provide noise attenuation equal to or greater than the minimum standards required by the Highways Agency, for the protection of premises in Orchard Park. Care should be taken to ensure the design and the selection of materials do not result in an increase in reflective noise and thereby increase the level of nuisance for the villages of Histon and Impington.

Waste and Recycling Storage & Provision

5.60. Adequate storage provision and separation for trade and domestic waste is also an important design consideration. Waste and recycling provision should be in accordance with RECAP Waste Management Design Guide 2008, which has been adopted as Council Policy. Adherence to this guidance will ensure that waste storage and collection will be accessible, practical and convenient for daily use by residents and / or business premises and complies with the Council's current requirements.

Health Impact Assessment

5.61. A Health Impact Assessment, incorporated into an Environmental Impact Assessment, will be required for development proposals on these land parcels. Proposals should also take account of the Government's guidance "Building Healthy Communities". Reference should be made to the Council's draft Health Impact Assessment SPD.

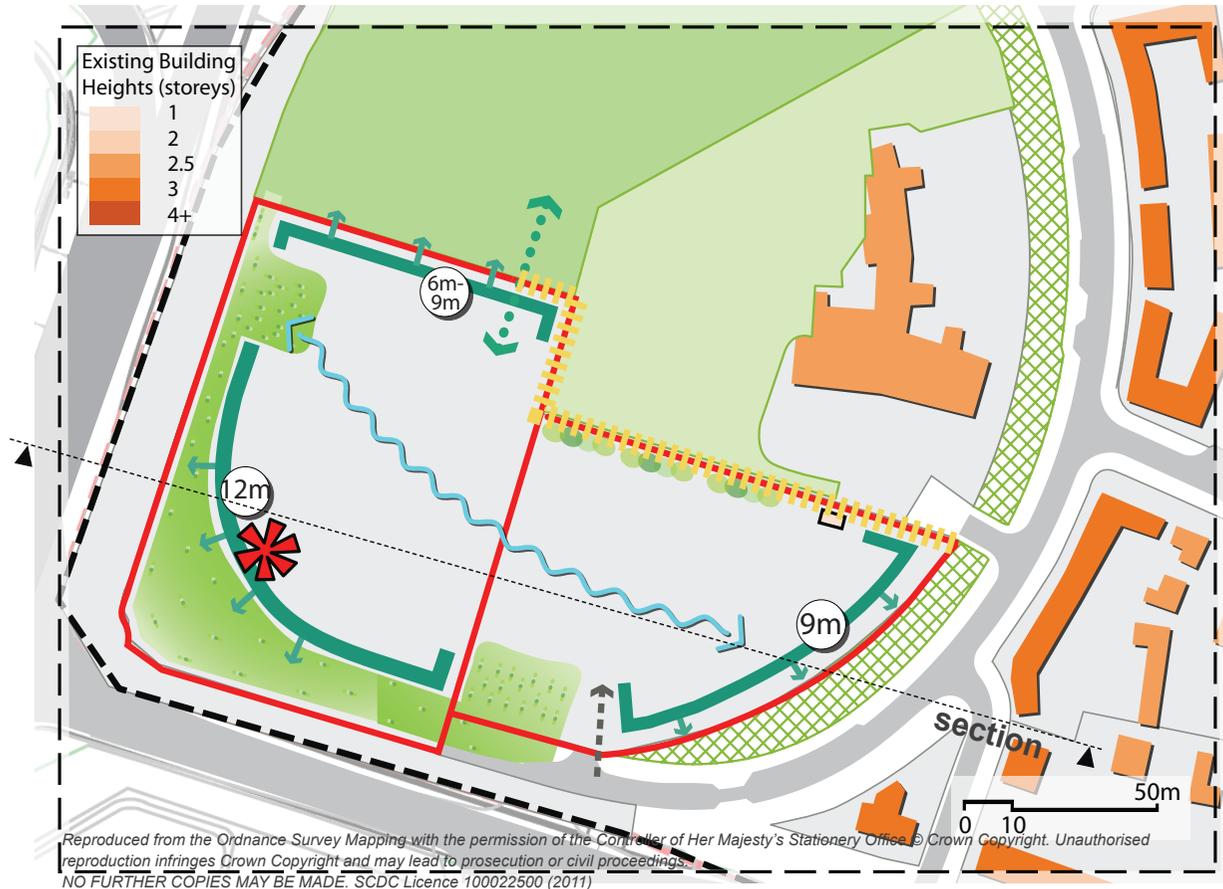
6. Design Principles for Specific Sites

6.1. The following tables and drawings sets out the key urban design principles to be addressed for each of the sites in the SPD study area, for illustrative purposes only.

6.2. For density guidelines please refer to Report of the Examination into the South Cambridgeshire Site Specific Policies Development Plan Document (September 2009) and recommended densities as per the Arbury Camp Design Guide (March 2007) for adjacent parcels.

6.3. The following diagrams for the individual land parcels indicate key building frontages only. Other buildings may be proposed by the developers to the rear of those key frontages indicated.

LAND PARCELS Q & HRCC	ESSENTIAL DESIGN CRITERIA
SCALE / MASSING	<ul style="list-style-type: none"> • 12m building height for gateway buildings. • Generally a 9m building height for primary frontages; not necessarily a continuous built frontage; should not have a continuous eaves line; but should appear as a three story built form. • 9m maximum and 6m minimum building heights overlooking POS1. • Development adjacent to the school boundary should not exceed 2 storeys.
BUILT QUALITY	<ul style="list-style-type: none"> • High quality architectural landmarks to accentuate a 'gateway' feature when approaching Orchard Park from the west. • Buildings to be located on the perimeter of the site and built to respond to the park setting. • Buildings to have a richness of architectural detailing and materials.
ACOUSTIC ATTENUATION / AIR QUALITY	<ul style="list-style-type: none"> • Built development must ensure a through flow of air to prevent pockets of pollutants from the A14 collecting in enclosed spaces. • Development could address acoustic attenuation through building design and architectural detailing, for example sound absorption facade elements including cladding, render and faceted/curved elevations.
FRONTAGES / PUBLIC REALM	<ul style="list-style-type: none"> • Development should be located along the periphery of the main roads/highways edges, wrapping the frontage to form a key facade along Ring Fort Road, Kings Hedges Road and Cambridge Road junctions. • Layout should reflect the curved perimeter of the Iron Age bund. • Active frontages and usable entrances should be provided from the adjacent public realm areas. • Provide a clear delineation between public and private areas. • Create a positive relationship between fronts and backs of buildings. • Ensure all publicly accessible spaces are overlooked by active building frontages or active rooms. • Ensure the security of the boundary with, and the privacy of, the primary school is not compromised.
ACCESS / CIRCULATION / PARKING	<ul style="list-style-type: none"> • The main vehicular access is from Ring Fort Road. • Integrate parking appropriately into the design for development. • Pedestrian and cycle connections with POS1 should be created. • Traffic calming and management should be integrated into the scheme design. • Ensure all parking areas are secure. • Access points at regular intervals, express entry points as gateways into development. • Create safe and convenient pedestrian crossing points. • All pedestrian access should be direct from the street. • Servicing of buildings should be from the facade that has the least visible impact on the public realm.
LANDSCAPING	<ul style="list-style-type: none"> • Optimise views over the open space. • Provide open space provision in accordance with the Council's policy requirements. • Provide appropriate landscaping along the school boundary to create a quality environment and protect privacy. • Incorporate landscape buffer along the edge of the embankment. • Provide appropriate planting to provide an attractive setting to buildings. • Use trees and shrubs to break up car parking areas and provide proportion to the space, particularly to the northern boundary. • Use planting to minimise the visual impact of cars and service areas.



Orchard Park Primary School (Source: Gallaghers)

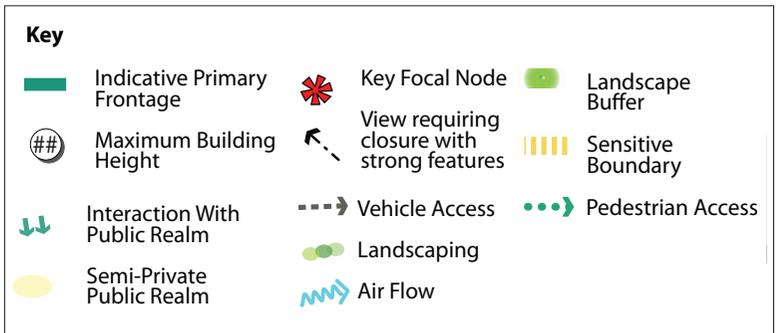
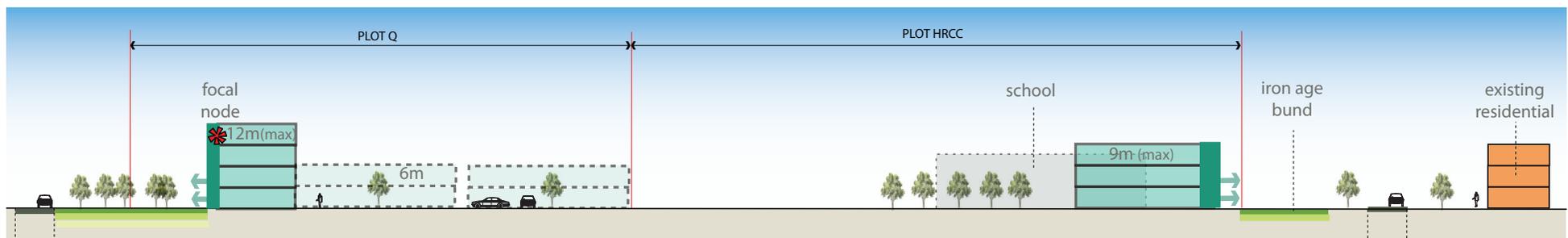


FIG 19 - KEY DESIGN PRINCIPLES LAND PARCELS Q/HRCC



LAND PARCEL COM2a	ESSENTIAL DESIGN CRITERIA
SCALE / MASSING	<ul style="list-style-type: none"> • 15m building height to close the view along the avenue. • 10m (minimum) building height adjacent to the main 15m facade. • 12m maximum and 7m minimum for other buildings.
BUILT QUALITY	<ul style="list-style-type: none"> • High quality landmark buildings are required to terminate views towards Unwin Square. • Strong frontages to define and contain the streets and squares.
ACOUSTIC ATTENUATION / AIR QUALITY	<ul style="list-style-type: none"> • Built development must ensure a through flow of air to prevent pockets of pollutants from the A14 collecting in enclosed spaces. • Buildings should be orientated in such a way so that they act as a noise barrier reducing the noise of the A14 on the rest of the site. • Development could address acoustic attenuation through building design and architectural detailing, for example sound absorption facade elements including cladding, render and faceted/curved elevations. • Consider single aspect and south facing development as part of an overall noise mitigation/insulation scheme to protect residential amenity, health and wellbeing and to address any adverse acoustic conditions. • Carefully locate external private amenity areas and use innovative design approaches to minimise exposure to A14 traffic noise.
FRONTAGES / PUBLIC REALM	<ul style="list-style-type: none"> • Key active frontages are required to Unwin Square and Chieftain Way to create a strong positive streetscape and public realm. • There is potential for a semi private amenity area, as a visual extension to the square. • Provide a clear delineation between public and private areas. • Create a positive relationship between fronts and backs of buildings. • Active frontages and usable entrances should be provided from the adjacent public realm areas. • Ensure all publicly accessible spaces are overlooked by active building frontages or active rooms.
ACCESS / CIRCULATION / PARKING	<ul style="list-style-type: none"> • The vehicular access is from Chieftain Way. • Integrate parking appropriately into the design for development. • Ensure all parking areas are secure. • Prioritise pedestrian/cycle movement, encouraging connections throughout site. • Create safe and convenient pedestrian crossing points. • All pedestrian access should be direct from the street. • Servicing of buildings should be from the facade that has the least visible impact on the public realm. • Traffic calming and management should be integrated into the scheme design.
LANDSCAPING	<ul style="list-style-type: none"> • Provide appropriate landscaping along boundaries to ceate a quality environment and protect privacy. • Provide open space provision in accordance with the Council's policy requirements • Provide landscaping to create strong features that terminate or screen views of the embankment and noise barrier. • Provide appropriate planting to provide an attractive setting to buildings. • Use trees and shrubs to break up car parking areas and provide proportion to the space, particularly to the northern boundary. • Use planting to minimise the visual impact of cars and service areas.

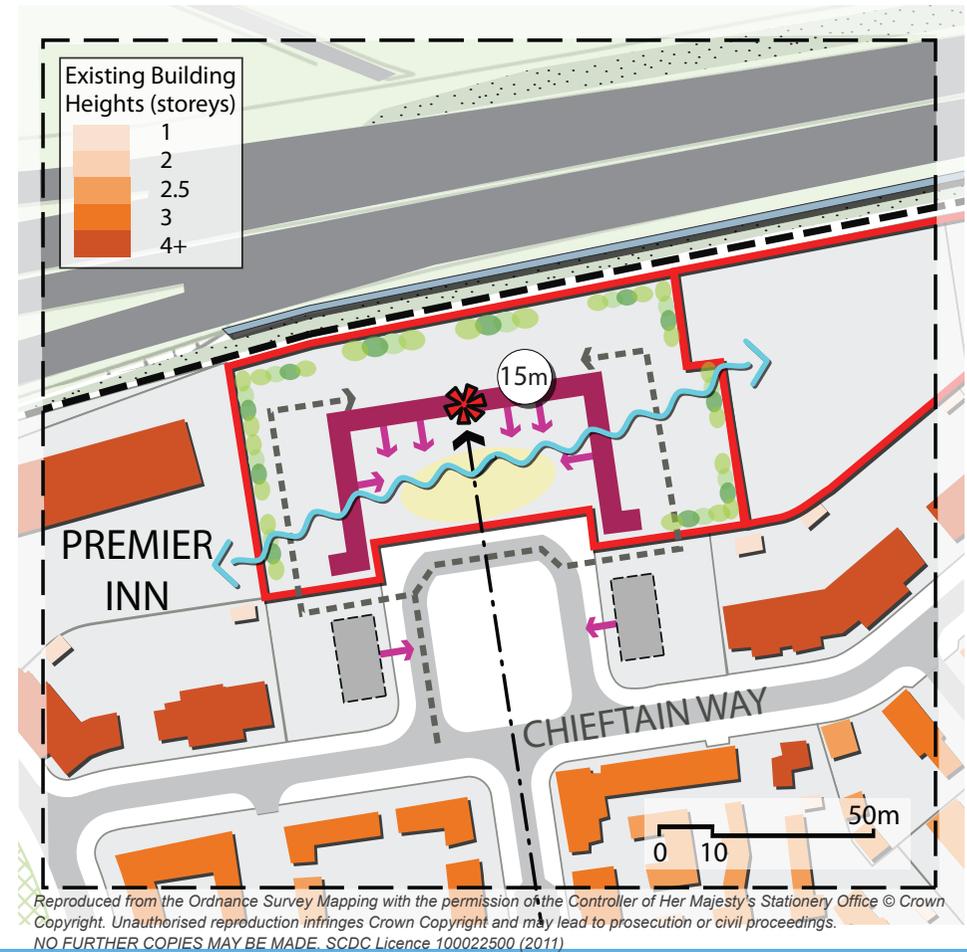
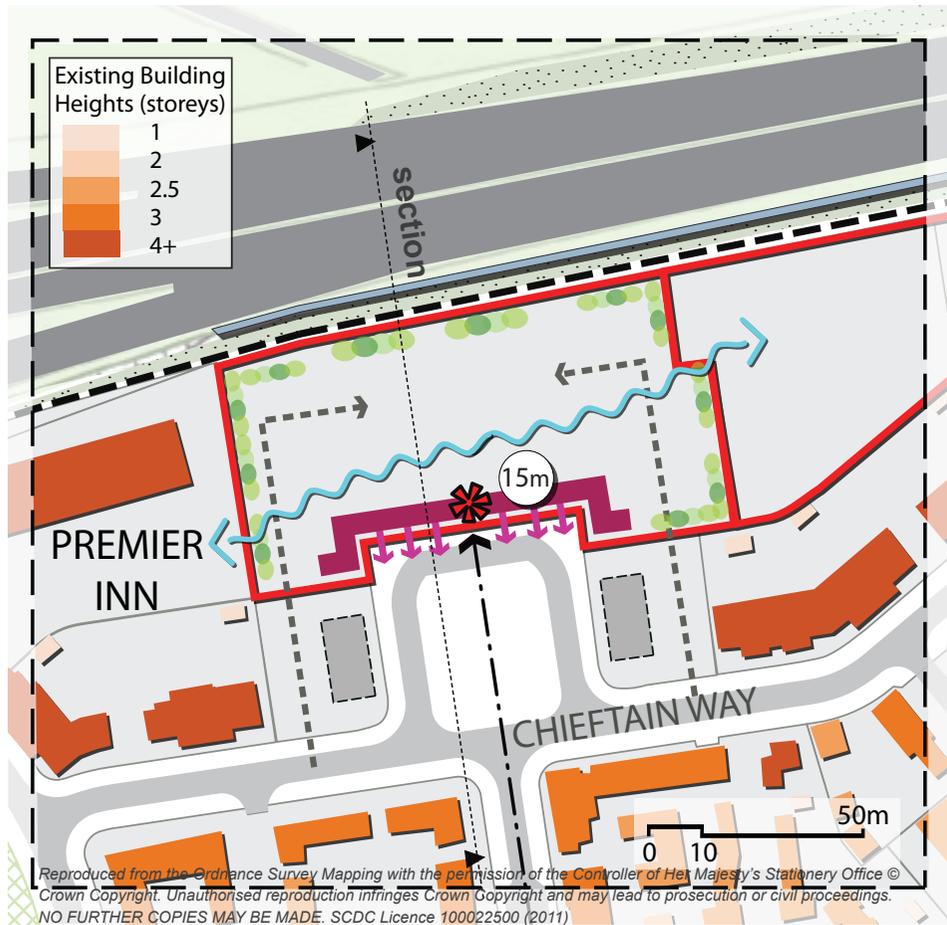
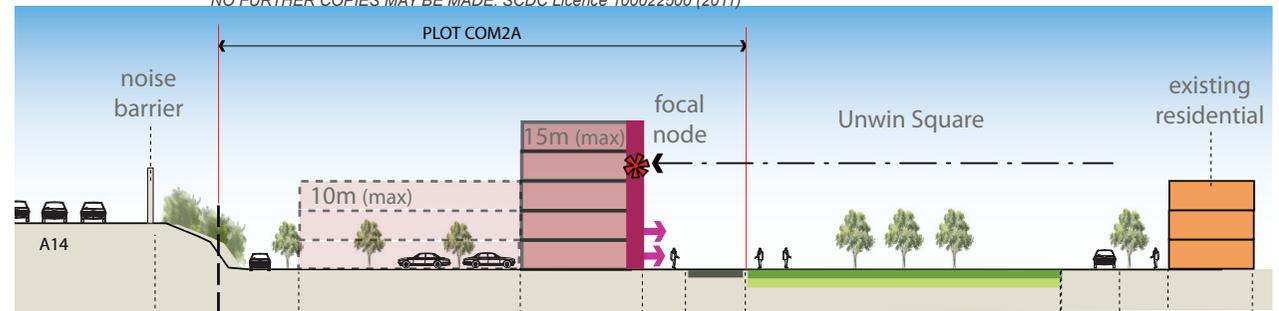
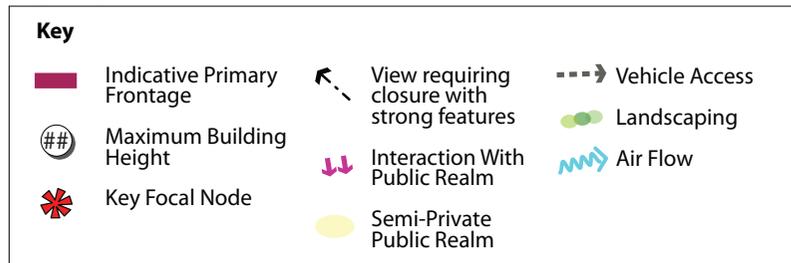
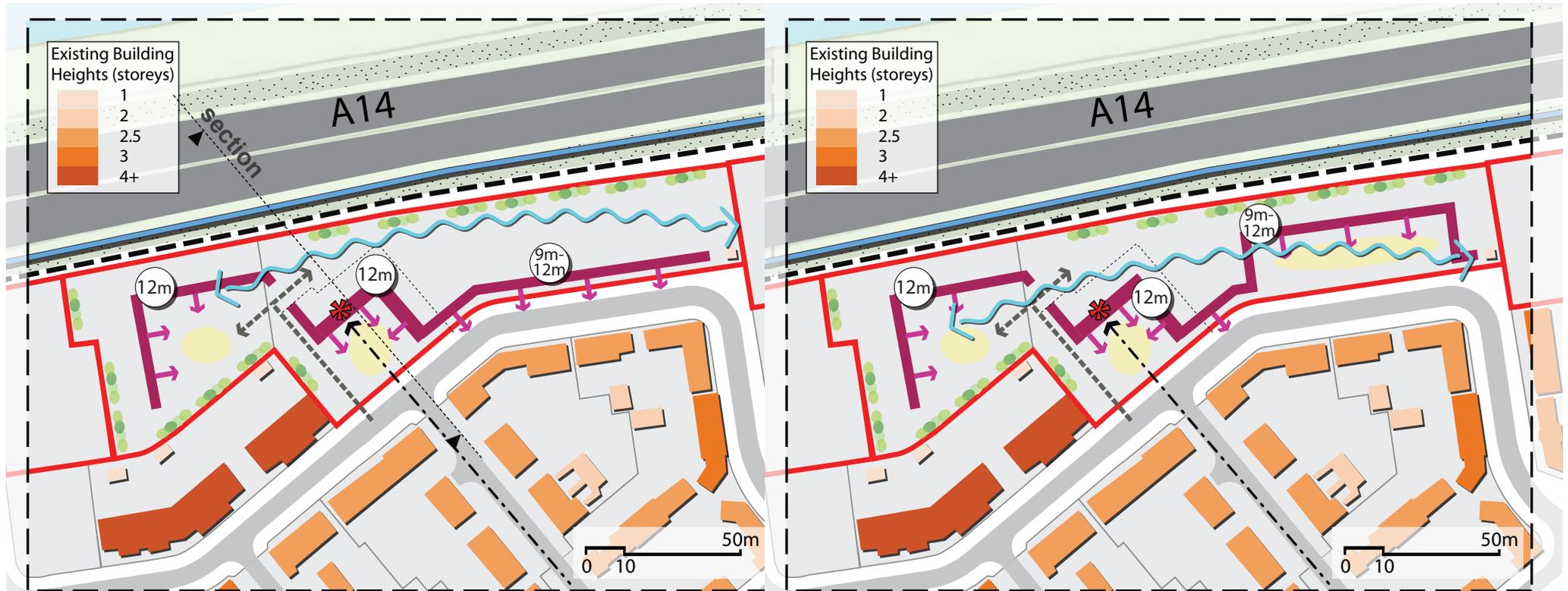


FIG 20a & b - KEY DESIGN PRINCIPLES LAND PARCEL COM2a



LAND PARCEL COM2b/3	ESSENTIAL DESIGN CRITERIA
SCALE / MASSING	<ul style="list-style-type: none"> • Building height of 12m fronting the public realm/square. • 9m minimum for other buildings.
BUILT QUALITY	<ul style="list-style-type: none"> • High quality landmark buildings are required to terminate views. • Strong frontages to define and contain the streets and squares. • Quality landmark buildings are required in this location.
ACOUSTIC ATTENUATION / AIR QUALITY	<ul style="list-style-type: none"> • Built development must ensure a through flow of air to prevent pockets of pollutants from the A14 collecting in enclosed spaces. • Buildings should be orientated in such a way so that they act as a noise barrier reducing the noise of the A14 on the rest of the site. • Development could address acoustic attenuation through building design and architectural detailing, for example sound absorption facade elements including cladding, render and faceted/curved elevations. • Consider single aspect and south facing development as part of an overall noise mitigation/insulation scheme to protect residential amenity, health and wellbeing and to address any adverse acoustic conditions. • Carefully locate external private amenity areas and use innovative design approaches to minimise exposure to A14 traffic noise.
FRONTAGES / PUBLIC REALM	<ul style="list-style-type: none"> • Key active frontages are required to Chieftain Way to create a strong positive streetscape and public realm. • A public square and key frontage terminating the long view will reinforce an active positive streetscape and public realm. • Provide a clear delineation between public and private areas. • Create a positive relationship between fronts and backs of buildings. • Active frontages and usable entrances should be provided from the adjacent public realm areas. • Ensure all publicly accessible spaces are overlooked by active building frontages or active rooms.
ACCESS / CIRCULATION / PARKING	<ul style="list-style-type: none"> • The vehicular access is from Chieftain Way. • Integrate parking appropriately into the design for development. • Ensure all parking areas are secure. • Prioritise pedestrian/cycle movement, encouraging connections throughout site. • Create safe and convenient pedestrian crossing points. • All pedestrian access should be direct from the street. • Servicing of buildings should be from the facade that has the least visible impact on the public realm. • Traffic calming and management should be integrated into the scheme design.
LANDSCAPING	<ul style="list-style-type: none"> • Provide appropriate landscaping along boundaries to create a quality environment and protect privacy. • Provide landscaping to create strong features that terminate or screen views of the embankment and noise barrier. • Provide appropriate planting to provide an attractive setting to buildings. • Use trees and shrubs to break up car parking areas and provide proportion to the space, particularly to the northern boundary. • Use planting to minimise the visual impact of cars and service areas.



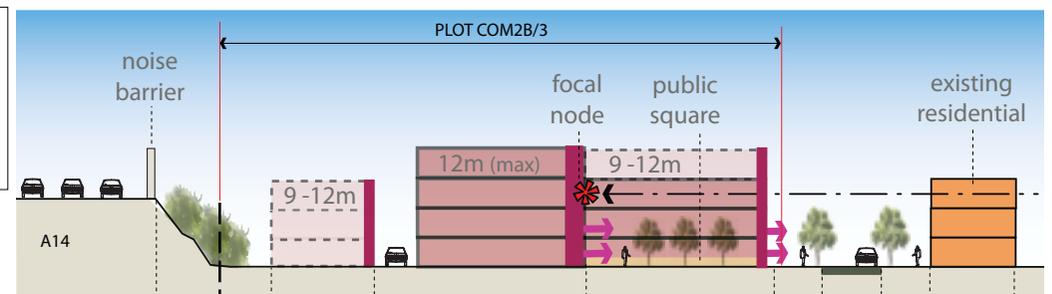
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FIG 21a & b - KEY DESIGN PRINCIPLES LAND PARCELS COM2b/3

Key

	Indicative Primary Frontage		Key Focal Node		Interaction With Public Realm		Vehicle Access
	Maximum Building Height		View requiring closure with strong features		Semi-Private Public Realm		Landscaping
			Air Flow				

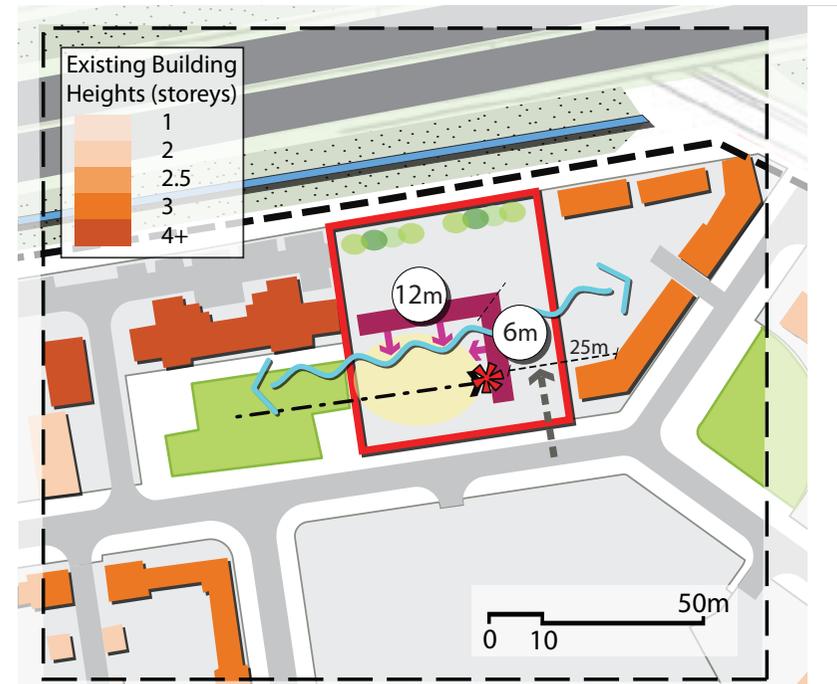


LAND PARCEL COM4	ESSENTIAL DESIGN CRITERIA
SCALE / MASSING	<ul style="list-style-type: none"> • 15m building height for primary block. • 12m for other buildings overlooking the open space. • 9m for other buildings.
BUILT QUALITY	<ul style="list-style-type: none"> • High quality landmark buildings are required to terminate views. • Strong frontages to define and contain the open space and street. • Quality landmark buildings are required in this location.
ACOUSTIC ATTENUATION / AIR QUALITY	<ul style="list-style-type: none"> • Built development must ensure a through flow of air to prevent pockets of pollutants from the A14 collecting in enclosed spaces. • Buildings should be orientated in such a way so that they act as a noise barrier reducing the noise of the A14 on the rest of the site. • Development could address acoustic attenuation through building design and architectural detailing, for example sound absorption facade elements including cladding, render and faceted/curved elevations. • Consider single aspect and south facing development as part of an overall noise mitigation/insulation scheme to protect residential amenity, health and wellbeing and to address any adverse acoustic conditions. • Carefully locate external private amenity areas and use innovative design approaches to minimise exposure to A14 traffic noise.
FRONTAGES / PUBLIC REALM	<ul style="list-style-type: none"> • Key active frontages are required to POS5 and Topper Street to create a strong positive streetscape and containment of the public realm. • Provide a clear delineation between public and private areas. • Create a positive relationship between fronts and backs of buildings. • Active frontages and usable entrances should be provided from the adjacent public realm areas. • Ensure all publicly accessible spaces are overlooked by active building frontages or active rooms. • There is potential for a semi private amenity area for residential premises as a visual extension of POS5.
ACCESS / CIRCULATION / PARKING	<ul style="list-style-type: none"> • The vehicular access is from Topper Street via Neal Drive. • Integrate parking appropriately into the design for development. • Ensure all parking areas are secure. • Prioritise pedestrian/cycle movement, encouraging connections throughout site. • Create safe and convenient pedestrian crossing points. • All pedestrian access should be direct from the street. • Servicing of buildings should be from the facade that has the least visible impact on the public realm. • Traffic calming and management should be integrated into the scheme design.
LANDSCAPING	<ul style="list-style-type: none"> • Provide appropriate landscaping along boundaries to create a quality environment and protect privacy. • Provide landscaping to create strong features that terminate or screen views of the embankment and noise barrier. • Provide appropriate planting to provide an attractive setting to buildings. • Use trees and shrubs to break up car parking areas and provide proportion to the space, particularly to the northern boundary. • Use planting to minimise the visual impact of cars and service areas.

LAND PARCEL L2	ESSENTIAL DESIGN CRITERIA
SCALE / MASSING	<ul style="list-style-type: none"> • 12m building height to terminate view from the west. • 6m to 9m height for other buildings.
BUILT QUALITY	<ul style="list-style-type: none"> • High quality landmark buildings are required to terminate views. • Strong frontages to define and contain the POS6 and Topper Street. • Quality landmark buildings are required in this location.
ACOUSTIC ATTENUATION / AIR QUALITY	<ul style="list-style-type: none"> • Built development must ensure a through flow of air to prevent pockets of pollutants from the A14 collecting in enclosed spaces. • Buildings should be orientated in such a way so that they act as a noise barrier reducing the noise of the A14 on the rest of the site. • Development could address acoustic attenuation through building design and architectural detailing, for example sound absorption facade elements including cladding, render and faceted/curved elevations. • Consider single aspect and south facing development as part of an overall noise mitigation/insulation scheme to protect residential amenity, health and wellbeing and to address any adverse acoustic conditions. • Carefully locate external private amenity areas and use innovative design approaches to minimise exposure to A14 traffic noise.
FRONTAGES / PUBLIC REALM	<ul style="list-style-type: none"> • Key active frontages are required to POS6 and Topper Street to create a strong positive streetscape and containment of the public realm. • Provide a clear delineation between public and private areas. • Create a positive relationship between fronts and backs of buildings. • Active frontages and usable entrances should be provided from the adjacent public realm areas. • Ensure all publicly accessible spaces are overlooked by active building frontages or active rooms. • There is potential for a semi private amenity area for residential premises as a visual extension of POS6.
ACCESS / CIRCULATION / PARKING	<ul style="list-style-type: none"> • The vehicular access is from Topper Street via Neal Drive. • Integrate parking appropriately into the design for development. • Ensure all parking areas are secure. • Prioritise pedestrian/cycle movement, encouraging connections throughout site. • Create safe and convenient pedestrian crossing points. • All pedestrian access should be direct from the street. • Servicing of buildings should be from the facade that has the least visible impact on the public realm. • Traffic calming and management should be integrated into the scheme design.
LANDSCAPING	<ul style="list-style-type: none"> • Provide appropriate landscaping along boundaries to ceate a quality environment and protect privacy. • Provide landscaping to create strong features that terminate or screen views of the embankment and noise barrier. • Provide appropriate planting to provide an attractive setting to buildings. • Use trees and shrubs to break up car parking areas and provide proportion to the space, particularly to the northern boundary. • Use planting to minimise the visual impact of cars and service areas.

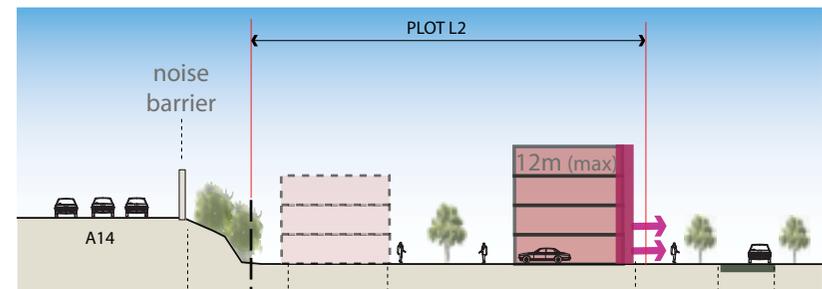
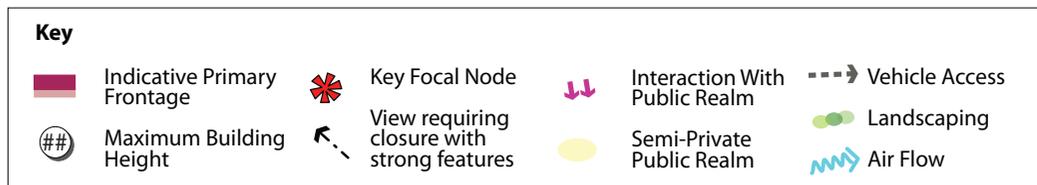


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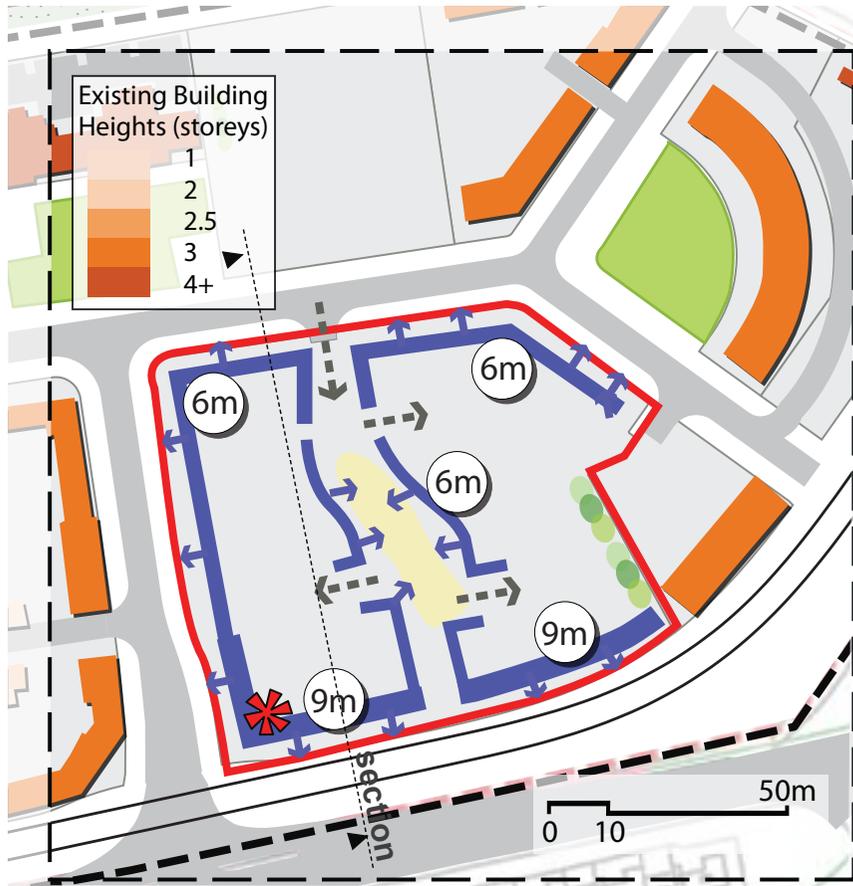


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FIG 23a & b - KEY DESIGN PRINCIPLES LAND PARCEL L2



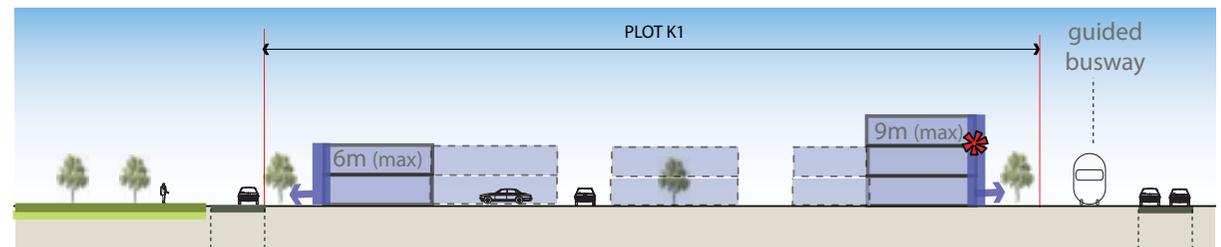
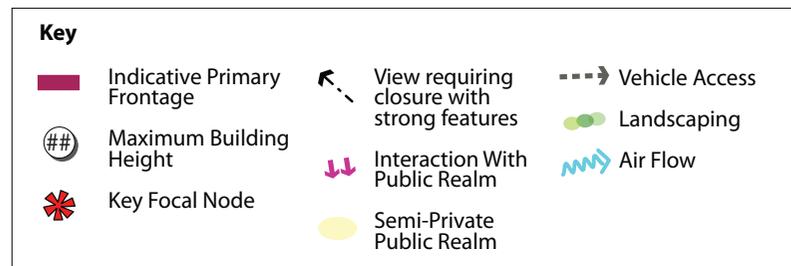
LAND PARCEL K1	ESSENTIAL DESIGN CRITERIA
SCALE / MASSING	<ul style="list-style-type: none"> • 9m building height to Kings Hedges Road frontage. • 6m for other buildings.
BUILT QUALITY	<ul style="list-style-type: none"> • High quality architectural landmarks to accentuate a 'gateway' at entrance to Orchard Park from Kings Hedges Road. • Attain the high standards of environmental performance. • Strong frontages to define and contain the streets. • Buildings to have a richness of architectural detailing and materials.
ACOUSTIC ATTENUATION / AIR QUALITY	<ul style="list-style-type: none"> • Built development must ensure a through flow of air to prevent pockets of pollutants from the A14 collecting in enclosed spaces. • Development could address acoustic attenuation through building design and architectural detailing, for example sound absorption facade elements including cladding, render and faceted/curved elevations. • Carefully locate external private amenity areas and use innovative design approaches to minimise exposure to A14 traffic noise.
FRONTAGES / PUBLIC REALM	<ul style="list-style-type: none"> • Key active frontages are required to Kings Hedges Road, Graham Road, Topper Street and Starr End to create a strong positive streetscape and containment of the public realm. • Provide a perimeter block. • Provide a clear delineation between public and private areas. • Create a positive relationship between fronts and backs of buildings. • Active frontages and usable entrances should be provided from the adjacent public realm areas. • Ensure all publicly accessible spaces are overlooked by active building frontages or active rooms. • There is potential for a semi private amenity area for residential premises within the core of the block. • Provide clear and secure building fronts and boundaries to the indicative mews streets.
ACCESS / CIRCULATION / PARKING	<ul style="list-style-type: none"> • The vehicular access is from Graham Road and Topper Street. • Integrate parking appropriately into the design for development. • Ensure all parking areas are secure. • Prioritise pedestrian/cycle movement, encouraging connections throughout site. • Create safe and convenient pedestrian crossing points. • All pedestrian access should be direct from the street. • Servicing of buildings should be from the facade that has the least visible impact on the public realm. • Traffic calming and management should be integrated into the scheme design. • Parking access is off the main internal route, with parking areas dispersed and of of limited spaces.
LANDSCAPING	<ul style="list-style-type: none"> • Provide appropriate landscaping along boundaries to ceate a quality environment and protect privacy. • Provide landscaping to create strong features that terminate or screen views of the embankment and noise barrier. • Provide appropriate planting to provide an attractive setting to buildings. • Use trees and shrubs to break up car parking areas and provide proportion to the space, particularly to the northern boundary. • Use planting to minimise the visual impact of cars and service areas.



Orchard Park: Persimmon Homes Parcel A2 (Source: Gallaghers)

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FIG 24 - KEY DESIGN PRINCIPLES LAND PARCEL K1



Appendix 1 LOCAL DEVELOPMENT FRAMEWORK POLICIES SUPPLEMENTED BY THE SUPPLEMENTARY PLANNING DOCUMENT

HOUSING EDGE OF CAMBRIDGE POLICY SP/1 Cambridge Northern Fringe West (Orchard Park)

1. Land bounded by the A14, Histon Road, Kings Hedges Road and the former Cambridge-St Ives railway line is allocated for a sustainable housing-led mixed-use development providing a minimum of 900 dwellings, a public transport interchange on the proposed Cambridgeshire Guided Busway along the former railway line, up to 18,000 m² B1 development, a primary school, a local centre, public open space, and the preservation or enhancement of the Arbury Camp site of archaeological interest.

2. Development will take place in accordance with the approved Masterplan for the whole of the site including the land within the City Council boundary, other than where this Policy provides for exceptions. The Masterplan shall provide for:

a. Maximum penetration and service of the site by public transport, including the extension of existing bus routes and full utilisation of the potential of direct connection to any future public transport route along the former railway line;

b. The creation of strong internal cycle and

footpath links between component parts of the development and the retention and strengthening of such links to neighbouring parts of the urban area and to the rural area to the north of the A14;

c. Adequate attenuation measures in relation to noise and emissions generated by traffic on the A14, including the adoption of an appropriate layout and disposition of uses.

d. The retention of an attractive urban edge to Cambridge through the use of high standards of design and landscaping and the creation of gateway features;

e. The retention of appropriate existing features of ecological interest and the creation of new features which will enhance the interest of the site.

3. Residential development may be granted planning permission as an addition to, or a change from, the approved development and Masterplan, but only where this would be compatible with the objective for the development as a whole of providing a sustainable housing-led mixed-use development and where it would conform with the terms of this Policy. The following specific assessments must be submitted as part of any planning application:

f. A Noise Assessment to demonstrate that the proposed development takes account of, and mitigates as necessary and appropriate, any impacts of noise on achieving a satisfactory external and internal residential noise environment. Where any part of the noise barrier to the A14 would need to be retained as a result of residential development, the impact on the

long term setting of Cambridge will be taken into account in determining the planning application. The potential to replace the barrier with higher quality design and materials will be explored and secured through any planning permission if appropriate, subject to ensuring no adverse noise impact on existing communities.

g. An Air Quality Assessment, including monitoring, to demonstrate that the proposed development takes account of, and mitigates as necessary and appropriate, any impacts of air quality on achieving a suitable residential environment and also any impacts of development upon the objectives of the designated Air Quality Management Area (AQMA). Account should also be taken of the anticipated effects of the A14 Ellington to Fen Ditton Improvements on the nature and extent of the A14 AQMA.

h. A Transport Assessment to demonstrate that there is adequate highway capacity to serve all stages of development on the Orchard Park site as a whole, particularly in the A14 corridor between Girton and Milton, having regard to the traffic forecast to be generated by each phase of development.

2.1 The Orchard Park site, formerly known as Arbury Park, was allocated for mixed-use development in the South Cambridgeshire Local Plan 2004. The site is in a sustainable location on the edge of Cambridge with good access to local services and facilities in the wider Orchard Park development and employment in the nearby Science Park, as well as by good public transport provision to the rest of Cambridge by a number of routes, including the Cambridgeshire Guided Busway. Outline planning permission

was granted in 2005, and included approval of the Orchard Park Development Framework Plan. A number of phases of the site are complete or under construction. However, it is appropriate to provide a policy context for any planning applications for changes to the approved development during the period of construction.

2.2 The presence of the A14 has a heavy influence on the site. The A14 Ellington to Fen Ditton Improvements will provide dual 3-lane carriageways but this can be accommodated without compromising the strategy in Policy SP/1. This road widening is likely to include noise reduction measures such as a quiet road surface but other mitigation measures will still be necessary to ensure that traffic noise and vehicle emissions are reduced to acceptable levels. It will be particularly important to keep a balance between the provision of effective mitigation measures (such as noise barriers and / or buildings designed or orientated to screen noise) and the creation of an attractive urban edge alongside the widened road. The original strategy envisaged that commercial uses may be used for this purpose.

2.3 The outline planning consent allowed a mixed development including 900 homes. There is potential for additional residential development beyond this figure, by using parcels shown in the Development Framework Plan for other uses, including two areas for commercial development adjacent to the A14 and also the south west part of the site where the masterplan approved as part of the 2005 planning permission envisaged there would be mixed use development and a Heritage Resource & Conservation Centre, which is now intended to be located elsewhere in Cambridge. These known parcels could provide in the order of 220 additional dwellings, although the final number will be determined through detailed planning applications

and could be higher, although regard must be had to the constraints on these parcels. This will result in a corresponding reduction in the level of commercial development on the Orchard Park site. The south west part of the site fronts onto both Histon Road and Kings Hedges Road and will provide an important gateway building for those entering the historic City of Cambridge from the north. A high quality landmark building will therefore be required, which provides an appropriate frontage to Histon Road and reflects its edge of City location and the need to respect the separation with Histon and Impington village to the north of the A14.

2.4 In the development of the original planning policy for residential-led development at the Orchard Park site, the primary purpose of allocating a mixed use development was in order for the proposed employment development on the northern edge of the Orchard Park site to act as noise attenuation for the A14 in order to bring forward residential development and local services and facilities on the remainder of the site. The noise barrier along the A14 was originally envisaged as a temporary measure pending development.

2.5 However, the nature of some of the development built on the north eastern part of the site adjacent to the A14 (which includes residential uses) already requires the retention of the eastern part of the noise barrier permanently. Any development proposal for additional residential development as an alternative to commercial uses adjacent to the A14 would need to demonstrate that a satisfactory internal and external residential noise environment can be created, including careful acoustic design and layout of any residential buildings (such as single aspect, limited height, sealed non opening windows on the façade facing A14, passive and or forced mechanical

acoustically treated ventilation, no external private amenity spaces such as balconies / gardens on any façade with direct line of sight to road noise source). Any proposals must also demonstrate that there would not be an unacceptable adverse impact on the setting of Cambridge if a greater length of the noise barrier needs to be retained permanently as a result of the development. The local planning authority will seek to secure through development the replacement of any parts of the noise barrier that need to be retained permanently with an more aesthetically appropriate design and materials for this sensitive location on the edge of Cambridge at the time when the barrier is moved to accommodate the A14 Ellington to Fen Ditton Improvements, subject to ensuring that there is no adverse impact on existing communities, particularly on the north side of the A14 through for example reflected noise.

2.6 Where the noise barrier is not required to be retained to protect the additional development, it is important that the development proposals demonstrate that the form of development would provide adequate protection from noise for residential development elsewhere on the Orchard Park site.

2.7 An Air Quality Assessment will be required to be submitted as part of any planning application for additional or alternative forms of development depending on the nature and size of the proposal. This must include monitoring of the actual location where residential development is proposed or an agreed equivalent, if appropriate monitoring data is not available from the Council. The assessment should be based on total emissions from the site and be in accordance with current national best practice guidance. An Air Quality Management Area (AQMA) was originally designated to address problems with Nitrogen Dioxide levels in the A14 corridor in 2007,

after the granting of outline planning permission for the development. The AQMA was re-designated in 2008 to also include particulate matter (PM10). The AQMA must be taken into account in any development proposals to ensure that a satisfactory residential environment can be provided in order to protect the health of future residents by minimising exposure to poor air quality and appropriate mitigation measures must be included if necessary. Any proposals for additional or alternative forms of development must also have regard to any impacts of development on the national air quality objectives, the designated AQMA along the A14 and the Council's Low Emission Strategy. Account must also be taken of the anticipated effects of the A14 Ellington to Fen Ditton Improvements on the nature and extent of the AQMA. Development will not be permitted on any part of the site where this issue cannot be adequately addressed.

2.8 A Transport Assessment will be required to consider the implications of additional or alternative forms of development on highway capacity. This will include a detailed assessment of the net impact of replacing parcels assumed for commercial development in the Transport Assessment accompanying the original planning permission with residential development. The assessment must also consider the cumulative impact alongside other allocations in this part of Cambridge, on both the A14 Histon Interchange and surrounding local highways junctions and have regard to the effect of the A14 Ellington to Fen Ditton Improvements.

2.9 Arbury Camp (an Iron Age enclosure which was re-occupied during the Roman period, when the main Roman settlement was located to the north of Arbury Camp) lies within the site but below ground level. As in-situ preservation of the enclosure has

proven to be essential, its site may be used to satisfy part of the open space requirements of the new development insofar as such use is compatible with preservation of the enclosure. Any additional residential development will need to make provision for its recreational needs in accordance with the Council's Open Space and Recreation Standards, as well as any enhanced or additional community services and facilities to serve the additional homes. Consideration may be given to off-site provision of the active recreational needs of new residents in consultation with Orchard Park Community Council as the managing agency.

SUSTAINABLE DEVELOPMENT

POLICY DP/1 Sustainable Development

1. Development will only be permitted where it is demonstrated that it is consistent with the principles of sustainable development, as appropriate to its location, scale and form. It should:

- a. Be consistent with the sequential approach to development, as set out in the Strategy chapter of the Core Strategy DPD;**
- b. Minimise the need to travel and reduce car dependency;**
- c. Make efficient and effective use of land by giving priority to the use of brownfield sites and achieve adaptable, compact forms of development through the use of higher densities;**
- d. Include mixed-use development of compatible uses as appropriate to the scale and**

location of the development;

- e. Where practicable, use sustainable building methods and verifiably sustainable, locally sourced materials, including recycled materials, and include a Travel Plan to address the travel needs of labour during construction;**
- f. Where practicable, minimise use of energy and resources;**
- g. Where practicable, maximise the use of renewable energy sources;**
- h. Incorporate water conservation measures;**
- i. Minimise flood risk;**
- j. Where practicable, use sustainable drainage systems (SuDS);**
- k. Mitigate against the impacts of climate change on development through the location, form and design of buildings;**
- l. Ensure no unacceptable adverse impact on land, air and water;**
- m. Contribute to the creation of mixed and socially inclusive communities and provide for the health, education, recreation, community services and facilities, and social needs of all sections of the community;**
- n. Where practicable, include infrastructure for modern telecommunications and information technology to facilitate home working;**

o. Conserve and wherever possible enhance biodiversity of both wildlife and the natural environment;

p. Conserve and wherever possible enhance local landscape character;

q. Involve community and providers of community services in the design process;

r. Conserve and wherever possible enhance cultural heritage.

2. In criteria e, f, g, j and n it will be for any applicant or developer proposing to compromise sustainability to demonstrate the impracticability of use of sustainable methods, systems, materials and energy sources and provision of sustainable infrastructure. Additional cost will not, on its own, amount to impracticability.

3. For major developments, applicants must submit a Sustainability Statement and a Health Impact Assessment, to demonstrate that principles of sustainable development have been applied.

2.3 The principles of sustainable development are fundamental to international obligations and to national, regional and strategic planning policy. These principles also underpin the strategy, and all policies and proposals of the South Cambridgeshire Local Development Framework. The eastern region is the driest in the UK. It is also a low-lying area that is vulnerable to the implications of climate change. However, it is also a rural area that is to accommodate a great deal of growth surrounding the important historic city of Cambridge. It is therefore

of key importance to the continuing success of the district that development is sustainable and achieves environmental, economic and social gains for current and future generations.

2.4 This key policy draws together sustainability issues to ensure that the fundamental principles of sustainable development underpin all development proposals. The issues dealt with are covered in greater detail in the later subject chapters. It also includes references to key sustainability issues of building methods and materials, which will be part of the overall consideration of the development proposal, but are not directly related to the planning system.

2.5 All planning applications for major development are required to submit a Sustainability Appraisal and a Health Impact Statement to demonstrate that they have addressed sustainability issues, including impact on health, in their development proposals. Major development is defined as:

- Residential development: the erection of 20 or more dwellings, or, if this is not known, where the site area is 0.5 hectares or more; or
- Other development: where the floor area to be created is 1,000 m² or more, or the site area is 1 hectare or more.

2.6 To assist in the preparation of a Sustainability Statement and Health Impact Assessment, further guidance will be provided in a Supplementary Planning Document.

DESIGN OF NEW DEVELOPMENT

POLICY DP/2 Design of New Development

New Development Design

1. All new development must be of high quality design and, as appropriate to the scale and nature of the development, should:

a. Preserve or enhance the character of the local area;

b. Conserve or enhance important environmental assets of the site;

c. Include variety and interest within a coherent design, which is legible and provides a sense of place whilst also responding to the local context and respecting local distinctiveness;

d. Achieve a legible development, which includes streets, squares and other public spaces with a defined sense of enclosure and interesting vistas, skylines, focal points and landmarks, with good interrelationship between buildings, routes and spaces both within the development and with the surrounding area;

e. Achieve a permeable development for all sectors of the community and all modes of transport, including links to existing footways, cycleways, bridleways, rights of way, green spaces and roads;

f. Be compatible with its location and appropriate in terms of scale, mass, form, siting, design, proportion, materials, texture and colour in relation to the surrounding area;

- g. In the case of residential development, provide higher residential densities, and a mix of housing types including smaller homes;
- h. Provide high quality public spaces;
- i. Provide an inclusive environment that is created for people, that is and feels safe, and that has a strong community focus;
- j. Include high quality landscaping compatible with the scale and character of the development and its surroundings.

Design and Access Statements

2. Design and Access Statements submitted to accompany planning applications and applications for listed building consent should be compatible with the scale and complexity of the proposal and, as appropriate should include:

- k. A full site analysis of existing features and designations;
- l. An accurate site survey including landscape features and site levels;
- m. The relationship of the site to its surroundings;
- n. Existing accesses for pedestrians, cyclists, equestrians and vehicles;
- o. Any known historic importance;
- p. Opportunities for maximising energy efficiency and addressing water and drainage issues.

3. The Access element of the Statement should demonstrate that the development will achieve an inclusive environment that can be used by everyone, regardless of age, gender or disability. It should also address how the development has taken account of the transport policies of the development plan.

2.7 All new development will have an impact on its surroundings. The aim must be that any development, from a major urban extension to Cambridge to an extension to an existing home, takes all proper care to respond to its surroundings, including existing buildings, open spaces and villages edges, and ensure an integrated scheme that does not harm local amenity and wherever possible, brings benefits to the area.

2.8 A fully integrated and responsive designed approach to development is therefore needed. In the case of residential development, it will allow significant increases in residential densities, extend the range of housing choice and, at the same time, improve the environmental quality and integration of new development. Development at higher densities may require more innovative design to incorporate off-street car parking, for example, through integrating garages within the footprint of dwellings or underground parking. Higher densities and smaller gardens place added importance on the need for quality landscaping and open space in developments in order to maintain quality of life. For all development, an urban design led approach will ensure that every proposal, whatever its scale, responds positively to the particular characteristics of a site and its surroundings and reinforces local distinctiveness.

2.9 Achieving higher density development will

require innovation in both building design and development layout, to ensure that the significant scale of development that will take place in South Cambridgeshire over the plan period is designed very much with people in mind and results in places where people want to live. This will include layouts of residential areas that are permeable and easy to move around and that are legible to people, as well as increased densities over those achieved in the district in the recent past. This means a move away from cul de sac developments to more imaginative design solutions that deliver quality sustainable environments.

2.10 This policy must be read in conjunction with any design Supplementary Planning Document adopted by the District Council, which will be used in decisions on planning applications. This may include district-wide design guidance and also individual Village Design Statements or Parish Plans that have been prepared by the local community, where these have been adopted by the Council as a Supplementary Planning Document (SPD). The Council will only adopt such guidance or elements of it, as SPD where it is consistent with the policies contained in the Local Development Framework.

2.11 The Town and County Planning Act 1990 and the Listed Building Act 1990 (both amended by the Planning and Compulsory Purchase Act 2004) require that the majority of applications for planning permission or listed building consent include a Design and Access Statement. These statements will enable applicants to demonstrate to the Council that they have properly considered the impact of their proposal and taken into account all relevant factors in the design of the scheme, including landscaping matters. It is important that developments are made accessible to everybody, and the access element

of the Statements provide a means of establishing that this goal is achieved. The level of detail of the Statement will vary according to the scale and complexity of the application. The policy sets out the issues that should be addressed in the Statements.

2.12 Further guidance on Design and Access Statements can be found in Design and Access Statements - How to Write, Read and Use Them (CABE 2006), and DCLG Circular 01/2006.

DEVELOPMENT CRITERIA

POLICY DP/3 Development Criteria

1. All development proposals should provide, as appropriate to the nature, scale and economic viability:

a. Affordable housing (in housing schemes);

b. Appropriate access from the highway network that does not compromise safety, enhanced public and community transport and cycling and pedestrian infrastructure;

c. Car parking, with provision kept to a minimum;

d. Safe and secure cycle parking;

e. Outdoor play space;

f. Safe and convenient access for all to public buildings and spaces, and to public transport, including those with limited mobility or those with other impairment such as of sight or hearing;

g. For the screened storage and collection of refuse, including recyclable materials;

h. A design and layout that minimises opportunities for crime;

i. Financial contributions towards the provision and, where appropriate, the maintenance of infrastructure, services and facilities required by the development in accordance with Policy DP/4;

2. Planning permission will not be granted where the proposed development would have an unacceptable adverse impact:

j. On residential amenity;

k. From traffic generated;

l. On village character;

m. On the countryside, and landscape character;

n. From undue environmental disturbance such as noise, lighting, vibration, odour, noxious emissions or dust;

o. On ecological, wildlife and archaeological interests;

p. On flooding and flood risk;

q. On the best and most versatile agricultural land;

r. On quality of ground or surface water;

s. On recreation or other community facilities.

2.13 It is important that development proposals make proper provision to meet their needs. Read together with Policies DP/1 and DP/2 on Sustainable Development and Design of New Development, this policy provides a check-list for developers to help ensure that all requirements are met. To avoid an overly lengthy and complex policy, many of the criteria cross-refer to other policies in the Plan, which provide the full detail.

2.14 The Council will prepare a Supplementary Planning Document for various aspects of development dealt with in this policy, and for storage and collection of waste and recycling.

POLICY NE/1 Energy Efficiency

1. Development will be required to demonstrate that it would achieve a high degree of measures to increase the energy efficiency of new and converted buildings, for example through location, layout, orientation, aspect, and external design.

2. Developers are encouraged to reduce the amount of CO₂m³/year emitted by 10% compared to the minimum Building Regulation requirement when calculated by the Elemental Method in the current building regulations for a notional building of the same size and shape as that proposed, particularly for new or substantially demolished buildings.

7.5 Further guidance on the way in which development should increase energy efficiency

of new and converted buildings is contained in the district-wide Design Guide, which will be adopted as a Supplementary Planning Document.

POLICY NE/2 Renewable Energy

The District Council will grant planning permission for proposals to generate energy from renewable sources, subject to proposals according with the development principles set out in Policies DP/1 to DP/3 and complying with the following criteria:

- a. The proposal can be connected efficiently to existing national grid infrastructure unless it can be demonstrated that energy generation would be used on-site to meet the needs of a specific end user;**
- b. The proposal makes provision for the removal of the facilities and reinstatement of the site, should the facilities cease to be operational.**

7.6 Given the commitment by government and the District Council to reduce the use of fossil fuels, opportunities to increase the proportion of energy, especially electricity, generated from renewable sources will be permitted unless there is clear adverse impact on the environment or amenity of the area.

7.7 In South Cambridgeshire, with greater than the UK average levels of sunshine, solar power can make a significant contribution. The District Council will seek the incorporation of measures such as solar panels or electricity generation from photo-voltaic cells in new or converted buildings and structures.

7.8 Individual or small groups of wind turbines may also be appropriate.

POLICY NE/3 Renewable Energy Technologies in New Development

All development proposals greater than 1,000 m² or 10 dwellings will include technology for renewable energy to provide at least 10% of their predicted energy requirements, in accordance with Policy NE/2.

7.9 Policy ENV8 of the Draft Regional Spatial Strategy for the East of England (RSS14) requires all Local Development Documents to include policies to promote and encourage energy efficiency and renewable energy. The Government is committed under the 1997 Kyoto Agreement to reduce greenhouse gas emissions.

7.10 A recent study "Delivering Renewable Energy in the Cambridge Sub-Region" (June 2004) has considered the technical potential for the larger development sites to exploit various renewable energy sources to help meet their energy needs.

7.11 Given the scale of new development proposed, the potential contribution which new development can make towards meeting the targets for renewable energy provision is considerable. This could take various forms including localised wind powered generators, solar panels and photo-voltaic cells being incorporated into the design of buildings. The provision of these technologies may also be off-site as appropriate.

7.12 Electricity generation from renewable resources will be directed into the national grid where it could help smooth out fluctuations in supply and demand; it would also not require the developments receiving the electricity to be limited to a single energy supply company.

AIR QUALITY

POLICY NE/16 Emissions

- 1. Development proposals will need to have regard to any emissions arising from the proposed use and seek to minimise those emissions to control any risks arising and prevent any detriment to the local amenity by locating such development appropriately.**
- 2. Where significant increases in emissions covered by nationally prescribed air quality objectives are proposed, the applicant will need to assess the impact on local air quality by undertaking an appropriate modelling exercise to show that the national objectives will still be achieved. Development will not be permitted where it would adversely affect air quality in an Air Quality Management Area.**

7.56 Air pollutants (including dust and odour) have been shown to have adverse effects on health and the environment. Emissions arising from any development including indirect emissions such as those attributable to associated traffic generation must therefore be considered in determining planning applications. Where emissions from industrial processes are subject to pollution control legislation (PPC, LAPC, LAPPC) the regulatory authority will be consulted with respect to control of these emissions.

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