

masterplanning with paving



REVISIT AND CASE STUDY
ACCORDIA HOUSING
CAMBRIDGE 2011

Interpave

THE PRECAST CONCRETE PAVING
AND KERB ASSOCIATION



www.paving.org.uk

Accordia Cambridge

Following on from our original 2009 case study, Interpave revisited Accordia during 2011 to review progress on later phases and the success of earlier phases in use. In particular, we wanted to see how masterplanning, applied through the planning system, ensures ongoing and consistent application of good design, detailing and implementation of hard surfaces throughout major projects such as this – irrespective of changes in developer, designer or contractor.

This case study explores the application of current approaches to masterplanning, urban design and 'place shaping', focusing on external surfaces. These topics are discussed in more detail in Interpave's *Planning with Paving* document, available via www.paving.org.uk.

Project Overview

Accordia is a substantial, award winning housing project on the edge of central Cambridge. Its importance lies not just in its size and location but also in its demonstration that it is possible for a volume house-builder to support high quality architecture and urban design. Its approach to the masterplanning of substantial projects and an insistence on good design, limited palette of high quality materials and careful detailing is set to have a major impact on housing design in the UK and elsewhere.

The site was occupied by 1940s government buildings in a locality characterised by large terraced and individual

19th century villas. Accordia is a strategically important new residential quarter for Cambridge and the last major undeveloped 'brownfield' site close to the city centre, in a key position between the city and open fields. As a result, the municipal planning authority insisted that the developer – Countryside Properties – employed good designers to maximise the unique opportunities presented by the site.

Accordia is therefore the result of an unusual collaboration between three of the UK's most highly regarded architects. It was led by masterplanners Feilden Clegg Bradley Studios with associate architects Alison Brooks Architects and Maccreehan Lavington – working closely with landscape architects Grant Associates and other consultants. Building work started on site in September 2003 and still continues today. The development comprises 212 houses and 166 apartments on a 9.5 hectare site at a density of 40 dwellings per hectare overall including landscape spaces.

The masterplanners FCBS have described the design as including a variety of innovative house and apartment types in the form of terraces, courtyard houses and 'set-piece' apartment buildings, composed within public landscaped gardens which extend to approximately 3 hectares – around one third of the site. The buildings are arranged in three dense groups of up to 65 dwellings per hectare, separated by mature landscape, with houses ranging in size from three to five bedrooms (90 to 350 square metres) and apartments of one, two and three bedrooms (45 to 145 square metres). Included is a proportion of 30% affordable dwellings in mixed tenure, integrated both in design and materials with the private housing.



“The values of Accordia are those British cities need more of: a subtly controlling masterplan, a collaborative approach and an eye for both the detail and the big picture in the landscape and the architecture.” – 2008 Stirling Prize Judges’ summary.

Urban Design Strategy

The site presented a strong existing landscape framework with over 700 mature trees, so the principle design concept was “living in a large garden”, informed by local contextual references taken from the historic college garden courts and the public green squares – known as ‘pieces’ – of Cambridge. The scheme takes an innovative approach to providing gardens of many scales, from interior rooftop spaces and internal courtyards to large semi-public community gardens.

In place of conventional house gardens, private open spaces in the form of courtyards, roof terraces and large balconies are designed as an integral part of the architecture. In combination with the generous communal gardens this aims to reflect the changing aspirations of our modern lifestyles and continues a strong tradition of domestic architecture in Cambridge.

The masterplan was designed for pedestrian and cycle demands, with landscaped pedestrian ‘streets’, mews areas with shared surfaces, discreet car parking and integrated cycle parking for all dwellings. Each dwelling is accessed from an urban street side but opens out onto, and enjoys views of a shared landscape which includes amenities for passive and active recreation.

The form of the buildings is not only determined by the relationship and scale of the open space and urban frontages but also by the solar orientation. The larger scale apartment buildings and terraces are associated with the bigger open spaces and are typically on an east/west orientation to minimise overshadowing of adjacent homes. The lower terraces and courts are arranged around the more intimate landscape spaces with south facing terraced gardens.

Recognising Design Quality

Accordia received strong support from the local planning authority, residents of the area and CABA (the Commission for Architecture and the Built Environment) – the government’s advisor on architecture, urban design and public space. The project also received the Royal Institute of British Architects (RIBA) Stirling Prize in 2008, the first housing project to do so.

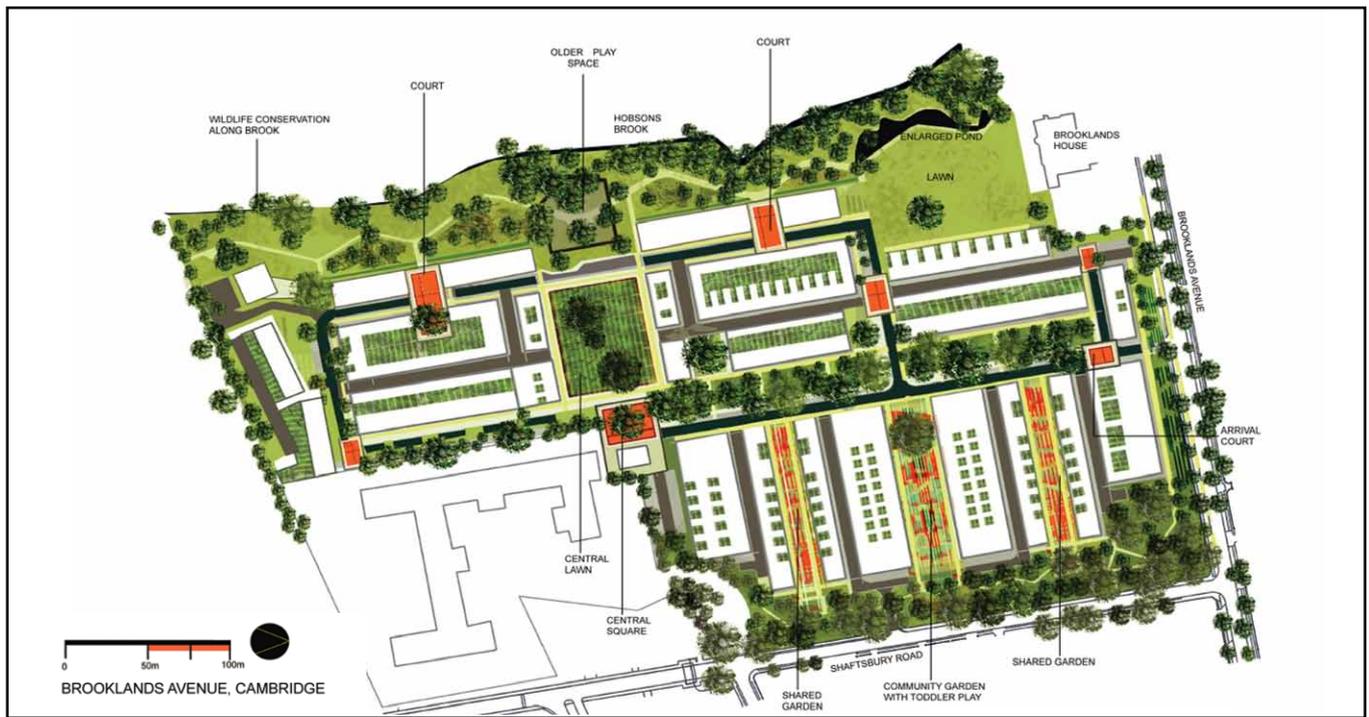
The judges commented: “The values of Accordia are those British cities need more of: a subtly controlling masterplan, a collaborative approach and an eye for both the detail and the big picture in the landscape and the architecture.”.



Shared surface mews areas serve terraces of houses. 2011



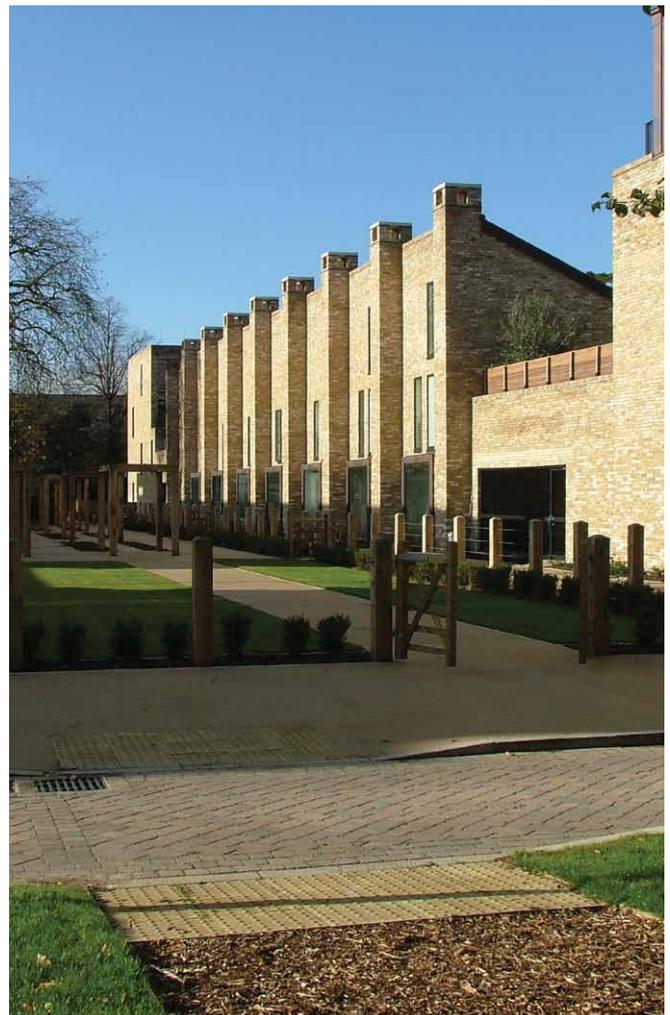
Larger blocks overlook the main access road and landscape areas. 2009



Street Design

Accordia displays design principles also found in the subsequent *Manual for Streets* including a range of clearly defined, different external spaces allowing permeability of pedestrians and cyclists, as well as vehicles, throughout the site. Generous, tree-lined boulevards are vehicle free, containing play areas and other recreational facilities amongst the landscaping. Access roads into the site are more modest with conventional raised footways delineated with enhanced finish precast concrete paving blocks. They serve more intimate shared surface mews streets for access to individual homes, paved wall-to-wall with concrete paving blocks in a distinctive pattern.

The scale and character of these spaces is defined by the buildings around them, rather than by highway engineering demands, and they become part of the architecture itself. Engineering requirements have, of course, been accommodated – such as turning circles and tracking of fire tender routes – but they are not evident in the built design. Accessibility needs have also been carefully thought through and the recognized language of precast concrete tactile paving correctly applied at road crossings. Here, also, drainage has been provided to avoid ‘ponding’ of rainwater – a common problem on many crossings.



The site entrance is signalled by a gradual ramp, change in materials and colours, and discreet signage (rarely used elsewhere). 2011

A traffic-free boulevard fronted by terraced housing leads away from a concrete block paved access road with concrete kerbs and raised footway. 2009

“Sustainability is important and products of UK origin – the more local the better – are used throughout, avoiding imported materials.”

Material Choices

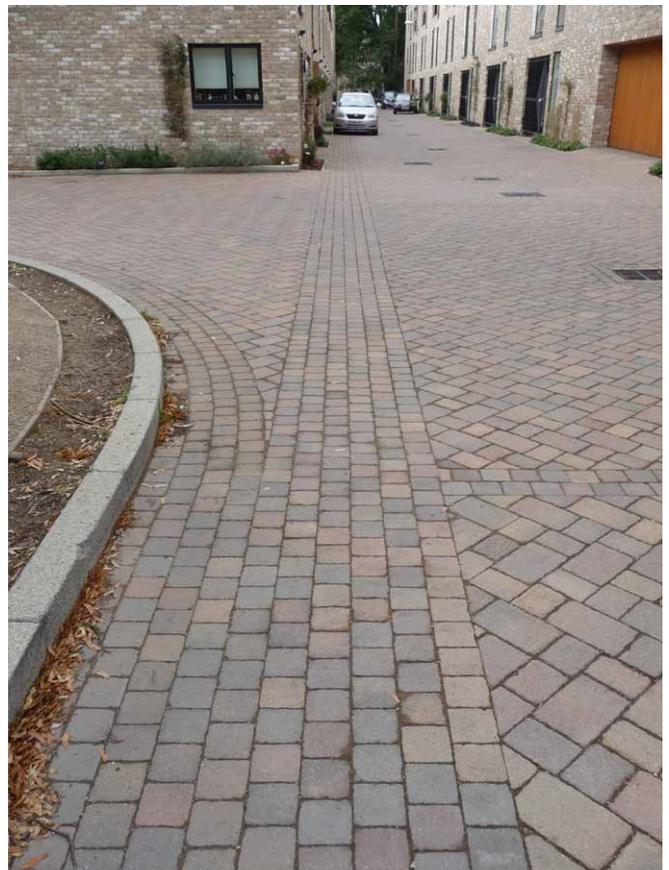
Over the last few years we have seen major changes in approach to urban design, encouraged by government and other organizations, and fleshed out in adopted guidance such as the *Manual for Streets*.

Although designed before publication of *Manual for Streets*, Accordia is an exemplary demonstration of its principles. A limited palette of surfacing – as well as architectural – materials was developed to reflect the local civic character, including precast concrete block paving, flags and kerbs, with sustainability principles in mind. Peter Chmiel of Grant Associates said: “Concrete block paving is used in a straightforward way to provide ‘grain’ and help develop a sense of place. Sustainability is also important and products of UK origin – the more local the better – are used throughout, avoiding imported materials.”

The concrete block paving used throughout the project is ‘tumbled’ and in a mix of colours. It is laid in a distinctive pattern of diagonal panels with varying widths of rectilinear borders, helping to define the character of different spaces. Concrete block borders are used with other materials as well to add richness, while controlling the number of paving materials.



As with all aspects of the project, the paving at Accordia succeeds through a considered application of a limited palette of materials with straightforward layouts and patterns. But, essentially, the paving has been carefully detailed and executed on site with nothing left to chance – an approach that points the way for urban design generally. 2009



Tumbled concrete block paving in a single mix of colours is applied throughout with interest provided by use of pattern. 2011

Peter Chmiel added: *“Variety and interest is generated with the juxtaposition of precast concrete paving with other materials such as resin bonded gravel and coloured macadam, and general planting. Different paving unit sizes are particularly noticeable at thresholds providing an appropriate homely and humanising scale and grain. The paving materials are also a directed response to the architectural form, materials and texture. This approach enhances the visual scale and spatial relationships of the streetscape and particularly strengthens the concept of inside outside connectivity, so harmonising streetscape and homes.”*

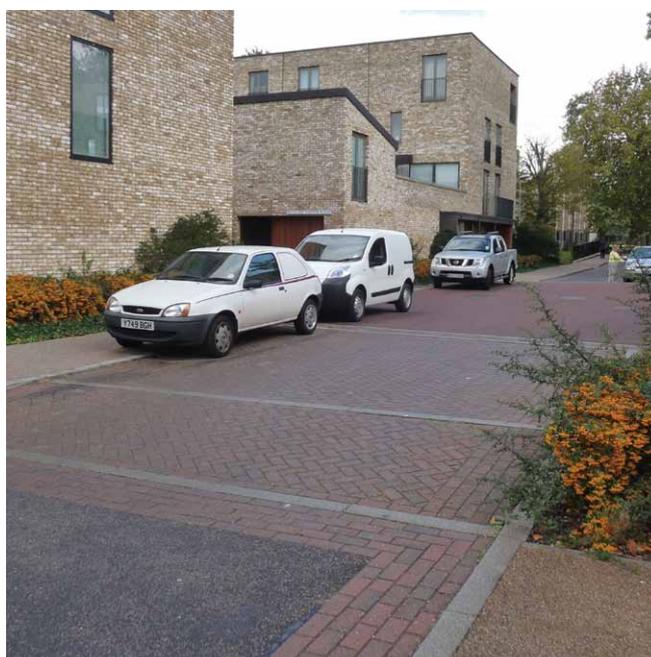
Extensive use is made throughout the project of precast concrete kerb and edging units with a consistent textured surface. They are used for conventional footway edges as well as within level, shared surfaces to delineate areas, and to contain planting areas. Distinctive red concrete dished channels are also incorporated to channel water runoff.



Charcoal, herringbone pattern block paving in car parks is contained by flush concrete kerbs with dished channels to gulleys. 2011



A simple combination of concrete flags, kerbs and edging with block paving acts as a margin to green areas. 2011



Block paving and concrete kerbs combine with resin bonded gravel and coloured macadam to give richness from a limited palette of paving materials. 2011

Precast Paving Principles

With precast concrete paving and kerbs, distinct, modular units and designed variations in colour, texture and shape can break up areas giving visual interest and a human scale not possible with monotonous, formless materials such as asphalt. In recent years, Interpave manufacturers have transformed this concept, moving away from simple, regular patterns and colours to expand an extensive palette of styles, shapes, colours and textures to meet current demands in urban design, matching – and often exceeding – the visual qualities of materials such as stone. This is a valid and sustainable interpretation of the requirement for ‘local materials’ in adopted guidelines. It is generally unrealistic on cost, availability and accessibility grounds to specify locally extracted stone which may have been used in the past, while imported stone fails to meet sustainability criteria.

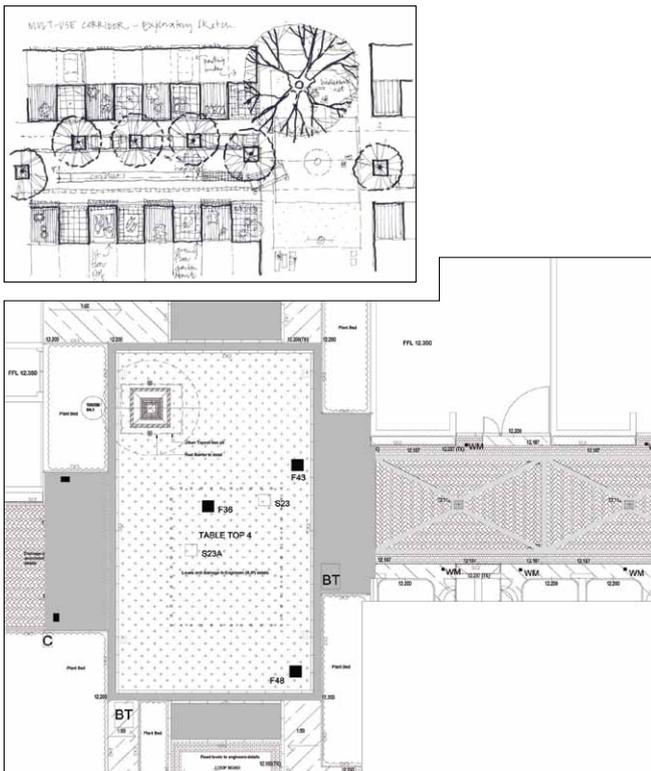
Essential requirements for paving materials, from Manual for Streets and other guidelines, can be summarised as follows:

- visually attractive able to deliver distinctive local character
- capability for visual or tactile differentiation between distinct areas
- durable and maintainable with reliable product supply
- accessible to all with consistent slip and skid resistance
- well drained to avoid standing water and compatible with SUDS
- sustainable – in the widest sense

More information on how precast concrete paving is uniquely placed to satisfy all these requirements can be found in Planning with Paving, via www.paving.org.uk.

Paving Techniques

The overall design itself limits traffic speeds, enhanced by a considered use of different paving materials and other visual clues, rather than dedicated signage (which is minimal) or traffic calming devices. Having said that, the often-used 'table-top' junction has been transformed at Accordia to form small, landscaped 'Courts' or squares, offering far more to residents than just traffic calming. Here, precast concrete paving and kerbs are used in conjunction with other materials to define the space and develop an individual character for the project.

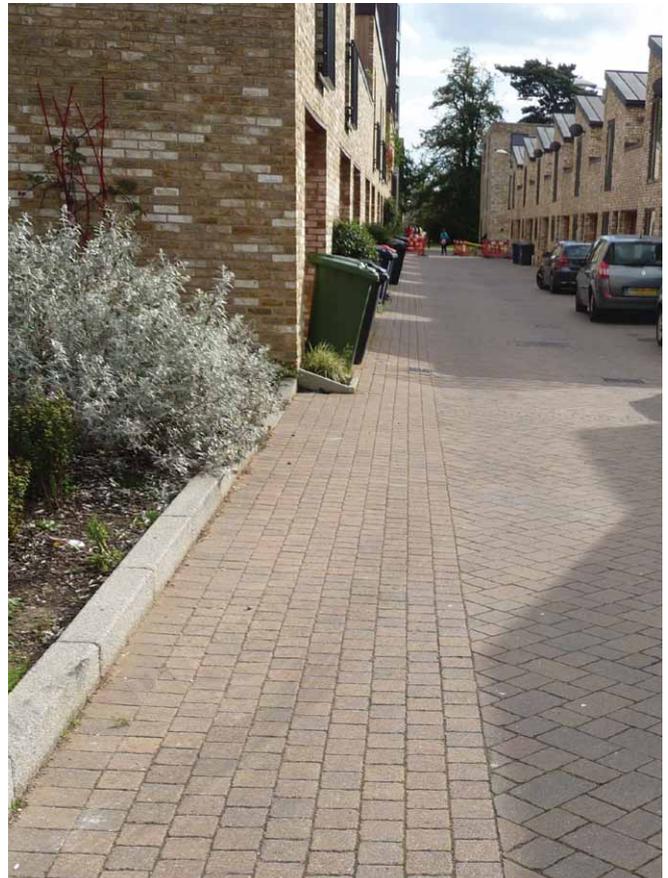


Raised 'Court' with block paved ramps and edges, highlighted by concrete kerbs laid flush. 2011

Other techniques have been used to develop a 'language' differentiating uses and priorities of paved areas. For example, a transition area highlights the entrances to mews courts directly from the access road, whereas a simpler border of block paving is used where mews meet raised courts. As more of the project reaches completion, the hierarchy of streets becomes more clear with the application of these techniques.



Concrete block paved transition zone with flush kerbs between mews and the main access road. 2011



A simple block paved margin terminates a mews at a raised junction court. 2011

Paving Detailing

One particularly impressive aspect of Accordia is the attention to detail taken with paving. This mirrors the care taken by the designers in detailing the buildings themselves – often forgotten on other schemes. This exemplary approach looks holistically at all the hard surfaces from a visual point of view, as well as seeking to achieve long-term performance.



Varying block laying patterns and delineation with concrete kerbs and edgings defines different areas. 2011



Ironwork has been thoughtfully integrated within paving patterns. 2011



Precast concrete kerbs are used traditionally at road edges but also to form defined ramps for building access. 2011



Concrete kerbs used to form a simple, consistent wheelchair access detail. 2011

More Information

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