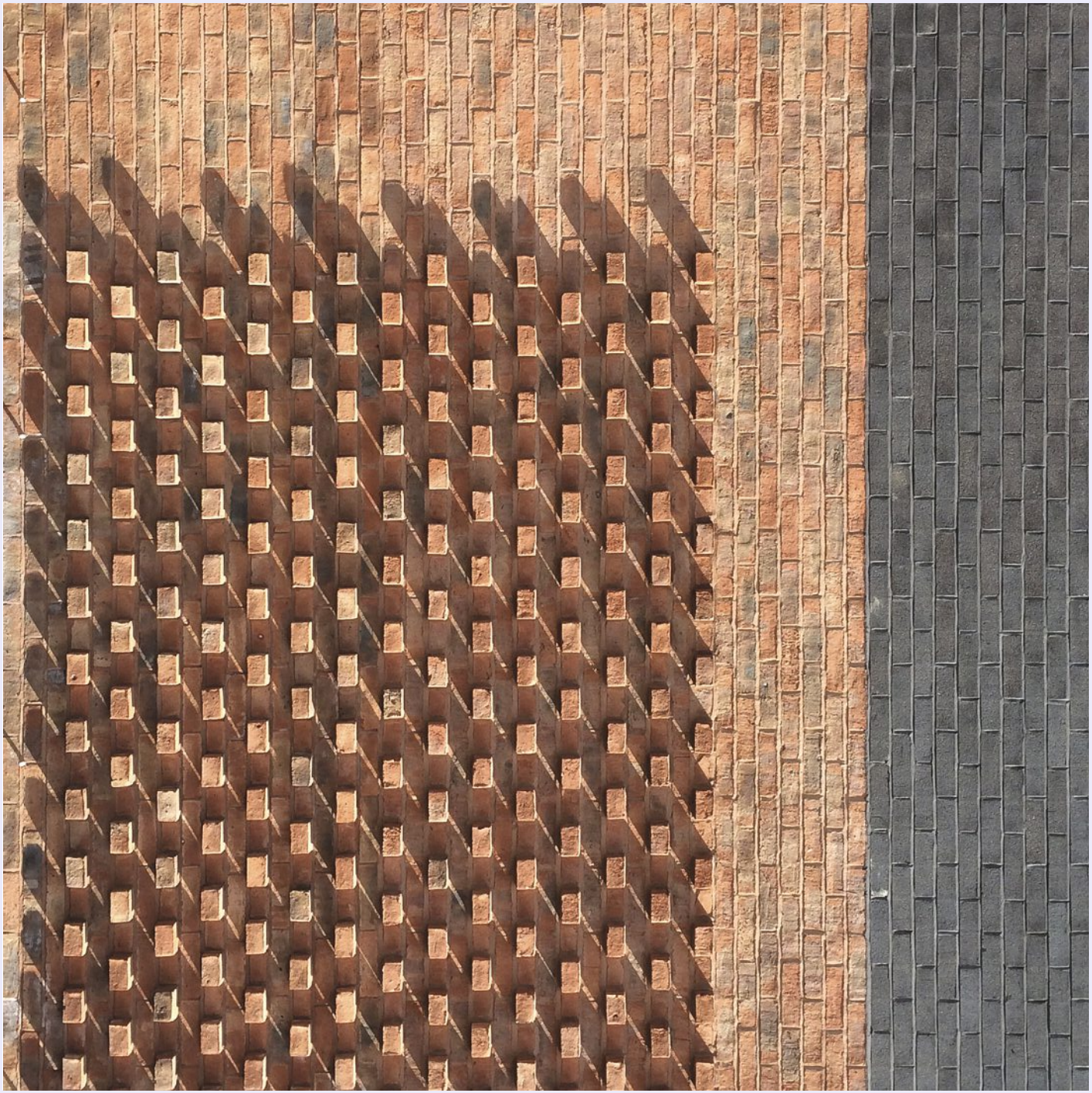
DESIGN

from IBSTOCK BRICK

Winter 2016/17

In this issue: Porphyrios Associates in Swansea, Dallas Pierce Quintero, CF Møller, Aedas, Sixtwo Architects, plus setting out brickwork guide, and Ibstock's Atlas brickworks



Foundry, Salford, by Sixtwo Architects (ph: James Andrew)

DESIGN

from IBSTOCK BRICK

IBSTOCK

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Ibstock Update

NEW SHADES OF GREY

In tune with the trend towards the use of non-earth brick colours, Ibstock has introduced a range of grey bricks. Providing a striking alternative to familiar buffs and creams, the new Tidal Dark Grey and Silver Grey (below) have been added to the Linear range of long bricks. They are available in lengths up to 490mm and heights of either 50 or 65mm, and offer a cost-effective, sustainable alternative to imported products.

For a more traditional format, the new Leicester Grey Stock (bottom left) combines the soft textures normally associated with a stock brick with a warm grey colour hue – ideal for introducing a highlight, feature or indeed a whole facade.

The latest addition to the Arden family, the Arden Grey (bottom right) combines the look of a true waterstruck brick with an inorganic grey colour.

Above
A2 Dominion, winners of the Ibstock-sponsored What House? Best Exterior Design award.

WHAT HOUSE? AWARDS

Often referred to as the 'Oscars' of the housebuilding industry, the What House? Awards is the UK's most prestigious new homes event. The 2016 awards ceremony, held at London's Grosvenor House Hotel in November, was attended by 1,700 figures from the industry. William Hague, former MP, Foreign Secretary and Conservative Party leader, presented the prizes. Ibstock sponsored the award for the Best Exterior Design, in which Gold went to A2 Dominion/Fabrica, silver to Hill and bronze to David Wilson Homes. For a full list of winners, see the WhatHouse? Awards website: www.whathouse.com/awards/

IBSTOCK SUCCESSES AT THE 40th BRICK AWARDS

Ibstock won three awards at the Brick Development Association's 40th Brick Awards, taking its total wins since 2005 to 77, more than any other brickmaker. The stunning builds feature bricks from Ibstock's wide-ranging portfolio of colours, textures, sizes and finishes to achieve a huge variety of aesthetic effects.

Projects using Ibstock bricks picked up the top accolade in three categories. Best Individual Housing Development went to Dallas Pierce Quintero's Courtyard House (bottom right and p12, featuring Staffordshire Blue Umbra Sawtooth and Standard, ph: David Butler). Best Large House Builder went to Linden Homes, for Gloucester's Greyfriars Quarter, by Stride Treglown (bottom left, Audley Red Mixture, Commercial Red), and Wilshere Park (mid-right, Heritage Red, Bexhill Red and Parham Red).

The distinctive arcaded pavilion of the Brentwood School Learning Resource Centre in Essex (top, ph: Anthony Coleman), by Cottrell & Vermeulen, won Best Education Building, where Ibstock's distinctive Heritage Red Blend harmonises with the existing school buildings.

In addition, Ibstock-Kevington products were used in the Newport Street Gallery (by Caruso St John Architects), which picked up the Supreme Award. The innovative project used precast lintels and beams, together with CNC-cut brickwork, all of which were manufactured by Ibstock-Kevington. Merchant Taylors' School Design Centre (mid-left, ph: Mark Hadden), another Ibstock project, was commended in the category of Best Education Building.

"As brick continues to retain its position as the number one construction material of choice", says Andrew Halstead-Smith, group marketing manager at Ibstock, "we are seeing more innovative and creative applications of brick, which really showcase its tremendous design capabilities. Architects, specifiers and contractors are pushing the boundaries in creating breathtaking designs, as these award-winning projects demonstrate. As a result of these continued pioneering applications, the calibre of builds shortlisted at this year's awards was incredibly high, so to have three projects where Ibstock bricks were used receiving awards, in addition to playing a part in the Supreme Award winner, is testament to the versatility of Ibstock's wide-range of options."

Rhythm of the Street

Elmfield Court, a residential development near London's Battersea Park by CF Moller, features 22 fully-affordable apartments. Setbacks, deep balconies and light brick facades lend a human scale to the project, in keeping with adjacent residential terraces.

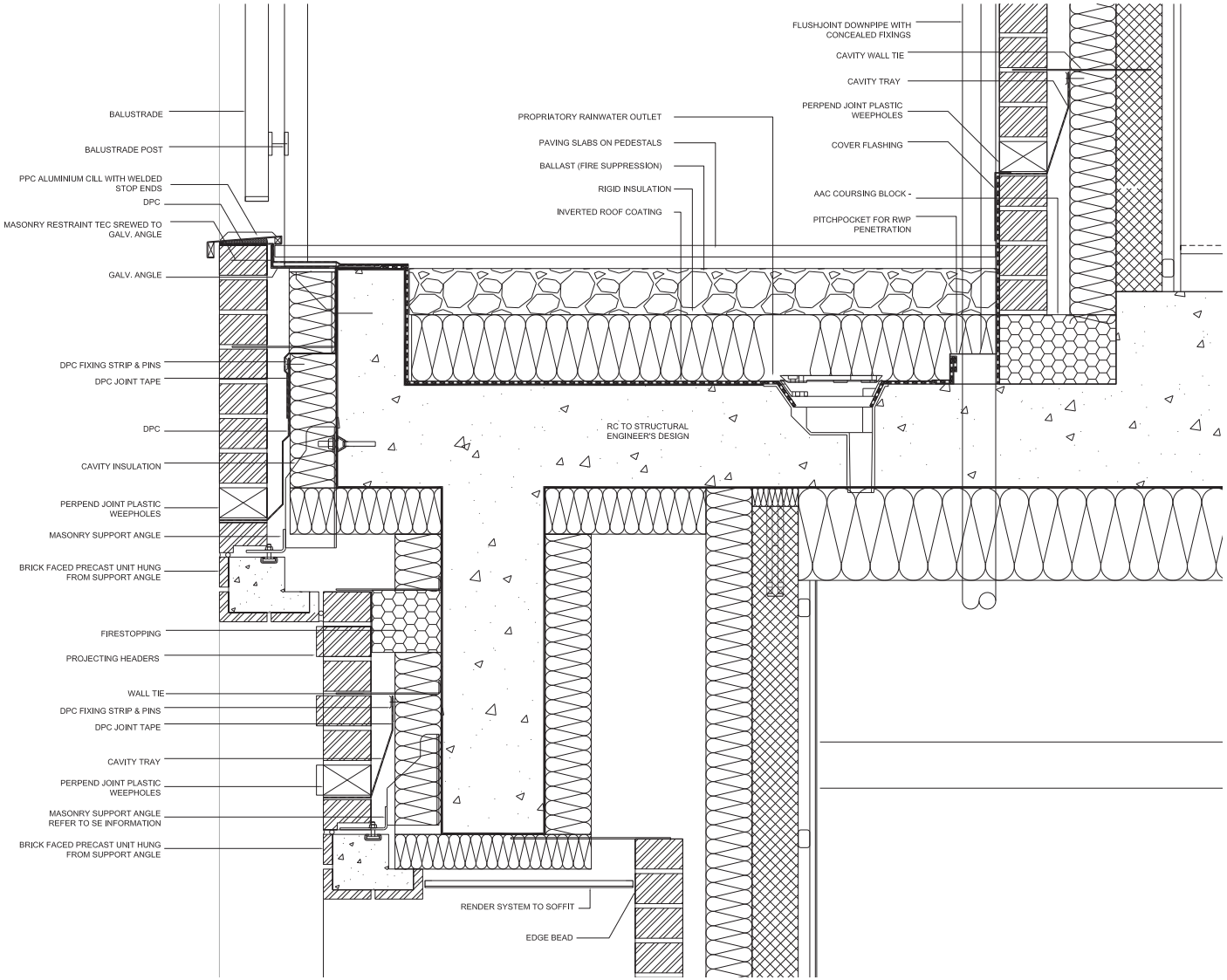

Elmwood Court


Mon - Sat
7 - 10 am
4 - 7 pm

Elmwood Court is a five-storey, all-affordable housing scheme near Battersea Park, London. Designed by CF Møller Architects within the tradition of the Victorian terrace but in a modern idiom, the development comprises ground-level retail space with 22 residential units above. The project is built on the site of an underutilised car park that has been transformed into a shared garden, acting as a new focal point for an established Peabody estate. The majority of apartments feature dual-aspect living spaces and two balconies, one facing south-east and another overlooking the communal garden.

The shifting facade composition of large brick openings on alternate floors reinstates the original line of the street and promotes an inhabited and enlivened facade. Grouped vertical windows reference the Victorian context and the overall arrangement maximises the courtyard space to the rear and offers clearly defined block entrances flanking the retail space. The deep inset balconies with a southerly aspect create a buffer between the road and private spaces. The balconies are separated by white-rendered storage cupboards which translate the idea of the 'garden shed' to a dense urban context whilst creating accents in the elevation. Full-height openings throughout maximise daylight penetration to all habitable rooms and upper-level setbacks lighten the massing of the block, reducing its scale in response to its urban context.

The elevations are clad in light coloured brick – a material found within the local vernacular and which has immediate associations with domestic and residential architecture. Brick is an extremely


BALUSTRADE
BALUSTRADE POST
PPC ALUMINIUM CILL WITH WELDED STOP ENDS
DPC
MASONRY RESTRAINT TEC SREWED TO GALV. ANGLE
GALV. ANGLE
DPC FIXING STRIP & PINS
DPC JOINT TAPE
DPC
CAVITY INSULATION
PERPEND JOINT PLASTIC WEEPHOLES
MASONRY SUPPORT ANGLE
BRICK FACED PRECAST UNIT HUNG FROM SUPPORT ANGLE
FIRESTOPPING
PROJECTING HEADERS
WALL TIE
DPC FIXING STRIP & PINS
DPC JOINT TAPE
CAVITY TRAY
PERPEND JOINT PLASTIC WEEPHOLES
MASONRY SUPPORT ANGLE REFER TO SE INFORMATION
BRICK FACED PRECAST UNIT HUNG FROM SUPPORT ANGLE
PROPRIATORY RAINWATER OUTLET
PAVING SLABS ON PEDESTALS
BALLAST (FIRE SUPPRESSION)
RIGID INSULATION
INVERTED ROOF COATING
RC TO STRUCTURAL ENGINEER'S DESIGN
RENDER SYSTEM TO SOFFIT
EDGE BEAD
FLUSHJOINT DOWNPIPE WITH CONCEALED FIXINGS
CAVITY WALL TIE
CAVITY TRAY
PERPEND JOINT PLASTIC WEEPHOLES
COVER FLASHING
AAC COURSING BLOCK -
PITCHPOCKET FOR RWP PENETRATION

BUILDING
Elmwood Court, London Borough of Wandsworth

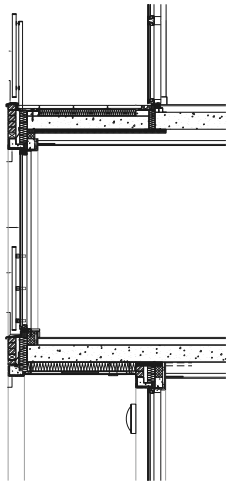
BRICKS
Ibstock Bradgate Light Buff

long lasting and durable material, which ages gracefully. The soft, buff brick appearance of the Ibstock Bradgate Light Buff was selected in response to the tones and textures found within the Victorian streetscape. Precast lintels with positively-keyed brick facings (not illustrated) enhance the façade treatment, framing the large terraces facing Battersea Park Road. These components were carefully coordinated with the traditionally-constructed stretcher bond brickwork to give a seamless overall appearance.

Another challenging detail was forming the delicate brick piers that separate the grouped windows. The solution involved bespoke steel wind-posts to support the traditionally-constructed brickwork and Juliet balconies.

At ground floor, the building is recessed to provide a soffit above the residential entrances. The urban realm is further articulated with a texture of projecting headers in a Flemish bond. For continuity, the same brickwork has also been used to clad the street level of an adjacent building. This extends and strengthens the relationship between the new apartment building and the wider estate.

The building has been designed to achieve Code for Sustainable Homes Level 4. The units are 100 per cent Lifetime Homes compliant and the project provides two wheelchair-accessible two-bedroom apartments.



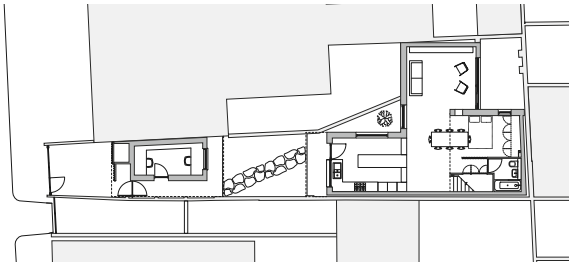
ARCHITECT
CF Møller Architects

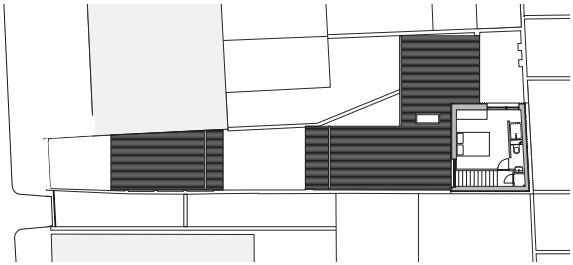
BRICK CONTRACTOR
Durkan

PHOTOGRAPHER
Mark Hadden

Interior expressions

Vertically-laid brickwork enhances both the minimal dimensions and tactile qualities of Dallas Pierce Quintero's award-winning Courtyard House.





A series of small courtyards provides the main source of daylight for this two-bedroom house, built within the walls of an L-shaped infill site in London. The challenge for architect Dallas Pierce Quintero was to create a home without a sense of overlooking, that nonetheless protected the daylight enjoyed by neighbours. The four courtyards open up sightlines through the property, creating functional outdoor spaces for passing through, dwelling in and looking into.

The client's brief called for a home that was modest. This drove the entire design, from the overall massing through to the choice of the materials. "Brick fitted this brief perfectly", says Dallas Pierce Quintero, "as an everyday material that, with a bit of care and attention, can look extraordinary". An Ibstock Staffordshire Slate Blue brick was chosen as part of the minimal palette, both in a standard and a sawtooth shape. Both were laid vertically, with the sawtooth to waist height and the standard above that, creating a unique appearance.

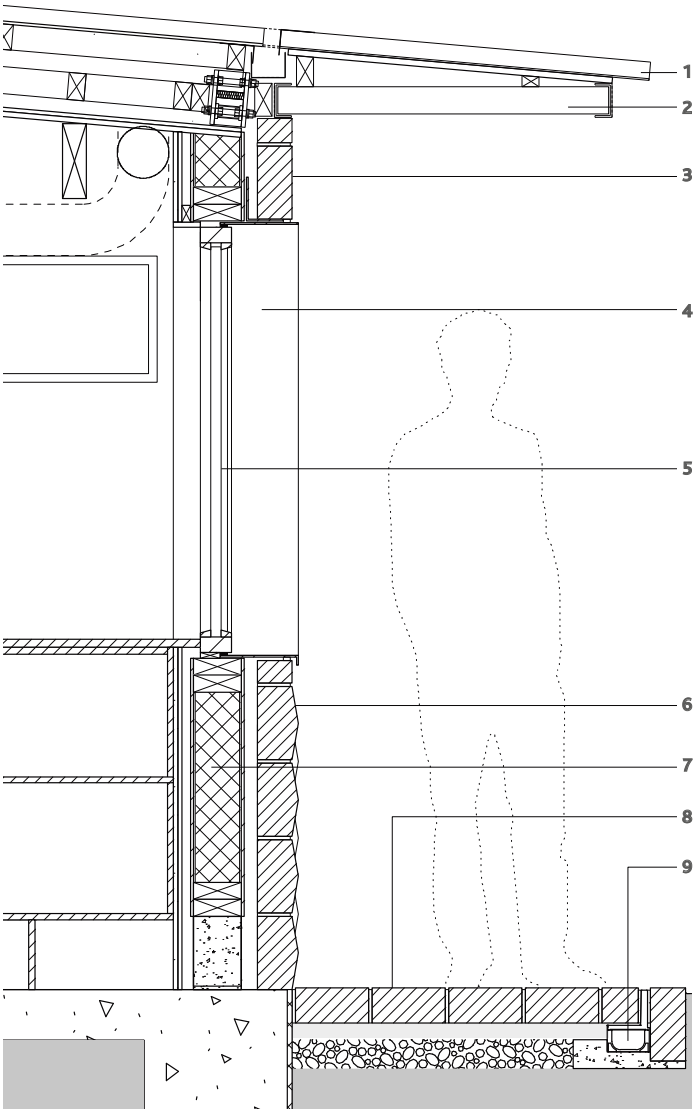
The use of brick on the two principal elevations demonstrates the importance placed on using materials that respond to the site conditions. The plot was surrounded on all sides by masonry walls, with an existing beautiful, long brick wall to the longest edge. The use of the vertically laid bricks resonates in a contemporary and eye-catching way with the existing re-pointed wall.

The use of brick both on the outside and inside of the building makes the house feel larger than it its dimensions. With space at a premium, a key design decision was to blur the distinction

between inside and outside by extending one of the external brick walls into the house. “The brick finish looks equally stunning inside and out”, say the architects. “The natural variations inherent in its colour, together with its robustness, make it perfect as an internal finish.”

The use of a shaped brick, and the manner in which it has been laid, has created a surface that is unusually tactile and visually softens the building. “When we show visitors around the building”, say the architects, “we find that people are drawn to the sawtooth brickwork, they watch how light falls on the wall and stroke it. The bricks look like a basket weave: both hard and regular whilst also soft and undulating. The result is a unique surface that’s appearance constantly changes over the course of the day and which champions the use of brick.”

The Courtyard House was recognised as the Best Individual Housing Development in the 2016 Brick Awards. It also won a RIBA London award in 2015, and was long-listed for the RIBA House of the Year. The jury said that “the experience of being in the house was extraordinarily light and airy, with a subtle and sensitive sense of connection between inside and outside spaces, reinforced by details such as bringing the blue brick wall from the courtyard into the house.”

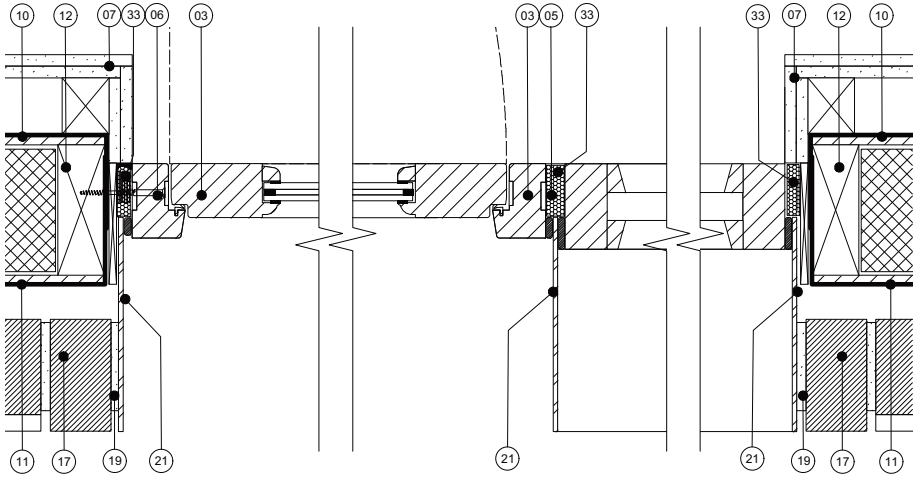


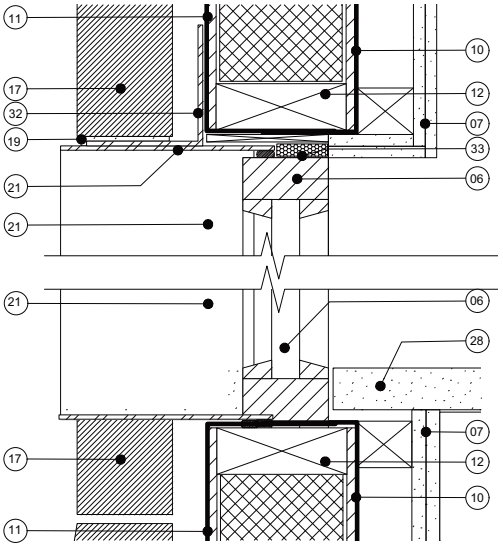
Construction section
1 Profiled fibre cement board roofing, 2 timber joists supported by steel sections, 3 Ibstock Staffordshire slate blue smooth bricks laid vertically, 4 galvanised steel window surround, 5 fire-rated doubled-glazed window, 6 Ibstock Staffordshire slate blue Umbra sawtooth bricks laid vertically, 7 timber frame, 8 Ibstock Staffordshire slate blue smooth bricks laid in line with bricks above, 9 brickslot drain.

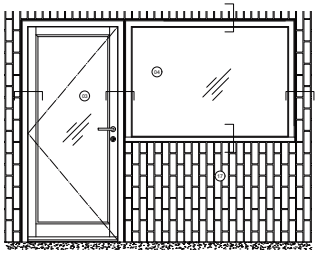
Brick facade details (right)
3 30-mins fire-rated double-glazed door and frame, 4 30-mins fire-rated -double-glazed window, 5 frames coupled together, 6 screw embedded 50mm into structural timber frame, 7 two layers plasterboard, 10 vapour control barrier, 11 weatherproofing breather membrane, 12 structural timber frame, 17 Ibstock Staffordshire Blue Slate brick, 19 mortar, 21 galvanised steel window surround, 28 kitchen worktop, 32 brick support, 33 intumescent mastic.

BUILDING
Courtyard House

BRICKS
Ibstock Staffordshire Slate Blue Smooth,
Umbra Sawtooth Staffordshire Slate
Blue Smooth







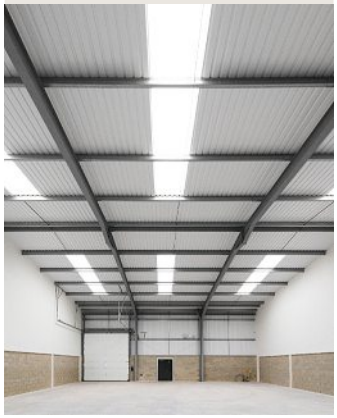
ARCHITECT
Dallas Pierce Quintero

BRICK CONTRACTOR
Brooks Contracting

PHOTOGRAPHERS
Tom Gildon, Rachael Smith, David Butler

Industrial aesthetic

Chamfered planes of brick articulate the long elevations of the Foundry, a new industrial development in Salford that aims to invest the often neglected 'warehouse' type with greater visual interest and ambition.




12
Blue badge holders only
Blue badge holders only

Left
Chamfered setbacks are 'carved' from the linear building form to add visual interest and mark the entrances to the different industrial units.

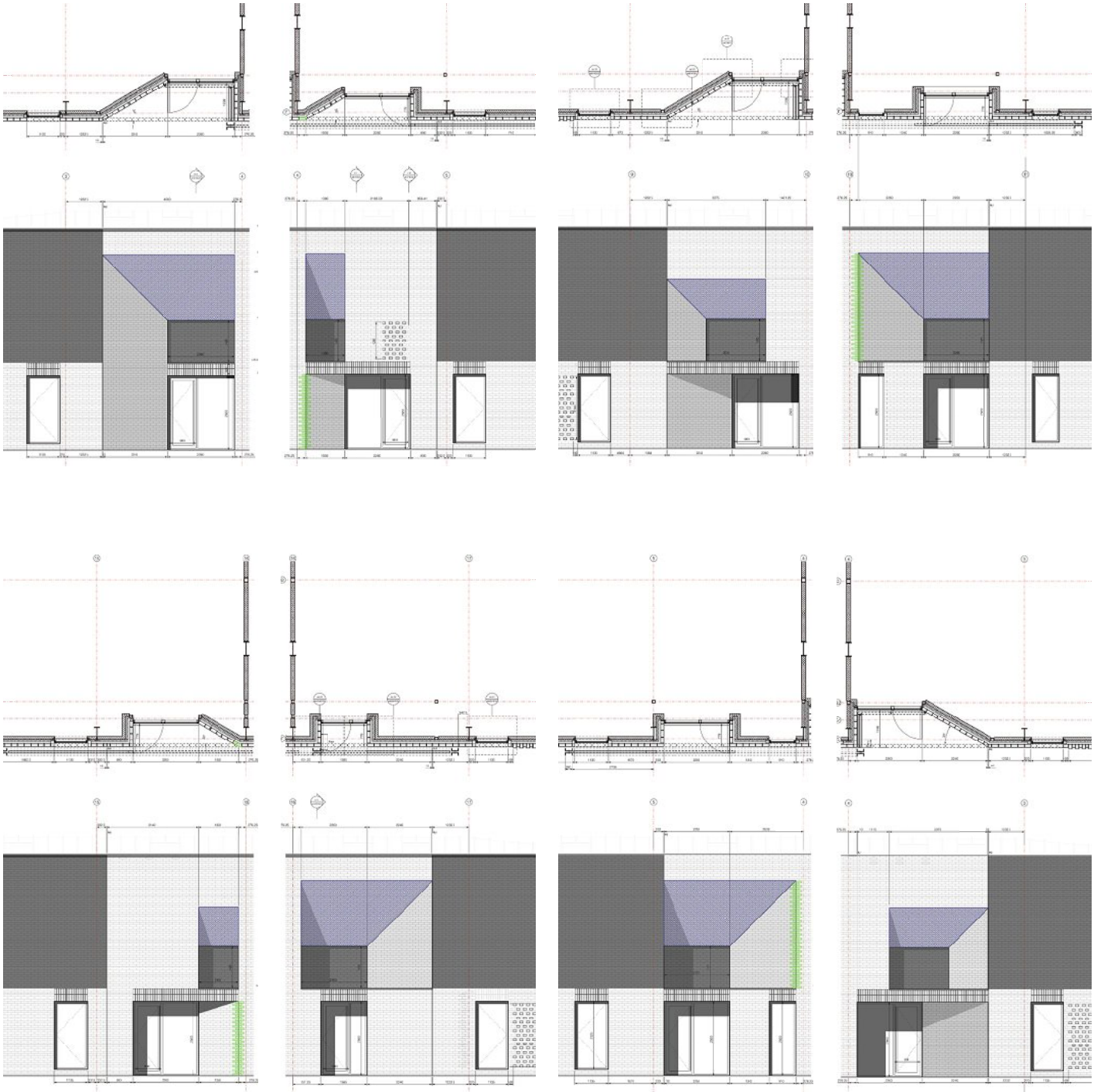
Right
Visualisation and plan showing the two linear buildings which align a new landscaped pedestrian route.

The Foundry is a new industrial development in Salford, designed by Sixtwo Architects, with more than 40,000 square feet of warehouse and industrial accommodation, split between two blocks.

The brief was to design flexible workspace that stood out from local alternatives through its design quality, and which brought character and individuality to the industrial shed. The development was also to be sensitive to the adjacent grade-one listed Ordsall Hall, and incorporate a new public route from the Tudor house through to the River Irwell.

The architects looked to develop a fresh approach to the much neglected architectural type of the industrial warehouse. A limited palette was employed, articulating six individual chamfered features that express the industrial units' entrances, while also framing vistas towards Ordsall Hall and the river. This established a logical hierarchy to the composition, with a materiality that referenced the ornate brick detailing of Ordsall Hall. Brick detailing was also introduced to help reduce the apparent scale of the development. A variety of sliding galvanised steel shutters lend further individuality to the units while helping secure vulnerable areas.

A new public boulevard links the Hall both visually and as a route through the development site, to the riverside walkway. This has already proved to be a catalyst for redevelopment and pedestrian movement within the locality.

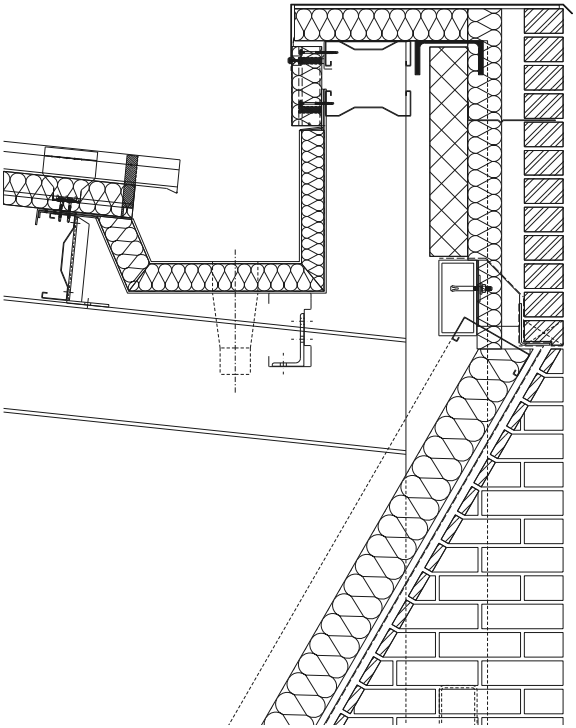


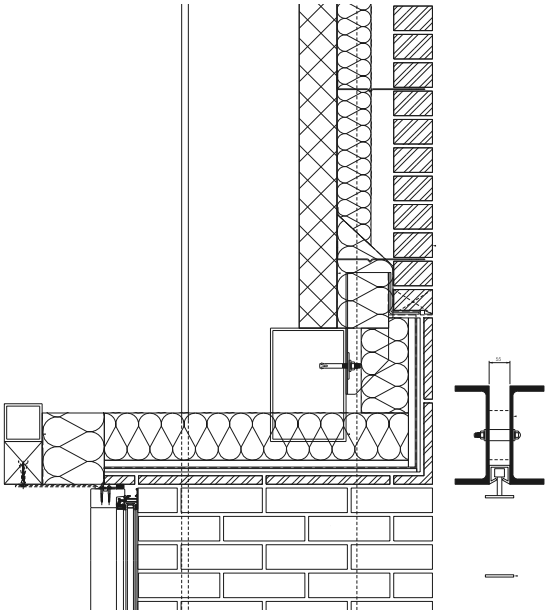
Left/right
Sixtwo was keen to avoid using the standard aluminium cladding that is typically used on industrial warehouses, so developed a design that employs traditional materials while also providing a contemporary aesthetic.

Sixtwo selected Ibstock's Northern Buff brick to form the sculptured entrances that are key elements in the scheme. For each of the two blocks of twelve units, the entrances are paired and adopt individualised chamfered forms within a common architectural language. These volumes are seemingly 'carved' out of the building mass, varying in height and depth, but with chamfers at a common angle.

The chamfers use both a traditional cavity wall and a brick-slip system, with the chamfer to the soffit being based on a standard oversized 73mm-high brick-slip system. This common angle ensured that the bricks on the chamfers coursed through with the standard 65mm high bricks on the vertical planes.

As well as the sculpted entrances, portions of the Northern Buff brick deviate from a stretcher bond to an English bond, with alternating headers protruding. The composition adds visual interest, breaking down the scale of the building and relating to Ordsall Hall, the frontage of which features header-bonded brickwork.





BUILDING
Foundry, Salford

BRICKS
Ibstock Birtley Northern Buff
and others

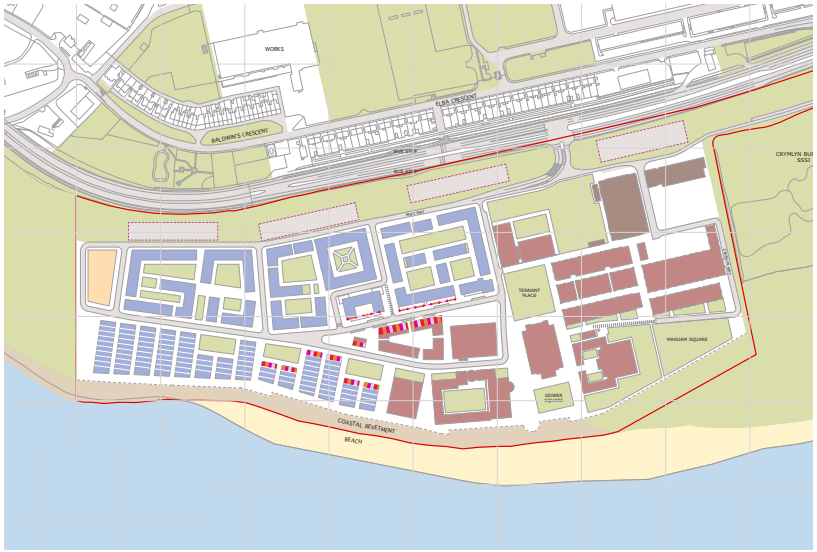
ARCHITECT
Sixtwo Architects

BRICK CONTRACTOR
Williams Tarr

PHOTOGRAPHERS
Ben Draguisky, James Andrews

Tradition and Technology

Brick facades imbue the new Bay Campus at the University of Swansea with a sense of familiarity, variety, permanence and gravitas. Masterplanned by Porphyios Associates, the campus incorporates student residential blocks that are based on traditional collegiate models, but built using fast-track state-of-the-art construction technologies.


WORKS
BALDWIN'S CRESCENT
ELBA CRESCENT
TENNANT PLACE
MARGAM SQUARE
COASTAL REVETMENT
BEACH


Student Services

Below
A clocktower anchors the corner of Gwalia Square, the central public space on the campus, for which it acts as a beacon.

Left
Elevation of the main street; masterplan and first-phase student residences block plan.

Swansea University's new £450m Bay Campus, a development by St Modwen in partnership with the university, occupies a large coastal site three miles to the east of the city centre, taking advantage of the west-facing aspect across sand dunes to the sea. The masterplan, by Porphyrios Asoociates, is generated as much by a public realm of interconnected urban spaces and green areas as by urban blocks, lending an underlying sense of structure, orientation and place. Within this, character and diversity is a priority, and contrasts of formal and intimate, lively and quiet, hard and soft are sought wherever possible with minimal means. In terms of its appearance, the project employs traditional materials – primarily brick and reconstituted stone – but it has been built using fast-track construction techniques that employ steel- and concrete framing.

Porphyrios Associates' student residential blocks are organised along principles of collegiate models, with a strong urban edge that addresses the public realm of the street, and inner courtyards that address the private life of students. The 'megablocks' of the masterplan are reduced to smaller urban blocks by secondary pedestrian streets, and permeability is achieved by passages and openings between buildings.

Entrances to the courtyards vary in scale and materials, while gates to the north protect privacy while maintaining the porosity of the blocks. Entrances to those residential buildings within the collegiate courts are via the internal courts, helping foster identity and activity.

The residential buildings provide a range of accommodation – standard rooms, premium

rooms, twin rooms, wheelchair-accessible rooms, one-bed flats and two-bed flats – and these are distributed throughout the blocks. Some larger flats for mature and family residents, however, are concentrated in one block, close to common facilities that cater for their particular needs. All the student accommodation is organised in private clusters, each with its own common room with kitchen facilities. Large 'community' facilities are provided in the development zones where residents can congregate and relax. Student facilities located in the ground level of the residential blocks facing Dylan Thomas Way include the dining hall and bar, coffee shop, laundrette, mini market and student services.

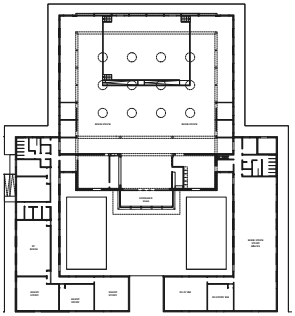
Taller residential buildings are located along the northern edge of the campus and lower buildings towards the south to maximise sea views and take advantage of the orientation. The massing is generally additive, and variation is introduced by differentiating the buildings though composition and colour, as well as by means of setbacks and modulation of the skyline.

The residential buildings by Porphyrios Associates are articulated laterally to achieve animated elevations of variety and diversity. Other student residences within the masterplan, designed by Hopkins Architects (who also designed a number of the departmental and teaching buildings) are treated as a large 'palazzo', adding another variation of the residential type to the campus.

The residential buildings by Porphyrios Associates are finished in bonded brickwork with

Below, left
The campus library features brick and reconstituted stone facings.

Opposite
Student residences are grouped around courtyards.



reconstituted stone to the bases, entrance porches, window/door surrounds, trims, sills and parapets. The brickwork to the residences has a palette of three colours: red-orange, yellow and red-brown, with the reconstituted stone components matching natural Portland stone. The blocks are articulated so as to suggest a composition of smaller buildings using vertical breaks, expressed by a change of brick colour, stone detailing and surface plane, all of which adds interest and diversity to the elevations. Windows and doors have flat brick arches and are made in polyester powder-coated (PPC) aluminium. Entrances are marked through porches or door with surrounds, while the rooftop plant rooms are screened by brick parapet walls with 'openings' that are filled by a metal mesh.

Above
A palette of brick colours, stone facings, building heights and setbacks adds variety and interest to the student residential blocks.

Right
Student residences are grouped around, and entered via central courts.

BUILDING
Swansea University Bay Campus

BRICKS
Ibstock Ivanhoe Cream, Himley
Worcester Mix, Leicester Red Stock,
Precast arches, lintels, pistols with slips

ARCHITECT AND MASTERPLANNER
Porphyrios Associates

BRICKWORK CONTRACTOR
Vinci Construction

PHOTOGRAPHY
Neil Perry

Brickwork Foundations

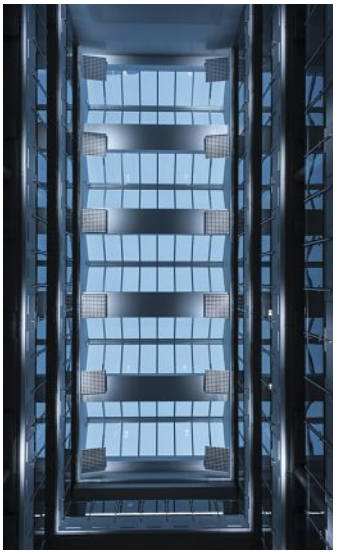
Two Smithfield echoes the scale and proportions of the nineteenth-century buildings in Stoke-on-Trent, while its use of brick responds to the former role of its site in the local brickmaking industry.

Building on the rich tradition of brickmaking and ceramic design within Stoke-on-Trent and the surrounding area, Two Smithfield is a simple yet subtle exercise in brick detailing and proportion in which specific details are picked out with ceramic colour and non-standard bricks. Following the rhythm and character of the urban context, the brick bays and overall structural proportions are designed to feel part of the local townscape. Two Smithfield also represents a marked contrast to its more colourful neighbour, One Smithfield.

The brownfield site is bounded on all four sides by roads, including the Stoke-on-Trent inner ring road, and slopes from north to south. Historically it had hosted part of Stoke's brick-making industry, and a surviving brick kiln on the east part of the site has been incorporated within the overall masterplan. Several other derelict and run-down buildings were cleared as part of the enabling works for the new development. The site had a number of coal mining shafts beneath it, and it had been used for open-cast coal collection, so ground conditions were very poor.

Two Smithfield sits adjacent to Stoke's cultural quarter, with the city theatre, museum and library and arts centre all located in the vicinity. The site also connects to the city's main retail and commercial centre, and is seen as strategically important in linking the University of Stafford into the rest of the city centre amenities, including the new bus interchange.

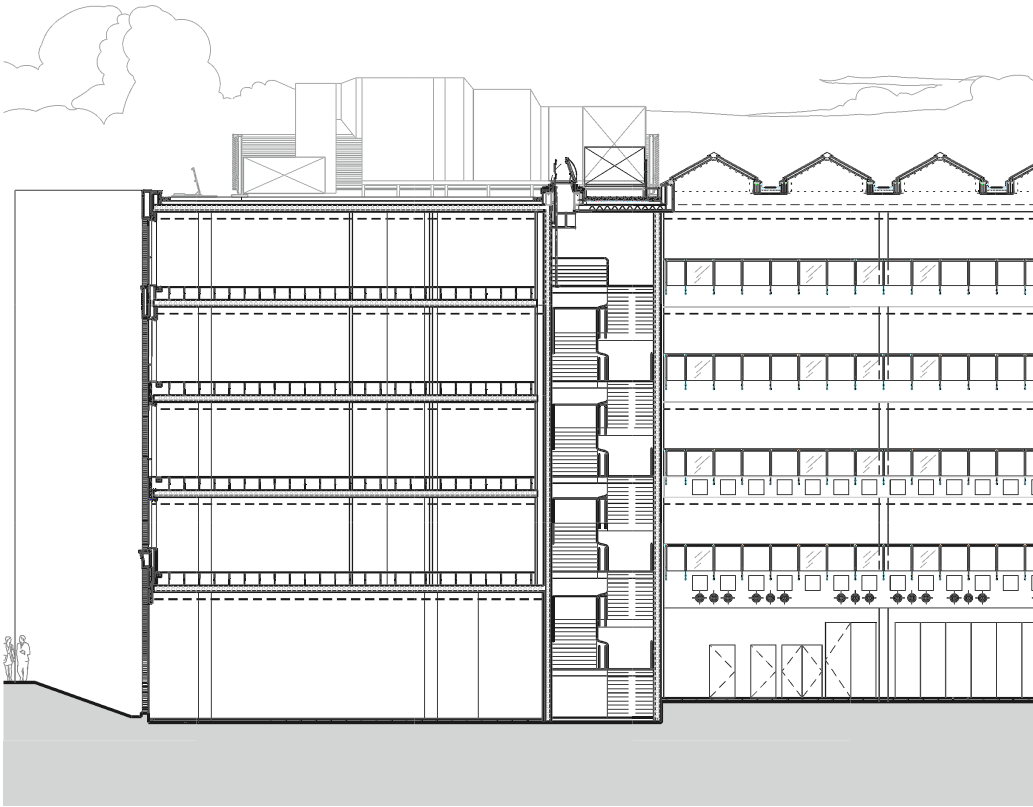
Two Smithfield has been designed to meet the city council's high sustainability standards as well

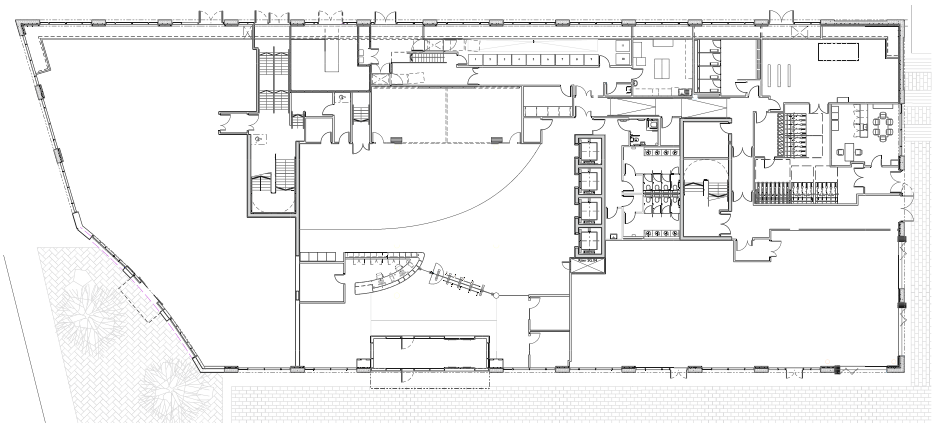


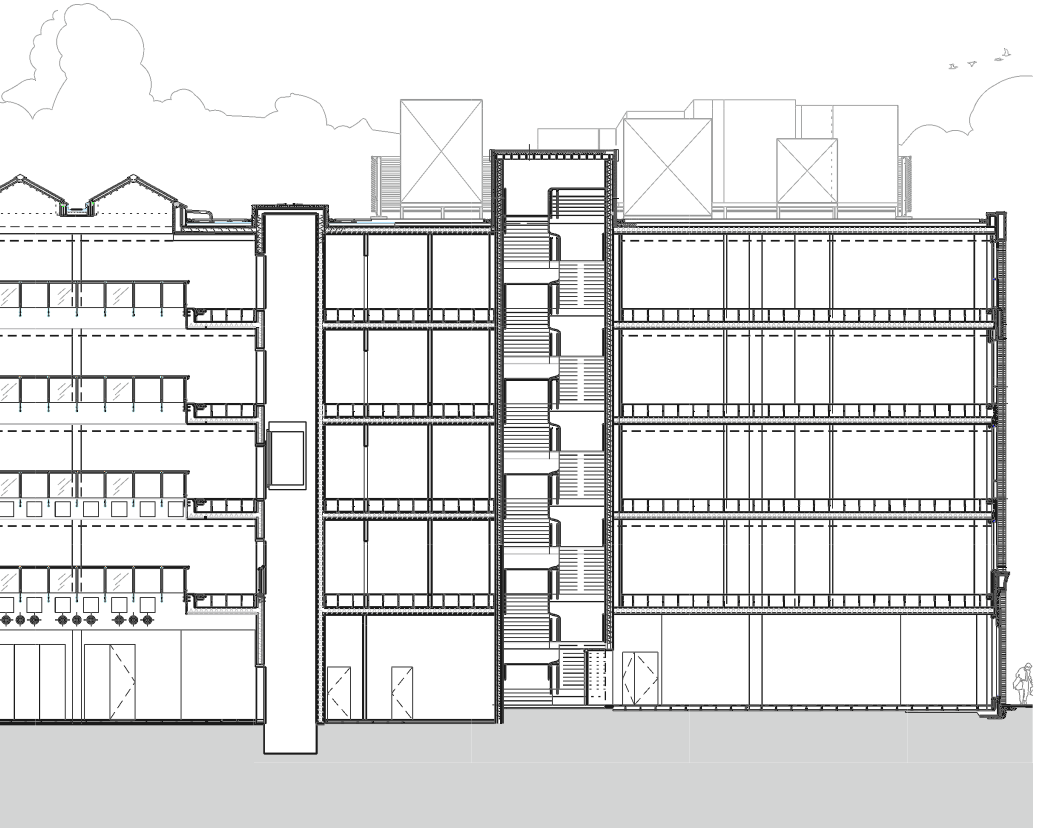
as its need for an agile working approach and flexible departmental operations. The building was to be designed to allow for a mixed-mode form of air conditioning, where external opening windows are used to assist and supplement the internal system. This in turn required a central atrium space that allowed for the free movement of air across the floor plates and then out through the atrium roof at high level. The building was to be BREEAM excellent and capable of subdivision into separate tenancies on a floor-by-floor basis. The council was keen to see local materials used as part of the architectural approach and also wanted to allow for 'active' uses on the ground floor spaces on either side of the main entrance.

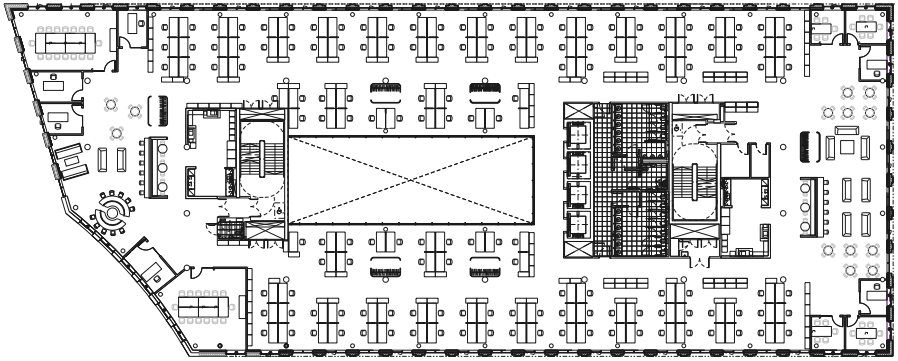
The unstable nature of the ground and its former use for mining operations meant that significant enabling and engineering works had to be undertaken prior to the start of building work. The slope on the site and the changes in ground levels around the building meant that the rear of the ground floor building space is set into the ground and so access from the rear is restricted and requires lift and stair provision.

Sustainability features include a mixed-mode ventilation system with underfloor air, exposed thermal mass, cooling only when required, low-velocity air distribution, solar control glazing, district heating energy transfer station, air-source heat pumps, and AHU with heat recovery. The building is fully accessible and compliant with Part M of the Building Regulations.









BUILDING
Two Smithfield, Stoke-on-Trent

BRICKS
Ibstock Staffordshire Slate Blue Smooth, Ibstock Staffordshire Blue Brindle Smooth, Ibstock Himley Ebony Black, Ibstock Blue Glazed, Umbra Sawtooth Natural Blue, Bat Boxes Cheddar Red, Swift Boxes Natural Blue

ARCHITECT
Aedas

BRICK CONTRACTOR
Explore Manufacturing

PHOTOGRAPHER
Luke White

Technical: Setting out Brickwork

Designing and setting out brickwork correctly creates a matching and balanced appearance, particularly at reveals on either side of door and window openings and at the ends of walls.

Setting out starts at the design stage where the design of a building, including openings, should ideally be set out to brick co-ordinating dimensions, eliminating the requirement to cut bricks on site.

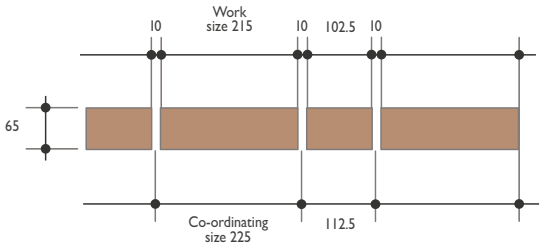
In this briefing only stretcher bond, also known as half-bond, is considered, although the basic principles will apply whatever bond is used.

DESIGN – Co-ordinating Size

Brickwork should be set out using as a 'unit' dimension the co-ordinating size of the brick, ie one brick length plus one nominal 10mm mortar joint – usually 225mm for standard metric bricks. The mortar joint acts as a 'buffer zone' and is adjusted to suit the actual brick size during construction. (**a**)

All brickwork dimensions are determined by one of three conditions: brick plus two joints (CO+) – brickwork above or below door and window openings; brick plus one joint (CO) – brick panel with opposite return ends; and brick only (CO-) – brick piers or panels between openings. For example, if a span of brickwork is required to encompass four whole bricks over an opening, a mortar joint will be needed at either end; therefore the co-ordinating size measurement (CO+ condition) is 900mm (four brick lengths plus four x10mm mortar joints). (**b**)

a



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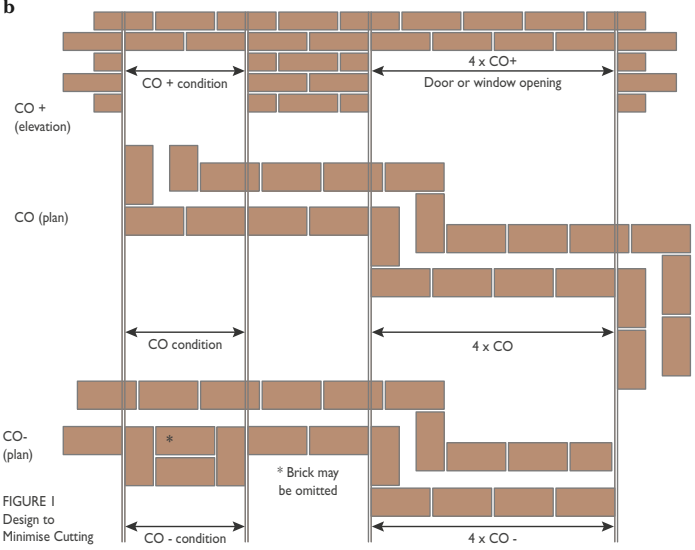


FIGURE 1
Design to Minimise Cutting

Further Information

Comprehensive design and technical guidance for brickwork is available in the Technical Information Sheets section of Ibstock's website, under Design & Specification, Application & Construction and Site Practice & Troubleshooting. See: www.ibstock.com

For any help or advice, contact Ibstock Design & Technical: technical@ibstock.co.uk

CONSTRUCTION
The bricklayer should set out the brickwork at foundation level, marking the position of openings and adjusting joints to accommodate any brick size variation.

TOLERANCES
BS EN 771-1 requires that the dimensions of a clay masonry unit shall be declared by the manufacturer and also which tolerance category the mean values fulfil. Information on brick tolerances can be found in Ibstock's Product Portfolio and on its website.

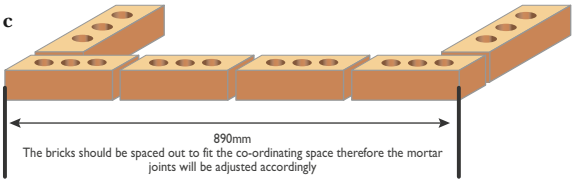
It is important to understand that bricks complying with the British Standard have varying shape characteristics, depending on the method of manufacture. When using different products in the same wall, for example wire-cut products at ground-level changing to stock bricks higher up, they may be classified to different tolerances. If the guidelines on setting out are followed this should not cause any problem. However, if a rigidly measured 10mm mortar joint is used there will be inevitable problems with perpends running out of plumb.

Before laying, units from each product type should be blended so that the overall appearance of the finished work is uniform and without patches or bands of colour. This will also help to blend any variations in size.

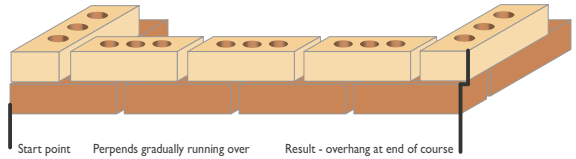
It is important not to set-out using the actual size of the bricks on site as the dimensions of future deliveries may differ. (**c**)

PERPENDS
Perpends are the positions of vertical joints between the bricks (not the actual vertical joints themselves). Their location should be decided at foundation level. The verticality of perpends is visually important and the plumbing of every fourth or fifth course and the 'eyeing out' in between will produce satisfactory results. In addition, the fourth or fifth perpend in each course should be plumbed and suitably marked. (**d**)

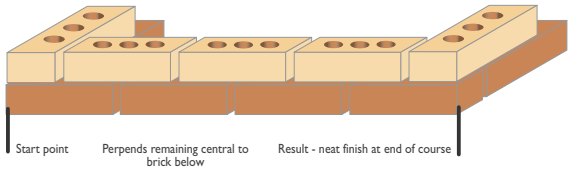
c



Courses set-out with 10mm mortar joints



Courses set-out to a co-ordinating size with varying mortar joints



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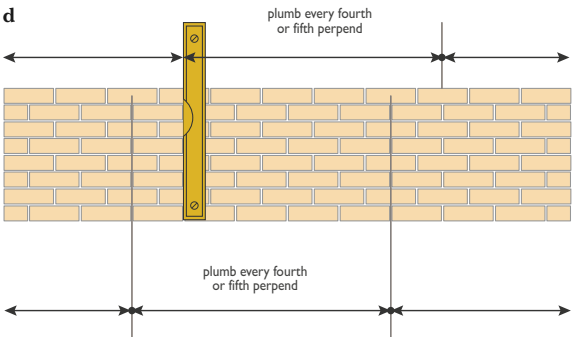


REVEALS

The positions of the reveals, ie the sides of window and door openings, should be identified when setting out the first few courses. This should ensure unbroken perpends for the full height of the wall. **(e)**

BROKEN BOND

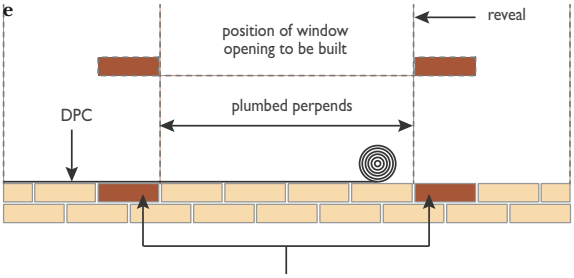
This is the introduction of cut bricks into a length of wall which, if properly considered, will maintain satisfactory appearance and achieve a minimum quarter bond. It tends to arise beneath window openings, where short lengths of brickwork are neither full-brick nor half-brick dimensions. Alternatively, the cut bricks can be placed symmetrically at each end of a run of brickwork. **(f)**

REVERSE BOND

This is where the end bricks in a given course are showing a stretcher face at one end of the panel and a header face at the other.

It can also apply at either side of an opening containing a half-brick dimension in its width and where broken bond and brick cutting may be considered unacceptable. It is unlikely to be acceptable if reveal bricks of a contrasting colour are used as a decorative feature as the appearance is not balanced. **(g)**

e



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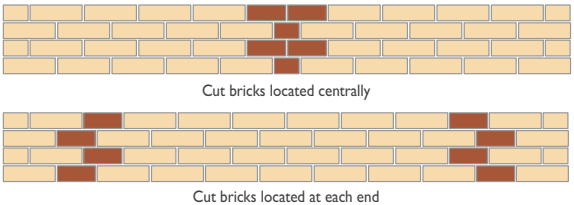

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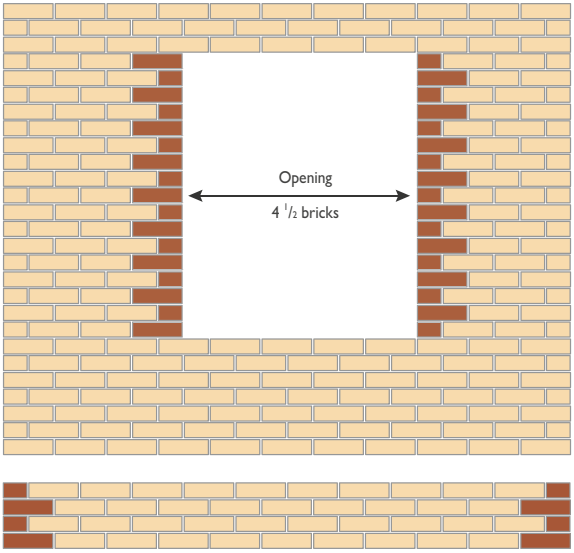


ANGLES

Walls which include angle bricks should be set out to the face side as with any facework. The use of squints will maintain half bond. Longer angle bricks (often referred to as dog-legs) will also maintain half-bond but the shorter ones will involve some cutting of the standard brick to maintain the bond. (**h**)

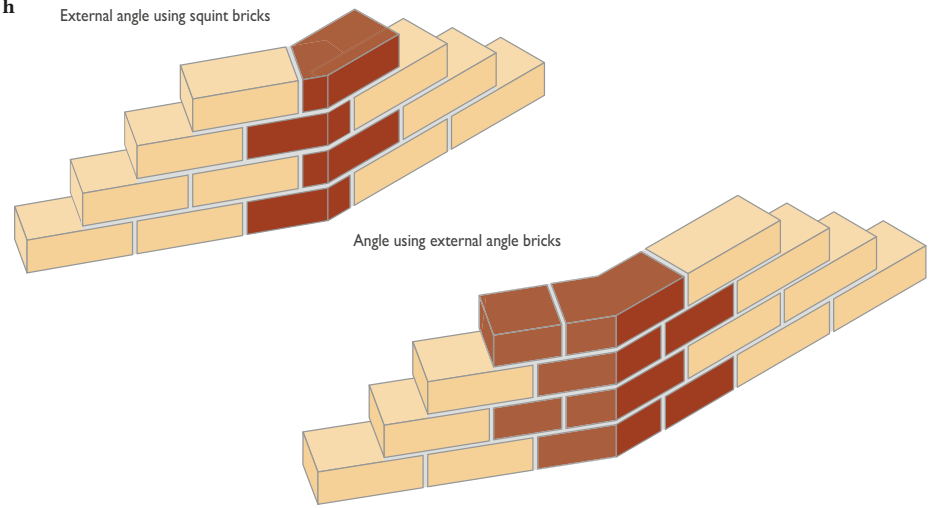
PLINTHS

Stepped plinth courses at the base of a wall will increase the wall length externally and may result in a non-co-ordinating dimension. The setting out dimension should therefore be the brickwork above the plinth courses so that any cutting to accommodate the increased length is in the plinth and lower courses only. (**i**)

COPINGS AND CAPPINGS

Special consideration must be given to fixing a line and pins when placing a course of copings or cappings. It is good practice to consider the most obvious 'sight line' or side most likely to be seen. As the bricks will vary in size the favoured edge or arris of the course being laid will be the 'trued up' edge. Where copings or capping are to be viewed from both sides, some selection of units to a common size will be necessary.

h



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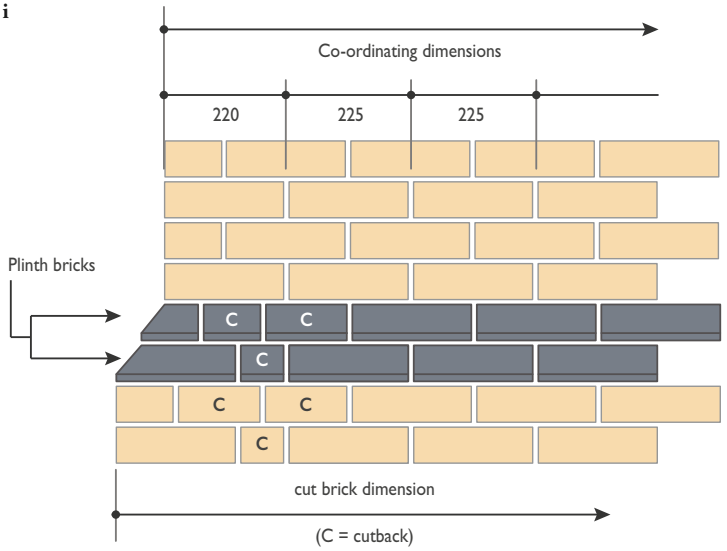


Profile: Ibstock's Atlas Works

Ibstock's Atlas factory in Walsall, West Midlands, was built in 1990, initially as a paver plant that could manufacture and supply clay pavers throughout the UK. As the paver market started to diminish, however, the plant investigated the potential of making new products for which demand was expected to increase.

As a result, in 1992 Atlas started to manufacture blue special bricks. These products proved to be very successful, and the plant enjoyed a busy and profitable few years. In due course, however, Ibstock's acquisition of the Lodge Lane factory in Cannock led to the production of blue specials being transferred there.

In 1999 Atlas was asked to make large format blocks, a type of product that, at that time, was otherwise unavailable from any other manufacturer in the UK. Following a significant investment programme, Fireborn was launched, offering architects and other specifiers British-made large-format clay blocks in five different widths, in four different textures and in six colours.

Atlas also developed Elementix Express, Ibstock's rainscreen cladding system which is available in five different colours, two height sizes and in lengths up to 500mm.

More recently, Atlas has developed a linear range, which includes five different widths (215mm, 290mm, 327mm, 440mm and 490mm) with heights from 50mm to 290mm, and available in 11 colours and seven different surface textures.

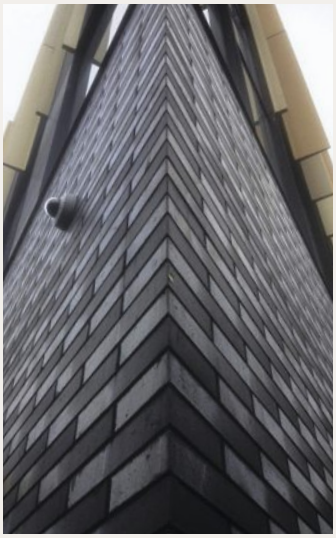
Atlas also offers a premium cut and bond service, and the plant incorporates a purposed-built temperature-controlled bonding room. These facilities primarily service Atlas's own Fireborn and Linear products, although the factory has recently started to cut and bond all the Ibstock Glazed units, using specially developed diamond-edge silent blades for chip free cutting, which is an essential feature in cutting glazed bricks.

Due to come on-stream in 2017 at the Atlas works, is a new cutting area. This is currently under construction, and will include three masonry saws, a tile grinder and a specially-made tile cutting saw which will enable the plant to increase the capacity of its cutting and bonding department, as it looks to expand and innovate with new products and services.

Opposite
The £6m European Centre of Excellence for Research into Bioenergy (EBRI) at Aston University in Birmingham, designed by Associated Architects, is projected to achieve BREEAM Excellent, and will use biofuel for power, heating and cooling. Rainscreen cladding grounds the building into the landscape while glazing and textured metal mesh provide a counterpoint on the upper floor levels.

Left
A £6m mixed-use project on Portland Road in Hove, East Sussex, was designed for the Affinity Sutton Group by Conran & Partners. Employing Ibstock's Multi coloured Fireborn Linear bricks (490x102x50mm), the development comprises 35 affordable rent apartments, including four wheelchair-accessible units, plus a doctor's surgery, pharmacy and two commercial units.

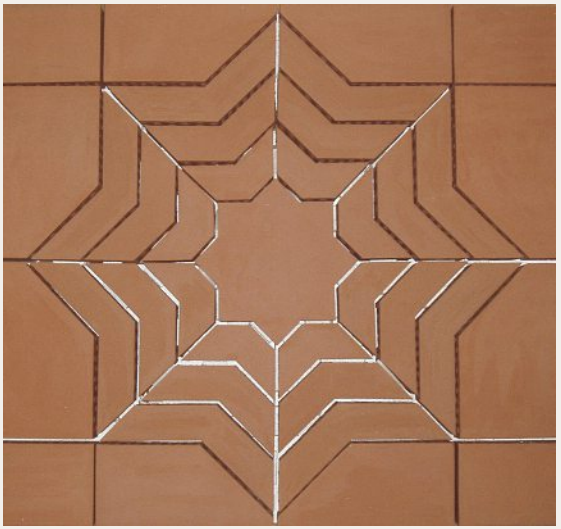
Left
The Aston Brain Centre by RPS accommodates clinical and research space, and houses including one of the UK's most advanced MEG scanners. The BREEAM Excellent building sits alongside the existing Aston Day Hospital.



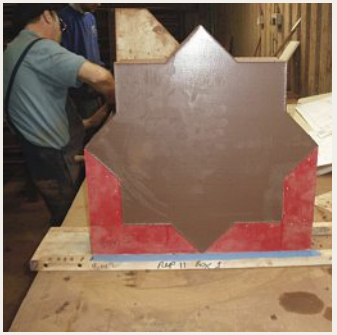
Above
Associated Architects' newly completed library at Birmingham University employs 440x65mm silver black Linear bricks from Ibstock.

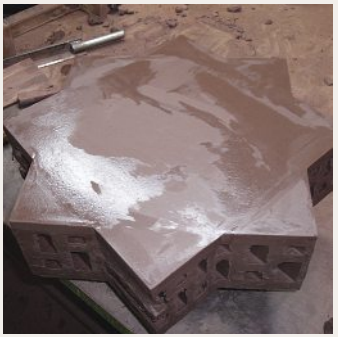
Above left
Linear bricks at Portland Road in Hove, East Sussex, by Conran & Partners.

Left
Fireborn Natural Cream bricks feature at Unilever's Leatherhead headquarters office, by DeNovo Architects.



Above, below
The Farook-E-Azam Mosque at Stockton on Tees, designed by Archi Structure, features brick facades punctuated by arched window panels. Ibstock's wirecut Cheddar Golden brick contrasts with large-format Fireborn Cream bricks, while panels of large-format Fireborn Red bricks, made by Atlas to an Islamic star pattern, provide decorative relief.





Brick Response: Adrian James

What factors tend to lead you to use bricks?

Brick is our de facto norm. Odds on it's the right choice for the context, the budget and the creative intent. The question is more why not to use brick than why to use it: I might plump for something else if the context or the building method suggests otherwise, but a bigger budget can just mean more fun with brick.

What can bricks offer in terms of creativity?

Brick is dreamily versatile. It is a small, repetitive element, laid by hand without the need for elaborate prefabrication. It can take its own weight so it doesn't need support, but for more gymnastic applications there are fancy systems for invisibly hanging it. A brick skin can warp and wrap around just about anything. Its plasticity makes it a designer's delight.

Which brick projects by your own practice are you most pleased with, and why?

First, my own house, built 20 years ago on the bank of the Thames, was my first solo design foray, and I still like its meaty pilasters and arches. It was determinedly un-trendy (see the photo on the facing page). I'm not embarrassed by it.

Second, a pair of mews houses in Jericho, Oxford, where we used a long, thin brick with tight joints. The brickies struggled but persevered and the result is crisp and nicely textured.

I'm also pleased with the wide arch over the entrance to our teaching block at Shrewsbury School. There are metre-deep reveals to the whole front facade. It's got serious heft. And our latest completed brick project, a house called Incurvo (see Design, Autumn 2016), is a sculptural, voluptuous joy.

Which brick projects by other architects have impressed or influenced you most, and why?

Golly, I love a good arch: the Baths of Caracalla, the Balcombe Viaduct, Thiepval, Kahn in India (obvs) and oh yes, Mario Botta's brick cathedral at Evry, Paris are all worth the pilgrimage. I'll probably be trolled for saying it, but I love John Outram's outré architecture. I worked with John on a building in Texas which is truly awesome; a forest of elephantine brick columns. What most influenced me though were not his buildings but his tenets that:
a: What matters most in a building is that it embodies a Beautiful Idea. The strength of the Brutalist idea is what makes its ugliness so, actually, beautiful.
b: What matters least is what other architects think. Architects do drearily conform to the current zeitgeist and fear their peers; much better to follow your passion however unfashionable.

Do you see brick as a material of the future?

Right now brick is very 'in', but that is sure to change. The current fad for exotic shapes and colours will pall. But whatever, I'm sure brick per se will persevere. It is quintessentially sustainable, maintenance free, effectively eternal. And key to its survival is its contextuality – brick makes a building belong.

To my mind, the challenge ahead for brick is how to become a true cladding material, applied rather than tied to a structure. We need a brick slip system with integrity and versatility. I look forward to a twenty-first century take on the mathematical tile.

Top
Adrian James, seen here at the Balcombe Viaduct, is a director of Adrian James Architects, twice winner of the BDA Brick Award for the best individual house, plus many other awards.

Above
John Outram Associates' Duncan Hall, Rice University, Texas (1996, ph: Kendall Heaton, executive architect).

Right
Clockwise from top left: Mill Street (James) house (1997, ph: Charlotte Wood), Incurvo (ph: Fisher Studios, see Ibstock Design Autumn 2016), Jericho houses (2011, ph: Fisher Studios) and Hodgson Hall, Shrewsbury School (2015, ph: Fisher Studios).

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The Courtyard House, by Dallas Pierce Quintero (photo: Rachael Smith)

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Swansea University Bay Campus residences, by Porphyrios Associates (photo: Neil Perry)