



GREEN GOES MAINSTREAM

Designing the Sustainable Building Center





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“ECD ARCHITECTS WERE SPECIFICALLY CHOSEN FOR THE WOLSELEY SUSTAINABLE BUILDING CENTER BECAUSE OF THEIR EXTENSIVE KNOWLEDGE AND COMMITMENT IN THE FIELD OF ENVIRONMENTALLY-RESPONSIBLE DESIGN.

They have played an instrumental part in the project’s success, both in the formation of an exciting piece of architecture but also in supporting Wolseley’s ambition to bring sustainable construction into the mainstream. It has been a pleasure to work with them from concept to completion.”

TIM POLLARD

HEAD OF SUSTAINABILITY, WOLSELEY UK





WOLSELEY UK SITS AT THE HEART OF THE CONSTRUCTION SUPPLY CHAIN, PROVIDING THE WIDEST RANGE OF CONSTRUCTION PRODUCTS AND MATERIALS AVAILABLE IN THE UK THROUGH OVER 1,800 BRANCHES.

Its unique distribution system with multiple central feeder warehouses makes the Wolseley UK distribution network more responsive and more flexible than any other in its sector.

Wolseley UK is committed to meeting customer needs by providing the right products and services when and where they are needed, at competitive prices. Its customers are anyone who constructs and maintains buildings and range from the largest construction companies to government organisations to self-employed contractors.

– WWW.WOLSELEYSBC.CO.UK

The Wolseley Sustainable Building Center in Royal Leamington Spa is a living, interactive showcase, featuring renewable and sustainable materials for building and water conservation products.

The Center is the focal point for Wolseley's sustainable products strategy allowing access to a wide range of stakeholders and providing a single point of contact for data and information. This fantastic and truly unique facility opened in Summer 2008, and features many products in a real working environment. The unique proposition of the SBC is that both the products used in the construction of the building and those on display are commercially available through the Wolseley supply chain.

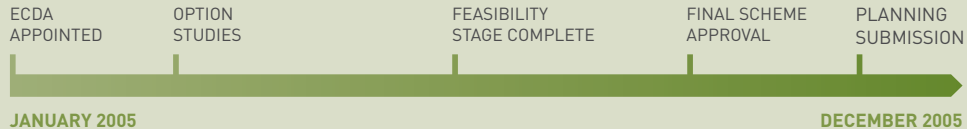
The SBC has achieved a bespoke BREEAM Excellent rating.

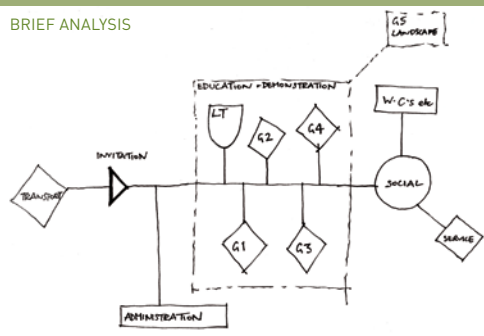
CHOOSING AN ARCHITECT

In January 2005, ECD Architects were selected as lead designer for the SBC project. Our remit was to interpret the brief and accommodation list to fulfil the concept of a sustainable products showroom; identify the most suitable site for the Center within the Wolseley 'campus'; and to assist in the establishment of Wolseley UK's sustainable product supply chain.

ECD, or Energy Conscious Design, has 28 years of experience in sustainable, energy-efficient architecture. Our aim is to create buildings that have a low impact on the local and global environment with designs that are contemporary, contextual and environmentally responsible.

The SBC is the latest in a lineage of award-winning projects that includes low-energy commercial premises, individual eco-houses, low-carbon housing refurbishments, university faculties, residential masterplans, a museum and a visitor centre. These projects have explored the capabilities of buildings that are orientated to benefit from the sun, are constructed with high levels of insulation, exploit the capacity of thermal mass to retain heat and coolth, are naturally ventilated, use natural materials to clad and fit out the building, re-employ existing structures to reduce embodied energy, use innovative technology to supply renewable energy and are planned to reduce reliance on the car. These characteristics and techniques would soon be brought together to realise the Sustainable Building Center.





DEVELOPMENT OF THE SBC CONCEPT

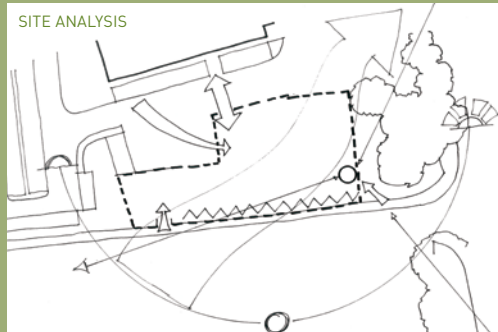
The initial brief and budget was very loosely defined, suggesting a building of 600 – 700m² internal area, over a maximum of two floors.

The primary purpose of the building, to showcase and demonstrate low-carbon products and technologies, was to be achieved through the provision of product display galleries, supported by an audio-visual theatre seating forty people, office facilities for three staff, a café/seminar room and washroom facilities. Wolseley were looking for an exemplar building that was 'futuristic' in appearance yet shared some connection with the other buildings on the site. It was also to have a public presence if possible, given its role as a shop window for Wolseley's sustainability credentials.

The first phase of Wolseley UK's new headquarters building was well under construction by this stage and the masterplan proposed a similar, second phase to the south. To the west, the enormous National Distribution Centre was being planned, at a scale that would dwarf the SBC concept. The showroom would undoubtedly need to distance and distinguish itself from its larger neighbours. ECD began to look at options for building close to the southern boundary of the site, in an area earmarked for future car parking.



SITE ANALYSIS

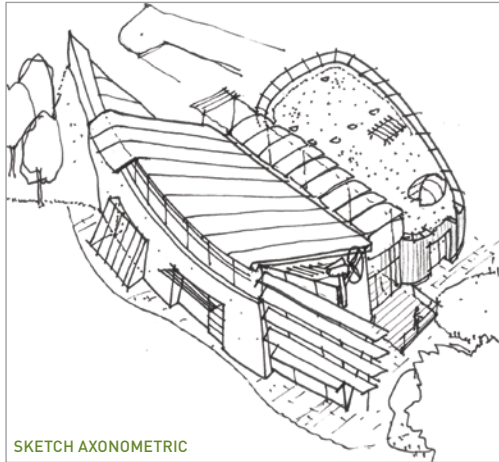


FEASIBILITY STUDIES

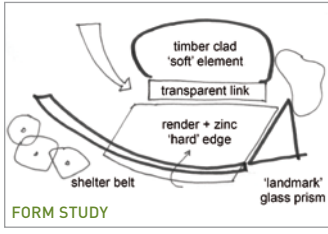
ECD started design work with a set of sketch option studies for the Center, one of which even included re-use of a redundant water tower on the site! From these diagrammatic proposals, Wolseley and their sustainability consultant, Sustain, agreed the preferred approach with ECD and design development began in earnest.

The chosen site was in the south-east corner of the site where the building would have unobstructed solar access and maximum exposure to the public domain yet would have the minimum impact on the masterplan parking layout. At this stage, pedestrian and vehicular access was to be anticipated from the existing HQ to the north.

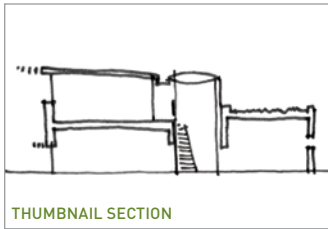
In planning the layout of the Center, a lot of consideration was given to the visitor experience. The Wolseley team envisaged that groups of invited guests would arrive at the Center simultaneously and receive a tailored, introductory presentation in the AV theatre. From here they would proceed with a self-guided tour around the galleries, ending their visit in the café/social area. Early proposals divided the gallery spaces into themes, adding cloakroom facilities, storage space and a central, organisational spine to the brief. The proposed entrance was at the western end of this spine, at the end of the anticipated approach from the main HQ building. Materially, early ideas developed around a split between a harder, more urban aesthetic for the south 'wing' and a softer, organic style for the north 'wing'. Already, the concept of a two-storey gallery block benefiting from passive solar gain and cross-ventilation had taken hold which would also provide shading for the theatre element.



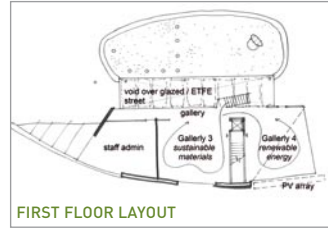
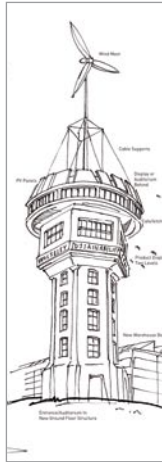
SKETCH AXONOMETRIC



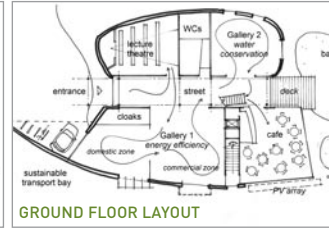
FORM STUDY



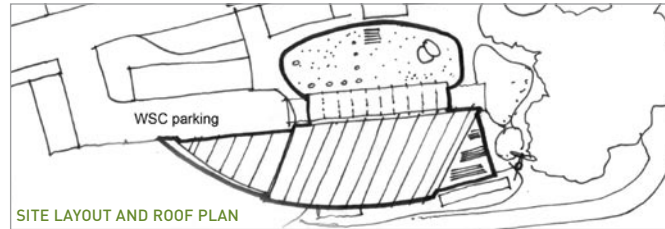
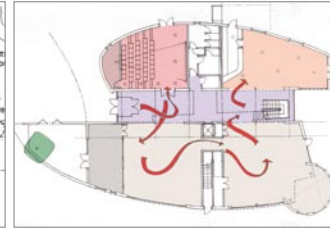
THUMBNAIL SECTION



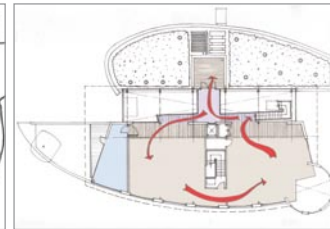
FIRST FLOOR LAYOUT



GROUND FLOOR LAYOUT



SITE LAYOUT AND ROOF PLAN



SELECTING THE TEAM

Before proceeding with the next stage in the design development, the full design team was introduced to the project.

In selecting co-designers for such a potentially complex, diverse and compact project, ECD turned to engineers with whom they had successfully worked in the past. With Fulcrum Consulting as mechanical and electrical engineers, ECD had successfully completed the award-winning International Building at Royal Holloway College and their pedigree in innovative low-energy buildings was well established. Similarly, Matthew Wells, principal of Techniker structural engineers, had previously worked with ECD on the design of the Templeton College lecture theatre in Oxford and had a wealth of experience in sustainable engineering design solutions. Dobson White Boulcott quantity surveyors had recently worked with ECD on a design commission for a National Children's Centre, whilst RGA Landscape were also known to ECD as designers with a track record in environmentally-responsive landscapes and had the advantage of being based close to the site in Warwickshire.

STRUCTURAL ENGINEER:

Techniker

13-17 Vine Road, London EC1R 5DX

T: (020) 7360 4300

SERVICES ENGINEER:

Fulcrum Consulting

62-68 Rosebery Avenue London EC1R 4RR

T: (020) 7520 1300

QUANTITY SURVEYOR:

Dobson White Boulcott Limited

High Holborn House, 52-54 High Holborn,
London WC1V 6RL

T: (020) 7269 0450

LANDSCAPE ARCHITECT:

Roger Griffiths Associates

4 Regent Place, Rugby, Warwickshire CV21 2PN

T: (01788) 540 040



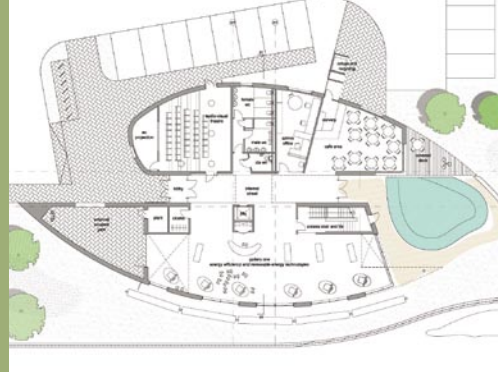
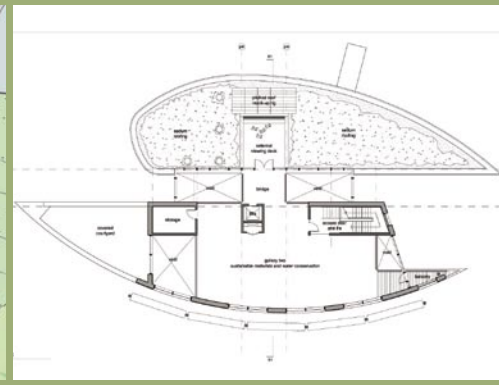
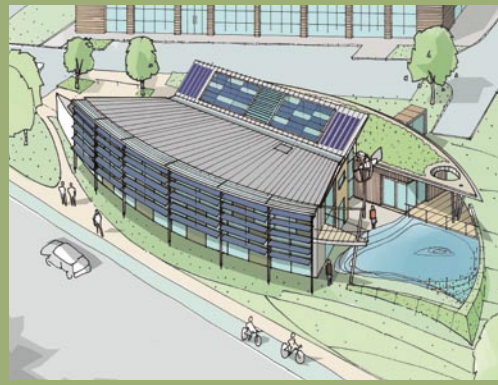
SCHEME REFINEMENTS

Subsequent design iterations saw a number of key developments to the scheme:

- the café space migrate to the north wing, where it was easier to access for deliveries and had the potential to both open out onto a terrace area and enclose a balancing pond feature.
- the form of the main roof became more defined, with a south-facing monopitch element above the spine tilted at 30° to support solar panel technologies.
- an external walled compound was added to the north wing to provide a space for external wall mock-ups and the temporary storage of new exhibits.
- a terrace area in the midst of the north wing roof would provide an external viewing gallery for both sedum flat roofing systems and a panel of traditional tiled roofing.
- the administration office was also relocated to the ground floor north wing where staff would more readily control access to the Center.

Artist's impressions were again presented to the Wolseley/Sustain client team and the latest designs were approved, subject to budget. At this point, the proposals were discussed with the local Planning Officer, John Beaumont, who was content to give his support to the scheme. A final set of changes to the layouts submitted for planning approval, meant a further rationalisation of the gallery wing:

- a single staircase now provided both access and means of escape.
- double height voids in the gallery space would allow bulky displays to be delivered to the first floor internally but would also aid with natural ventilation.
- a storage room was added to the brief at first floor and a services intake room at ground floor.
- the low carbon heating plant was arranged on display in the ground floor gallery space.
- a balcony was added to the east façade to view the proposed façade-mounted micro-wind turbine.
- an array of fixed photovoltaic louvres were proposed for the entire south façade to generate electricity whilst providing summer shading.
- the main roof was extended to cover the courtyard area to the west.





FORMAL CONSIDERATIONS

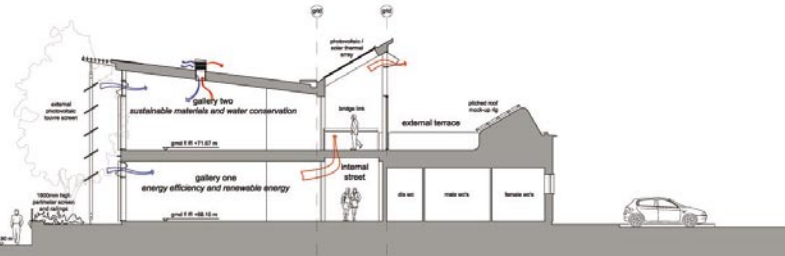
By December 2005, the design of the building had by and large reached its final form and was submitted for planning approval.

The challenge had been to present a broad range of materials and components in a coherent and aesthetically exciting manner, yet which still embodied the characteristics of sustainable design. The solution deliberately juxtaposed two alternative approaches to low-energy architecture – the south wing taking an externally insulated, heavy mass approach; the other a lightweight, timber-framed stance. The former is a bow-fronted, 2-storey gallery block, and is connected to the single-storey timber wing by the double-height internal street.

The layout permits a visitor route that flows easily from entrance to audio-visual presentation; then from demonstration galleries on both ground and upper floors (including the external terrace) back down to the cafe area. To the rear of the gallery spaces, a structural spine forms the springing point for the butterfly roof form. This spine area also contains the platform lift, access and escape stair and vertical riser cupboard for services distribution around the building. The upper floor connects via a bridge to the external terrace where visitors will be able to view the sedum roofing, sunpipes, photovoltaic roof tiles and flat plate solar thermal mock-up at close hand.

The curved plan forms are intended to reflect the dynamic nature of our environment – the leading edge of the gallery wing roof appears to track the arc of the sun as it passes to the south; the roof folds collect and channel the flow of rainwater. The two main wings are offset from each other, appearing to slide past from east to west. This gesture allows the building to ‘embrace’ a sheltered court area in the west, with the curved timber wall of the theatre leading the visitor round to the main entrance lobby. At the other end, this same arrangement encloses another open courtyard – a pergola and decking area form an extension to the seminar room on fine days.

Proposed Wolsley UK Sustainable Building Centre



DRESSING THE SHOP WINDOW

With planning permission granted in March 2006 and detailed design due to commence, attention was turned to the sustainable products that were to be exhibited and incorporated in the SBC.

Wolseley UK have an extensive supply chain, incorporating a number of key manufacturers of sustainable materials and technologies for the construction industry. However, the SBC team were also interested in products outside of their existing portfolio, either currently distributed through niche eco-merchants or not yet available in the UK market. ECD were therefore given a remit to specify green products currently offered by Wolseley but also to identify others that would be appropriate for incorporation into the building.

ECD were able to compile a database of 'green' materials and products starting with foundation and drainage components and covering the whole range of specifications up to roofing and internal finishes. Each had characteristics that would contribute to an overall sustainable approach for the Center. This might be through:

- the use of natural materials
- having low embodied energy
- delivery of operational energy benefits
- provision of a low toxicity alternative to conventional materials
- incorporation of recycled or by-product content

- having exceptional lifespan or durability
- being readily recycled or re-used at the end of its design life
- generating renewable or low-carbon energy

These credentials were typically evaluated through existing tools or guidance such as the BRE's Green Guide to Specification and www.greenspec.co.uk. There were other important influences on the final choices, not least of which was a product's suitability and 'scaleability' for distribution across Wolseley's national network of merchants – rammed earth and straw bales were never likely to feature highly in the SBC! Using the database, Wolseley contacted prospective new suppliers to explain the SBC concept and assess their suitability for a long-term relationship. Key existing suppliers, such as Finnforest for the engineered timber products and Hanson for the pre-cast concrete components, had some involvement in the design proposals, whilst other materials were only identified at tender stage, particularly where products were new to the UK.

GreenSpec

GreenSpec is the UK construction industry's definitive guide to 'green' building design, products, specification and construction. Inside GreenSpec you will find a wealth of information aimed at helping you to design more energy and resource efficient buildings, using materials and technologies that minimise damage to people and the environment.

sponsored by **Burdens environmental**

PRODUCTS
A directory of sustainable products available in the UK. Each product page comes with a description, brochure downloads and contact details.

MATERIALS
A guide to sustainable materials, both traditional and new. Materials such as masonry, roofing and flooring are compared based on their environmental impacts.

LOW CARBON HOUSE
An essential guide to designing a low carbon house: Includes energy standards for the CSH levels 4-6, passive solar design, air-tightness and more.....

3RD EDITION
THE GREEN GUIDE TO SPECIFICATION
Jane Anderson
David Shiers
with Mike Sinclair

COUNTDOWN TO CONSTRUCTION

With the SBC product range falling into place, a number of late amendments to the approved design were necessary:

- The courtyard enclosure material was changed to incorporate Ibstock's new range of fired clay blocks.
- The extent of photovoltaic louvres was reduced for cost reasons - Levolux aluminium aerofoils were substituted.

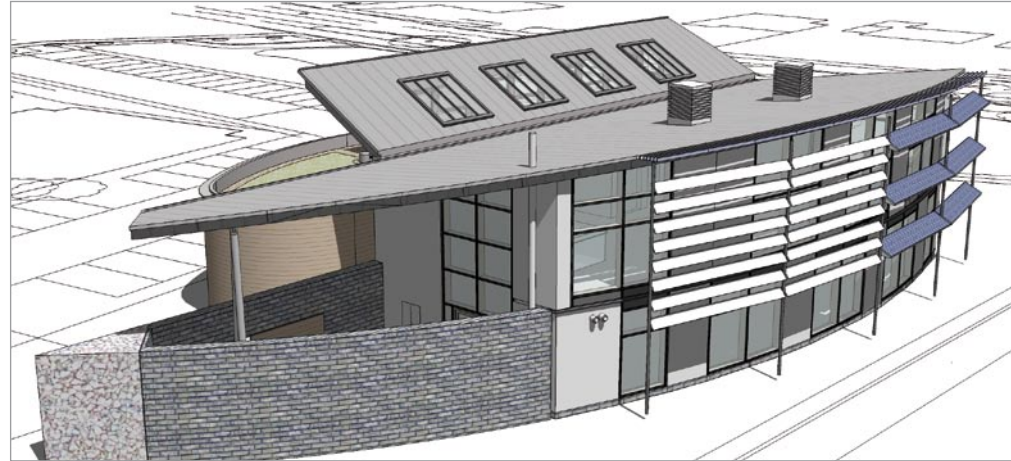
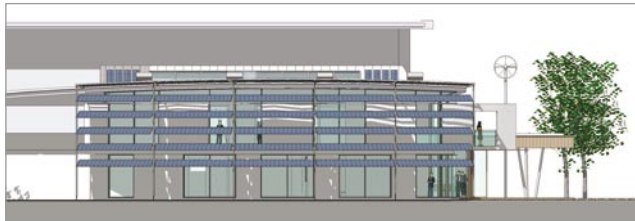
- Analysis by Passivent showed that the number of roof top wind cowls could be decreased to two, supplemented by automated louvre panels in the south facade.
- The rooflights were rationalised into four standard Xtralight panels.
- The evacuated tube solar thermal collectors were withdrawn by the manufacturer, so flat plate alternatives were lined up.

By now, the SBC concept was receiving increasing support from within the Wolseley Group so the decision was made to enlarge the office accommodation to serve six staff members. In effect, this meant the cafe space changed to a meeting room with kitchen facilities, affecting positioning of partitions and windows. The large recycling bay was repositioned and a server room was now required.

Finally, in order to make further savings, the cantilevered section of green roof covering the decking to the east was omitted and replaced with a timber pergola.

The landscaping around the Center creates a green oasis within the former industrial site. RGA's scheme incorporated concentric bands of drought resistant planting to reduce the irrigation needs. The SBC sits on a plinth created by stone-filled gabions - the demolition of a nearby listed pond structure was intended to provide the source of fill material. A cycle shelter, oak LED lighting bollards and a reed-filled rill complete the setting.

The contract was tendered in December 2006 and local firm SOL construction were successful. Enabling works began in May 2007 - the Wolseley team formally cut the first sod on June 1st 2007.



GREENING THE SPEC

FOUNDATIONS AND SUBSTRUCTURE

The poor ground conditions arising from backfill on the site required trench fill concrete foundations and a suspended floor solution. To minimise embodied emissions, 60% GGBS cement replacement was specified for the footings with Hanson Thermalite blocks for the flooring, which replace 80% of the cement content with pulverised fuel ash. Furthermore, the aerated blocks will provide additional insulation to the ground floor.

The damp proof membrane specified was a Visqueen Ecomembrane, manufactured from 100% post-consumer waste from the agricultural industry. Ibstock Fireborn clay blocks were used below dpc level for the outer leaf.



SUDS AND RAINWATER HARVESTING

The SBC's sustainable urban drainage system uses two approaches; infiltration and retention. The former is provided via Marshalls Piora permeable paving blocks to hard surfaces with storm retention provided by Marley Waterloc storage cells leading to a soakaway. Swales and reed-filled rills also feature throughout the wider landscape proposals.

A sedum roof to the north wing reduces storm run-off and water butts collect rain for irrigation purposes. All rainwater from the main butterfly roof is collected in a Titan rainwater harvesting tank under the east courtyard, before being filtered and pumped for use in the w.c.'s.



START ON SITE

INFRASTRUCTURE & SERVICES

FOUNDATIONS

SUDS & ROADWAYS

SUBSTRUCTURE

JUNE 2007

SEPTEMBER 2007

STRUCTURAL FRAME - PRECAST CONCRETE

Hanson Twinwall panels were used to form both the spine and outer walls of the gallery wing. Precast units minimise the need for site formwork and wastage. They are left exposed in the completed gallery to exploit their thermal mass and to display junction details and finish quality. The balcony platform was also precast and is tied to the main structure with a proprietary insulated Halfen connector to eradicate cold-bridging.

The first floor slab uses the Cobiax system of permanent precast shuttering and recycled plastic sphere void formers. An insitu concrete topping completes the slab design, which uses 35% less concrete by volume than its conventional equivalent.



NORTH WING TIMBER FRAME

SOUTH WING PRE CAST UNITS

OCTOBER 2007

STRUCTURAL FRAMING - TIMBER

Finnforest engineered timber components form the bulk of the remaining structural elements - Kerto ribs, I-joists, Glulam beams and plywood are all used in the final framework and are all certified under the PEFC or FSC schemes. Finnjoists used in the curved vertical walls of the north wing minimise thermal bridges; Kerto

sections were bolted on site to form the curved edge beam; circular glulam columns support the courtyard overhang; structural glulam mullions support the upper roof and glazing simultaneously. Steel circular hollow sections and channels are used for the support framework for the brise-soleil and photovoltaic louvres.



FIRST FLOOR DECK

INTERNAL STUD PARTITIONING

NOVEMBER 2007

THERMAL INSULATION

There are six different types of insulation used in the Center, each with a different characteristic.

1. Kingspan polyurethane boards are used in the external cavity below dpc where their durability can cope with occasional water build-up.
2. Rockwool Rockfloor and Flexi products are used in the floors and walls respectively. Derived from spun volcanic rock (one of the most abundant materials on earth) this mineral wool batt has a unique compressible edge that is ideal for fitting between timber studs.
3. Alumasc Korklite formed the base of the green roof system. A natural product harvested from tree bark in Portugal where it's harvesting tradition helps to maintain a unique ecology and habitat.
4. Pavatex woodfibre boards are used as part of the externally insulated render panels to the south wing. Manufactured from waste timber, the interlocking boards form a breathable insulation layer with no thermal bridges.
5. Knauf glass wool products insulate the min roof and are derived from glass and sand sources with a high recycled content.
6. Themafleece sheeps wool is a breathable, natural fibre product that has a low embodied energy and good moisture absorbing capacity.



NORTH WING INSULATION

DECEMBER 2007

NORTH WING WATERPROOFING

TRIPLE GLAZED WINDOWS & DOORS

JANUARY 2008

TIMBER CLADDING

GLAZING AND DAYLIGHTING

Shallow floor plans are intended to be able to maximise daylight throughout the building and avoid the use of artificial lighting. The south wing and internal street are glazed with a double-glazed, argon-filled, structural timber, curtain walling system and incorporate a variety of Pilkington glazing units - Activ self-cleaning, Suncool reflectant and Optitherm insulating glass all feature in the Center.

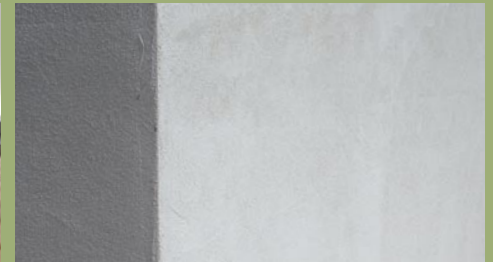
The windows and patio doors from Jeld-wen are certified timber-framed with triple-glazed, krypton-filled units to provide exceptional performance and were developed especially for the SBC project. Glidevale sunpipes also feature throughout the theatre and administration areas.



EXTERNAL CLADDING

Finnforest Thermowood cladding is used vertically to clad the north wing - an eco-friendly heat-treated spruce that requires no other preservative or stain when used externally. The render finish to the south block is a breathable lime product supplied by NBT. Other external finishes include the Ibstock Fireborn fired clay blockwork, which is fairfaced and bonded with a lime mortar, and Rockpanel soffit boards

fabricated from dense mineral wool similar to Rockwool's insulation products. Stone-filled gabions complete the external components of the building.



BUTTERFLY ROOF STRUCTURE

FEBRUARY 2008

STANDING SEAM CLADDING

MOCK ROOF COMPLETE

ROOF LIGHTS & WIND COWLS

MARCH 2008

ROOFING

Two unconventional roofing materials are used in the SBC; steel standing seam and sedum planting. Lindab have supplied the Aluzink sheet material for the upper roof, which is also used for their proprietary gutters, hoppers and downpipes. Essentially steel with a thin protective coating, the metal standing seam finish has the lowest embodied energy of its type, is long-lasting and is highly recyclable at the end of the building's life.

The Alumasc Zinco roof system uses a crushed brick substrate, drainage layers and plug-planted sedum species to create a protective, cooling, stormwater retaining and attractive roof finish.



DRY LINING

A variety of gypsum and clay-based products have been used to line the Center and play an important role in the internal climate. Sasmox is a by-product gypsum and woodfibre board that is particularly durable and impact-resistant, and therefore suitable for display areas. Micronal Smartboard is a phase-change plasterboard used in all north wing ceilings to provide thermal mass equivalent to 90mm of concrete.

Claytec boards and plaster skims also help to absorb sound, odours and moisture and help create a healthy internal environment. Finally, Knauf Futurepanel is a plasterboard with a high reclaimed content and is used in the lower gallery.



CURTAIN WALLING

MARCH 2008

ELECTRICS, PLUMBING & UNDERFLOOR HEATING

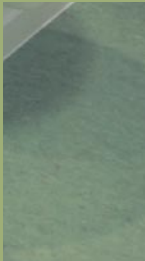
DRY LINING

MARCH 2008

FLOORING

The gallery spaces are designed as flexible office-like rooms so a Kingspan raised flooring system was specified that uses only FSC-certified chipboard in its core. Carpet tiles were supplied by Renewal and contain a high recycled yarn content with a PVC-free backing. Elsewhere, Tarkett-Marley 'Veneto XF' linoleum finishes were used since they are derived from natural materials such as cork, wood flour and linseed oil.

In the internal street area, a terrazzo-like screed called Ttura was laid. It comprises recycled glass chips in a solvent-free resin to provide a beautiful and eco-friendly floor finish.



WATER CONSERVATION

Close-coupled low-flush w.c's from Twyford's provide 2.6l/4l flushing and were a late addition to the spec. In conjunction with with Armitage waterless urinals, Wolseley's own brand IR spray taps and a Mira eco-spray shower head, water use is minimised in the Center.



FLOOR FINISHES

APRIL 2008

STEEL FRAME FOR BRISE SOLEIL

HEAT PLANT AND BMS INSTALLED

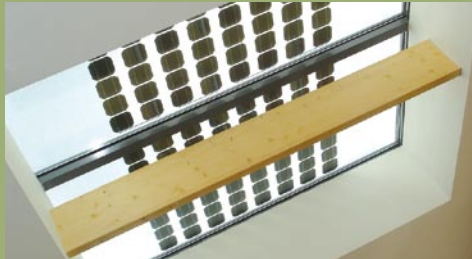
INTERIOR FIT-OUT

APRIL 2008

RENEWABLES

Four different photovoltaic installations (two working, two dummy) have been installed at the SBC by Wolseley's partner Solar Century. The primary panels are the solar louvres on the south facade and the glass-glass-laminate Xtralight rooflights above the internal street. Mock-up photovoltaic roof tiles and 'light boxes' also adorn the center for display purposes.

Solar thermal collectors of the flat plate variety from Vaillant and Worcester Bosch are mounted on between the PV rooflights and provide hot water for pre-heating and showering. An Xpelair Stealthgen micro-wind turbine has been installed to measure actual output against theory.



HEATING, LIGHTING AND VENTILATION

Despite the low heating load, the SBC has a Baxi biomass boiler and a Worcester Bosch ground-source heat pump as well as a conventional condensing boiler. Each system can be switched on in turn to provide heat to a central thermal store array - hot water is then distributed as required via underfloor heating coils or trench heaters throughout the Center.

The Center is naturally-ventilated with a BMS-controlled Passivent windcowl and facade louvre system. Lighting is low energy throughout, using either Cooper CFL fittings or Phillips LED luminaires and fittings, including oak bollards and street lights externally.



CLAY BLOCK AND GABIONS WALLING

PHOTOVOLTACICS AND SHADING

HARD LANDSCAPING

BUILDING OPENS

APRIL 2008

JUNE 2008



JUST THE BEGINNING

Arguably, the SBC project will never be finished... As the world of sustainable construction products continues to develop, there will always be further opportunities to add and change the displays and technologies.

When the first domestic micro-CHP units and fuel cells are ready for the market, you can rest assured they will be on display at the SBC. To cope with the anticipated rate of change, Wolseley SBC commissioned the development and installation of an interactive digital database that can be accessed via a plethora of LCD interfaces throughout the galleries. Information on these terminals can be continually updated and even tailored to suit a particular group of visitors. It will then all be emailed direct to the user's account via PIN access.

But from the architect's point of view, it is hoped that the ability to reach out and touch the exhibits in a working environment will be the real draw. The building interior is deliberately left as a raw experience, from the unfinished precast concrete wall panels to the Finnjoist ceiling in the meeting room, and from the insulation cut-outs to the exposed pipe runs, the visitor gets a true feel for the nature and impact of these solutions.

And indeed, the real purpose of the SBC project is only just beginning - that of selling products and monitoring performance of the individual technologies. Feedback from the latter exercise will be made available to SBC partners and will be of invaluable use to the industry. For example, the micro-wind turbine positioned on the west elevation will contribute performance data to the Warwick Wind Trials project and establish once and for all their true value and viability.

It has been a great opportunity and pleasure to be involved in the design and delivery of this project and, ultimately, to contribute to the creation of the Wolseley UK sustainable supply chain. It is our hope at ECD that the Center will have a significant role in bringing sustainable building design into the mainstream, through greater exposure to both contractors and clients and hopefully a reduction in costs through the economies of scale.

MARK ELTON

HEAD OF SUSTAINABILITY, ECD ARCHITECTS



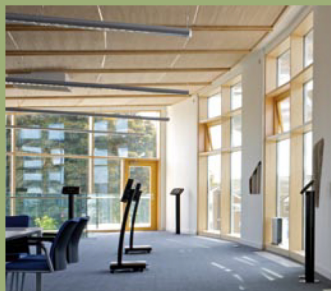
A POSITIVE FUTURE

The SBC puts Wolseley at the forefront of the sustainable products supply chain. It is already beginning to pay dividends with unprecedented levels of interest and approaches by a number of high-profile clients. It is also having an effect in other, less obvious ways. For instance, link-ups between SBC suppliers have identified mutually beneficial opportunities using empty Wolseley fleet vehicles to return or transfer waste material for re-use.

In establishing the SBC as a centre of excellence, who knows what exciting developments in the field of sustainable construction await?



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Printed on 9lives Offset 200gsm
and 150gsm, manufactured from
FSC accredited 100% recycled fibre.

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