

The Murray Grove legacy

James Pickard

Founding Director, Cartwright Pickard Architects



Cartwright Pickard

Architecture, Urban Design, Interiors

- We have been in business for 27 years, and won over 80 awards
- We listen closely to our clients and stakeholders, and meet the challenges that matter to both people and planet
- We believe architects should be prophets and always looking at least five years ahead
- We carry out in depth research to help us innovate and produce pioneering design
- We create architecture that looks beautiful, performs brilliantly, and grows old gracefully
- Off-site production is not an end in itself, good design improves people's lives and health outcomes

Cartwright Pickard is a pioneer in the use of modular production methods

Since the completion of Murray Grove in November 1999, we have continued to innovate in the use of off-site production to raise quality, reduce time on site and reduce whole life costs and carbon.

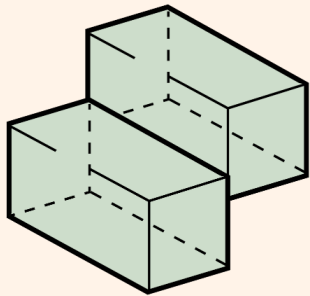


Over 25 years of offsite innovation

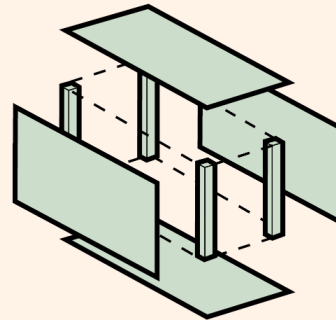
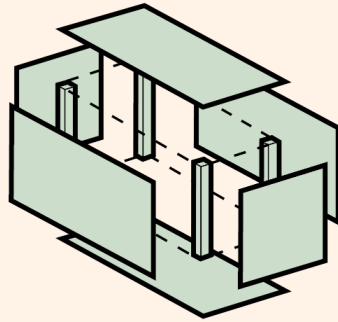
STANDARDISATION



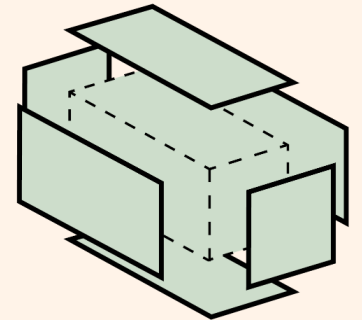
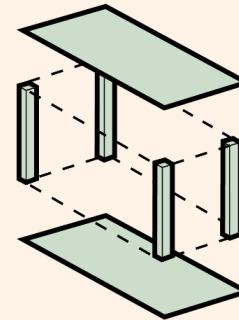
FLEXIBILITY



Volumetric



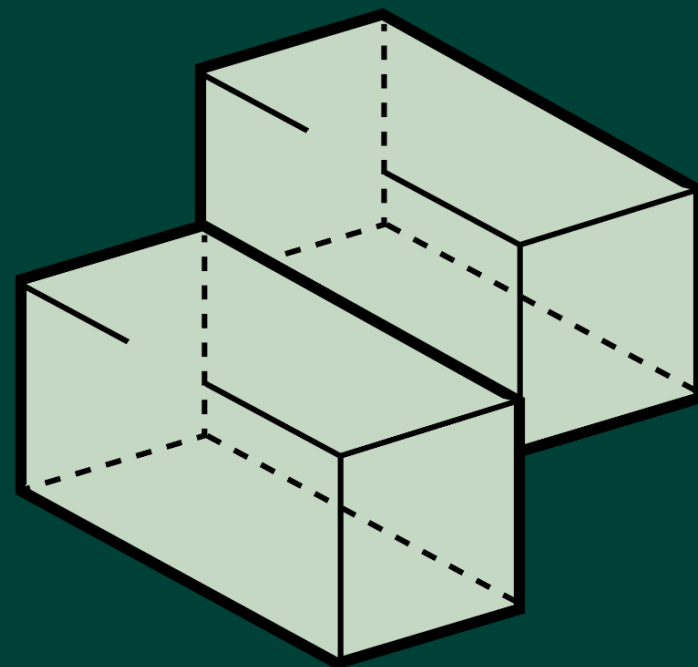
Hybrid / Components



Panellised



Volumetric



Murray Grove Hackney, London

UK's first fully modular apartment building for Peabody Trust

- Modules were fully fitted out with bathrooms and kitchens and finishes in the factory
- Demonstrator modules were acoustically tested in the factory
- Internal pipework was pressure tested and electric circuits tested in the factory
- The project was 6 months on site which was 6 months shorter than traditional construction
- It was handed over by Yorkon with zero defects
- After five years of occupation, Peabody stated that the building had one of the lowest maintenance costs of any of its recent completed housing projects





"Murray Grove effortlessly marries architectural excellence with great constructional innovation. It is popular with residents and economical to maintain."

Dickon Robinson
Development Director, Peabody

Awards

- Civic Trust Award
- Housing Design Award
- RIBA National Award
- Last 11 for the Stirling Prize
- Royal Fine Art Commission Trust Millennium Building of the Year – Housing
- Structural Steel Design Award for Innovation
- Design Council Millennium Products Award
- American Institute of Architects – UK Design Award
- Estates Gazette Architecture Award Commendation

Sixth Avenue York

First modular residential scheme of its kind outside of London for Yorkshire Housing

- Manufactured and delivered by Yorkon, using lessons learnt from Murray Grove, the project was delivered with 10% greater space standards and in real terms 10% lower construction costs 2 years after Murray Grove
- Handed over with zero defects

Awards

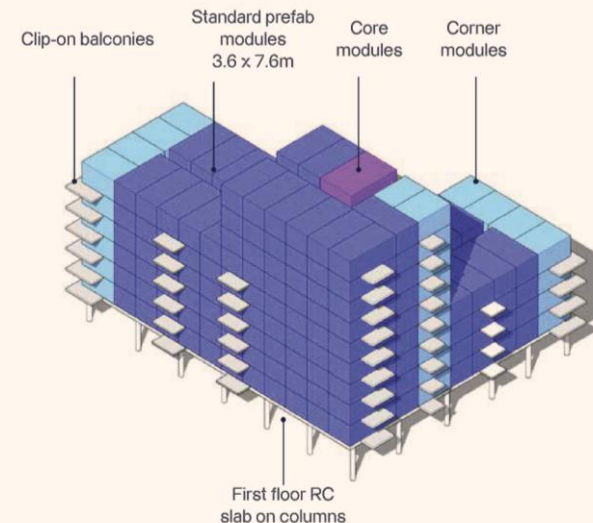
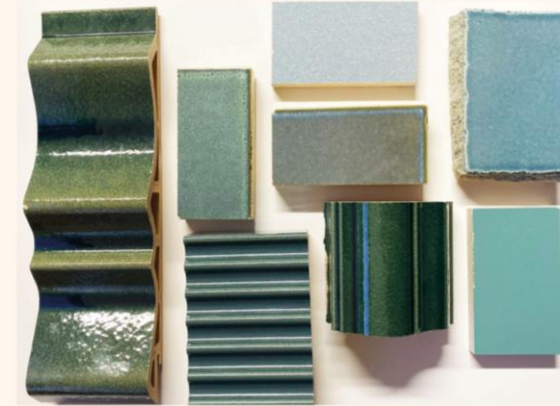
- National Homebuilder Design Awards – Best Development
- RICS Innovation Award
- Prime Minister's Best Building Award (Shortlisted)
- Civic Trust Awards (Commended)



Shepherd Leas Greenwich, London

100% affordable apartment project for Meridian Home Start

- 62 affordable homes designed to be Net Zero carbon in use, designed with the flexibility to be prefabricated using modular units or more traditionally constructed with a concrete frame
- Planning approval expected in Q2 2024



Shepherd Leas Greenwich, London

Achieving Net Zero carbon homes at lower cost

Approach

- High fabric performance to minimise heat loss and solar gains in summer
- MVHR system to provide good air quality and heat recovery
- MVHR system incorporates a heating and cooling coil
- Heating coil in MVHR provides 90% of space heating
- Hybrid air and water source heat pump system to provide domestic hot water and space heating
- PV array on roof
- No hot water cylinders within apartments providing space saving
- Small electric radiators to provide 10% top up heating

£10-15k
reduction in
capital costs per
apartment

40%
reduction
in residents'
heating bills
annually

**No carbon
offsetting
required**



**Free cooling
to 20% of
apartments**

**Fully electric
solution**



**Central
plant space
reduced to
25%**

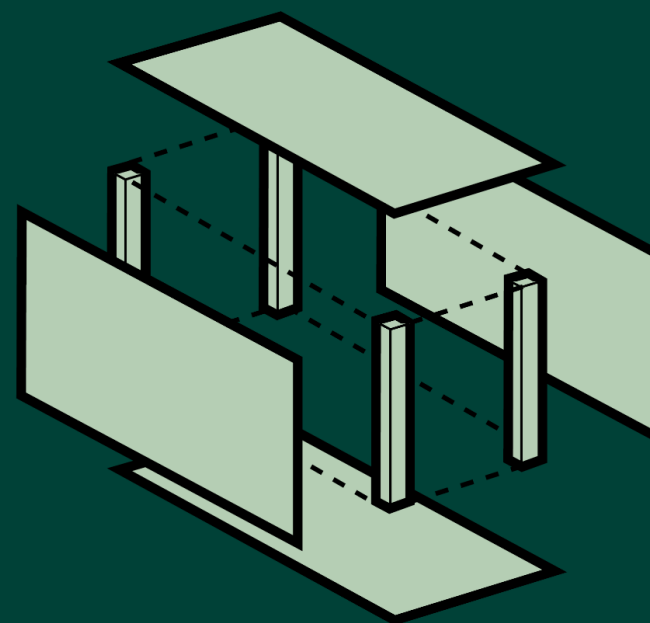
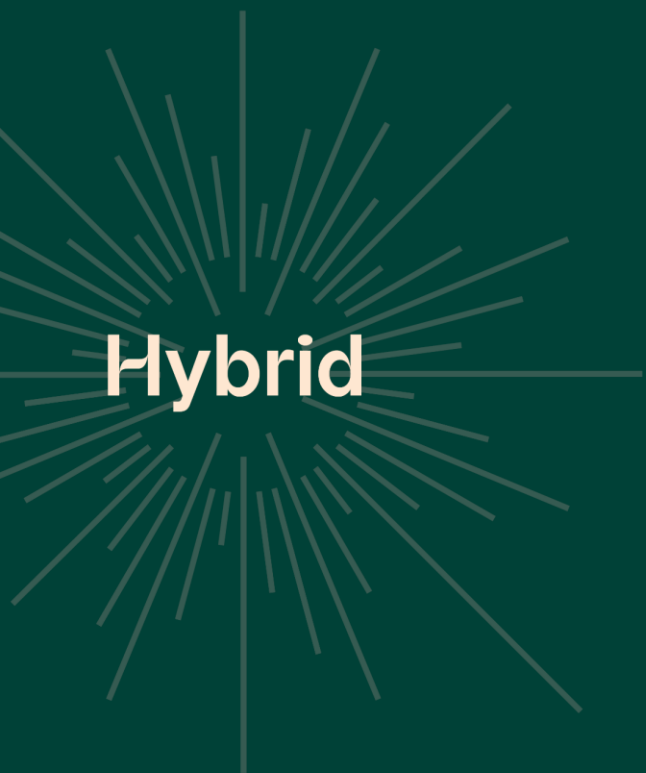
Project X

- Part of a wider city centre regeneration scheme
- 648 factory manufactured volumetric homes to achieve high quality construction
- Fabric first design strategy to provide maximum energy efficiency
- Two modules can be transported on a single truck, seven modules placed per day



Project X





Building MU4 Tetley Site, Leeds

Grade A commercial office building

- The off-site system, procured in Europe, has a pre-cast concrete super structure and external envelope, maximising the thermal performance, raising quality, reducing waste and saving time on site.
- Etched pre-cast concrete façade fins provide a strong expression of the manufacturing approach.
- Precast façade system: 2 leaf closed panel, a) loadbearing internal precast, b) full fill mineral wool insulation, c) external precast leaf with cast in brick slips.
- Windows installed offsite
- Cores: loadbearing precast walls Max panel height: 4050mm Max panel length: 6080mm Max panel depth (to transport 2 panels): 840mm (710mm panel + 130mm precast projection) Total no. façade panel: 230 panels approx.
- Hollow core floor planks span: 16m



Merrick Place Southall, London

575 new apartments and 2100sqm flexible workspace

- Pre-cast concrete cladding system with windows installed in the factory
- Prefabricated steel balconies supported off the pre-cast cladding system
- High level of standardisation and repetition of cladding panels to drive cost efficiency
- High level of 3D coordination of BIM
- Completion Spring 2026



Lambeth Civic Centre Brixton, London

11800sqm workspace and customer service centre for London Borough of Lambeth

- BREEAM Excellent and New London Architecture exemplar
- Precast concrete cladding system with cast in brick slips
- The entire external façade was completed in an 8-week period
- The atrium's 'smart glazing' was the largest installation of Sage Glass in Europe, which responds to exposure to sunlight and cuts out 90% of unwanted solar gain
- Rooftop energy centre providing hot and chill water to three other buildings in the Civic Quarter

Awards

- RIBA London Award
- OAS Development Awards - Best New Build (outside Central London)
- Sunday Times British Homes Awards - Mixed-use Development of the Year
- BCO London Award - Corporate Workplace (Highly Commended)
- Constructing Excellence National Award - Preservation and Rejuvenation Award
- Building Magazine Awards - Project of the Year (shortlisted)
- AJ Architecture Awards - Mixed-use Project of the Year (shortlisted)



Bourbon Lane Shepherd's Bush, London

78 affordable homes for Octavia Housing

- Won in an international design competition run by Cabe
- Prefabricated steel frame used to create dramatic cantilevers increased the density
- Prefabricated closed panel system incorporating windows designed out the need for scaffolding
- Saving on scaffolding of £350,000 was used to pay for a micro-CHP unit to generate electricity on site and provide space, heating and hot water for residents

Awards

- RIBA Award
- Civic Trust Award
- Civic Trust Special Award for Best Housing Project in the UK 2007
- Housing Design Award
- British Homes Awards – Special Commendation
- Structural Steel Design Award – Commendation



Island Manchester

Next generation of Net Zero carbon workspace

- Situated in St Ann's conservation area in Manchester City Centre
- Net Zero carbon in operation and BREEAM Excellent
- Prefabricated super structure
- Pre-cast concrete and brick façade installed
- Windows installed in the factory
- Detailing of the façade influenced William Morris and existing heritage buildings

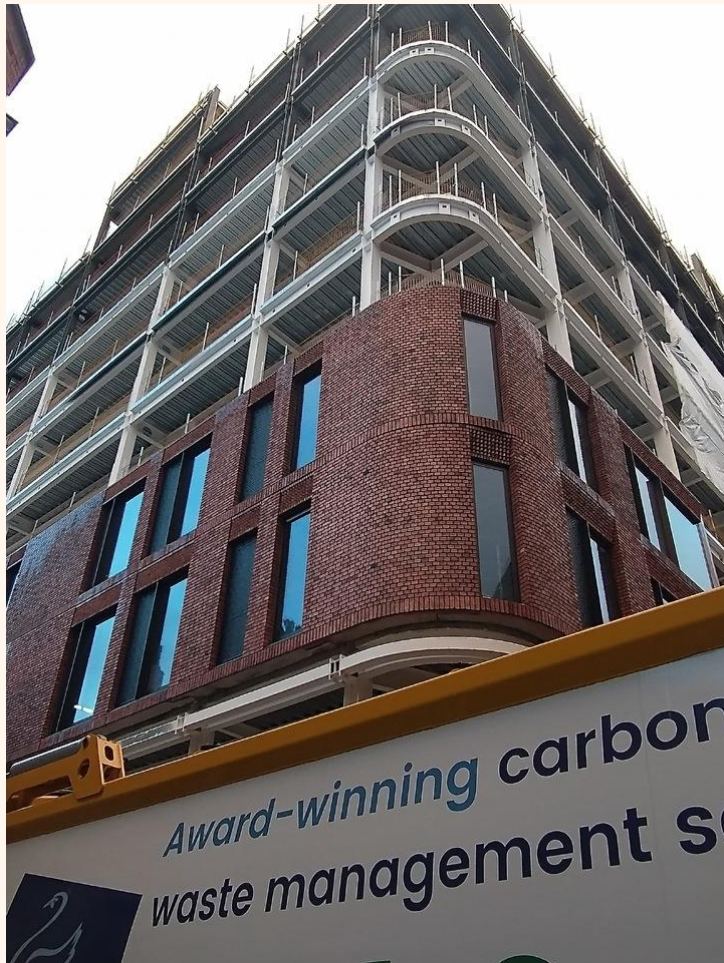
“Having the opportunity to deliver our first net zero carbon building is a major deal for us and something we're very proud to be doing. We have the potential to push the boundaries of what's possible here and believe this is an important step towards a net zero carbon future.”

Adam Brady Executive Director, Henry Boot Developments



Island Manchester

Next generation of Net Zero carbon workspace



Thank you

Now over my great friend Keith



Production not Construction.
Keith Blanshard



Types of Jobs

*build*offsite

- Digital Designers not Architects
- Engineers not Construction Managers
- Need for more Engineering Graduates not Bricklayers and Plumbers
- Manufacturing Apprenticeships not onsite Apprenticeships
- Logistics Experts pre site engagement
- Product Designers
- Coders
- 3D Printing Engineers

UK Construction Stats

- Circa 3 million employed
- Approx. £120 billion per annum (50/50)
- 7% of GDP
- London 2nd most expensive city in the world to build
- UK 22nd in global productivity league

Waste

- Labour only 50% efficient (skills)
- Waste in materials & design 30%

Safety

- 48 deaths on construction sites
- Over 50% of deaths due to scaffolding on housing sites
- Why use scaffolding?



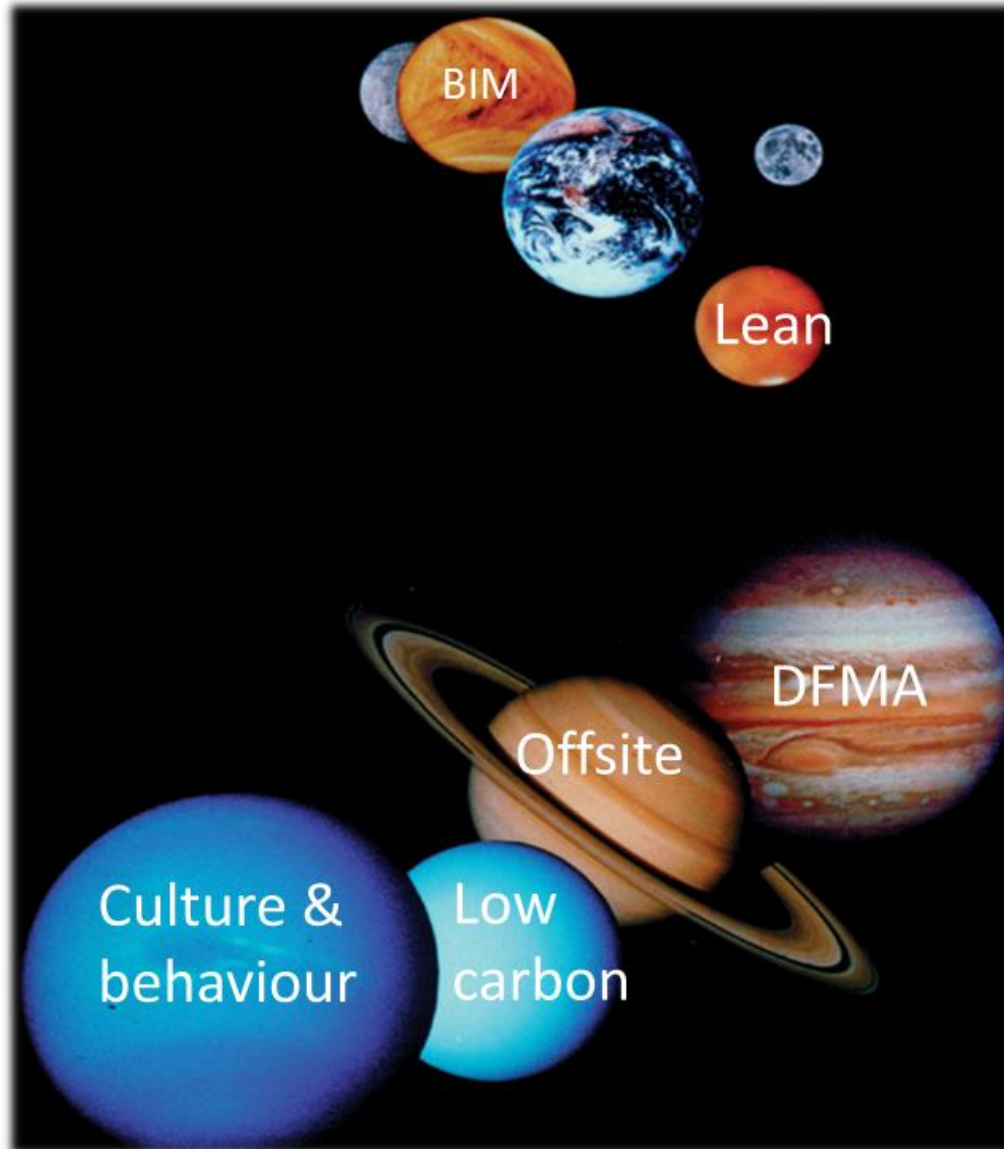
Murray Grove

*build*offsite



The planets are aligning

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Client wishes:

Cost
Time
Quality
Safety
Sustainability

System Approach

Transfer
knowledge from
other industries

Assemblers

Prototypes

System integrators

Bespoke
solutions

Manufactured mass
customised solutions

Product



Thank you

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