

This text was written for a bid in Manchester's business quarter. It starts to expand on the strategies developed at building scale and applies them to a wider context.

Thoughts

Our approach to sustainable design is simple and very much aligned with yours. We are committed to delivering value. We create sustainable buildings by working hard, by rigorous research and by applying creative design solutions that are cost effective.

We have developed a holistic approach to mixed use urban design. This has been achieved under extremely challenging commercial conditions. Our work has been under the scrutiny of private and public funding which has meant actively promoting sustainable best practice at every stage of the design and construction process.

IT utilises the design process as a driver for the removal of risk, the trimming of waste and concentrates on design and construction values. We see sustainability in the round and understand its social, economic and environmental components that go into making commercial, cultural and civic excellence.

As architects we actively encourage our fellow consultants, contractors and wider supply chain to embrace this culture too. This is exemplified in the latest phase of St Paul's Sq where the main contractor has gone beyond the BREEAM contracted excellent requirement by half a dozen points.

At the outset we begin with first principles and identify the low cost solutions to low and zero carbon solutions (LZC). This is carried out jointly with the client, design team and cost consultant providing a matrix of options.

The façade design and performance is developed in tandem with the building services design strategy. This iterative process is balanced against cost, programme, quality and certainty. We use tried and trusted design methods as well as advanced modelling techniques. We consider building form, orientation, planning and layout on day one. The selection of appropriate materials with matching performance criteria and a deep understanding of building physics are a key driver.

We balance solar shading, solar gain and natural daylight requirements to assist in the delivery of a sustainable scheme. Passive techniques such as deep reveals to the façade on elevations subject to solar gain and greater areas of transparency to the northern elevations are easy wins in this respect.

The addition of fritting, opacity or colour to the glazed elements is used creatively. We have developed very strong relationships with specialist subcontractors and openly discuss and develop innovative solutions anticipating ever increasing performance and aesthetic requirements.

Solutions are complex not complicated and budget is always on our minds. We design from a position of critical regionalism and understand place making. There is a rich history of intricate materiality within a cities building. Add to this the design language that has evolved during the immediate environments birth. The opportunity to continue this transformational development is very exiting.

Issues of maintenance, cleaning and weathering of the façade are also parts of the design development process. Simple flat facades, which are economic, easy to maintain and erect, will provide little architectural delight, little solar shading and little protection from wind nuisance and down drafts. On the other hand, complicated, deep, layered facades, which provide passive solar shading and rich architectural responses, are slow to install, not easy to clean and can weather badly if not carefully detailed.

Alongside well known European façade contractors we have designed and engineered common chassis systems that are capable of taking a variety of wall types finding the balanced approach outlined above.

The three commercial buildings in St Paul's Sq use many different strategies that are specific to the individual buildings location and brief. Building 1 uses operable windows, with four pipe fan coil units. Building 5 uses water cooled VRF from a bore hole, whilst building 4 uses air cooled VRF. Each strategy was developed against market, cost and key performance demands.

Although not exhaustive there are three initial possible building services strategies to consider here.

These are as follows:

A variable air volume (VAV) system, allowing free cooling via full fresh air mechanical ventilation

Active chilled beams with minimum fresh air mechanical ventilation

A variable refrigerant flow (VRf) system with minimum fresh air mechanical ventilation

The final selection of a suitable and sustainable system will be dependant on many factors. We don't necessarily start with a blank sheet of paper. Our shared experiences can zoom in quickly to the likeliest solutions. With a manageable set of façade and building service strategies sketched out we can then drill down into detail and identify the best design that offers the appropriate carbon reduction at the best value.

Because we have control of this process we have control of the final form and appearance of the building. Our job is to co-ordinate the design of the system not its individual parts. Just as our approach to mixed use schemes is holistic our approach to office design is holistic.

Good architecture comes from understanding the systems and flows across its boundaries. In commercial design this is predominantly the façade and the internal and external environmental conditions. We can investigate both passive and active solutions and combinations, mixed mode solutions. We know how to optimised solutions, minimises energy consumption, make best use of space, and offer maximum flexibility whilst understanding market demands. It's simple, we deliver value.

Post script.

One can hear us learning to use the framework but speeding up the research time. The clients needs quick responses and we need commissions to stay afloat.