

Building Services Design Dilemma

With the ever-increasing complexity of building services in smaller-scale, low-energy projects, RIBA members in Kent and Sussex have joined forces to investigate how members work with M&E consultants and are asking for input from other regions.

RIBA practice department will collect responses and forward them to members undertaking the research, which is aimed particularly at sole practitioners and those working in small practices. A central question is to what extent M&E consultants are meeting needs for advice on small projects. The researchers are also interested in collecting details of consultants able to provide advice on smaller projects. Send your comments to [Practice](#).

The above prompt was posted in RIBA Practice Bulletin 527 in January 2010. Twenty-three responses were received: the vast majority agreed that there was a growing problem in the industry which needed tackling. The geographical spread of responses was well-distributed: contributors were from the West Country, the Midlands, Wales, the North, South, South East and London. The contributors' experiences were not simply of private residential projects.

From the responses, we concluded the following points:

- 1/ Small works projects are becoming technically more demanding as the industry responds to the energy efficiency challenges set by statutory authorities and environmentally-aware clients. The challenges include heating and ventilation, small power and water installations and lighting.
- 2/ Clients are unwilling to pay extra fees for building services design, yet the cost is often sewn into a tender if a Contractor Design contract is used for the detail specification of this element.
- 3/ With the demands of CSH, SAP and BREEAM, building services expertise is required throughout the project.
- 4/ Many energy consultants who provide early stage performance ratings, do not get involved in specification or site inspection work.
- 5/ Many architects have traditionally got by with an outline specification and a 'Contractor Design' element in the contract for the detailed resolution of the building services. However, this is felt to be increasingly unwieldy as the design is often taken on by M&E installers who could be poorly prepared to devise a well-integrated and fit-for-purpose installation that meets the tough new demands for energy efficiency.
- 6/ Where an M&E sub-contractor carries out detail building services design, the solutions are often proposed at an advanced stage of the build where the client is under pressure to accept with little supporting explanation or options and sometimes when the lead times on equipment will create

difficulties with the critical path of the programme. Some redesign or abortive works of other building elements may also be required.

- 7/ Where M&E consultants have become involved with smaller projects, they tend to use specifications that are familiar to them from larger projects. Such system designs can be over-complex to run and maintain, far exceeding budget and possibly even poorly devised and integrated because of pressures of fee allocation.
- 8/ Some architects rely on suppliers to design building services installations, which can lead to more design responsibility taken on than the architect's professional indemnity insurance allows.
- 9/ Architects are often out of their depth when inspecting the building services works and are perhaps not best placed to serve the client's interests when the contractor is skirting a design or installation fault.
- 10/ There is a gap in the market to exploit for Building Services Engineers or the more technically adept of architects.

In conclusion, it would appear that the status quo for providing the client with a robust and effective design service for integrating energy efficient building services is on the whole unsatisfactory, particularly on small works.

Building services consultants are resistant to become involved on smaller projects as the scope for fee cover can be insufficient and, if they do get involved, inadequate resources often lead to a poorly-integrated solution; or one which is borrowed from a much larger project and unsuitable for small works. Contractor design contracts, where the successful tenderer's sub-contractor carries out the detail design, are very prone to cause problems of integration and programming on site as the design is done while the contract is live and often carried out by installers who are not best placed to keep abreast of the fast-changing technology being pushed by the low carbon agenda.

We propose that the matter is raised with CIBSE and other professional and trade bodies, with a view to finding an appropriate level of design support for building services design on small works projects, that can be offered for a realistic and responsible level of fee.

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