SECTION III.2.C

COLLABORATING IN DESIGN AND CONTRUCTION

The great strength of the BDB approach is that it identifies a number of specific mechanisms to establish, sustain and consolidate collaboration. These allow the involvement of end users and suppliers at an early stage in design, and constitute a framework for all parties to collaborate in both design and construction.

The tools in this section assist the process of establishing robust yet flexible collaborative work relations between parties. They provide guidance on how to establish an effective collaboration and communication structure within a project, how to use it to carry out collaborative design and cost management, and to plan and manage construction on the basis of continuous improvement principles.

Tool C.1, C.6 and C.7 address the issue of how to structure participation and collaboration between all supply chain parties in a project .

Tool C.1 introduces the notion of integrating project activities through the adoption of a "Cluster based" project organisation. It takes readers through the principles and practicalities of identifying Clusters and appointing Cluster Leaders. It also provides some simple but effective tools to support cluster based project organisation.

Tool. C.7 addresses an important principle of the BDB approach, namely the notion that the attainment of a climate of collaboration, and the team spirit that goes with it, are the results of a particular way of handling everyday activities and not solely the results of specific workshops or content-free "team building" activities. The Tool then discusses in detail how to form teams and include newcomers in ongoing activities, so that the teamworking spirit is maintained and nurtured throughout the project.

Tool C.2, C.3 and C.6 discuss the practicalities of using a Clustering organisation to design for maximum functionality and minimum Through-life cost. Tool C.2 provides guidance on how to use Value Engineering during scheme and later phases of design.

Tool C.3 discusses how to implement effective design management by directing and monitoring the sequencing of decision-making. The aim of the process presented in this Tool is to make design happen both quickly and effectively, with the right people involved in decision-making at each point, making their decisions on the basis of appropriate skills and information. The goal is to minimise "design loops" or iterations, and in particular late discovery of unresolved key interface issues, which generally add cost in the form of last-minute design activities and extra work on-site.

Tool C.6 shows how to extend the use of this formal structure and discipline to eliminate the wastage of labour and materials that all too often add costs to a project during the

construction phase. It also describes ways in which appropriate processes can be applied to optimise the time taken to complete construction, with the purpose of minimising the price paid by the client and protecting pre-determined margins for the construction team members.

Tools C.4, C.5 and C.8 address the issue of how to deal with through-life costs during design construction and post-construction.

Tool C.4 introduces the BDB "Through life Cost" model, a functioning discounted cash flow model successfully used by the two BDB Pilot Projects to insure that design decisions were made on the basis of their affect on the through life cost of the building rather than the capital cost alone. The Tool describes the model and its use, discusses the practicalities of populating it with reliable data, and suggest how it can be used as compliance indicator for a project.

C.5 takes the reader through the practicalities of getting started with collaborative costing in the supply chain in view of the established costing practices within the UK construction industry, taking as a departure point the observation that it is generally extremely difficult to obtain realistic quotes from suppliers until the concept design is frozen. This is because suppliers had to simulate a "pseudo -bid" to produce their price. Accordingly, it introduces a relatively simple cost break-down structure, to be used in the negotiation process as a tool for identifying areas for further cost reduction initiatives.

Finally, Tool C.8 shows how the Prime Contractor can go about demonstrating that the end-product will be capable of performing within the cost-in-use parameters which have been set and agreed during the briefing and design development process. The Tool introduces a "Compliance plan" model and suggests a process to set, agree and monitor proving arrangements.

Collaborating for the Built Environment (Be) – www.beonline.co.uk
Be is an independent body formed from a merger of the Reading Construction Forum and the Design Build Foundation in 2002. Its 100 member organisations come from the demand and supply chains of the 'industry formerly known as construction', ranging from public sector and private sector clients and developers to contractors, designers, consultants, specialists and suppliers. It leads research and implementation activities in support of a vision of delivering integrated built environment solutions through collaborative working.

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Collaborative Working Centre – www.collaborativeworking.co.uk
The Collaborative Working Centre of Be is a not-for-profit organisation set up from members of the team that facilitated *Building Down Barriers* to provide consultancy, training and other continuous improvement services to support the development and implementation of collaborative working.

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