Development Action Plan (Dr L. Jack, Senior Lecturer, Heriot-Watt University)

Short-term* goals are focussed on securing further funding to facilitate research aimed at enhancing understanding, through the application of the Method of Characteristics within numerical simulation models, of the operational and design aspects of building and local-area scale drainage networks. Several EPSRC applications are currently in preparation, with two nearing completion. These require the definition of the scope of industrial collaborator involvement before being finalised. A further bid is in preparation in response to an EPSRC call requesting expressions of interest in addressing responses to extreme weather events. This bid proposes building and property adaptation to integrate capacity and attenuation for both rainfall and run-off. Success would facilitate the recruitment of one or two post-graduate researchers, would enhance income generation for the Research Group and the University, would facilitate high-quality publications, and will be fundamental in securing longer-term goals.

With regard to teaching, short term goals will be focussed on generating high–quality distance learning material for the proposed off-campus delivery of the Architectural Engineering undergraduate course. At the same time, campus-based modules for which re-structuring is imminent as a result of the University's move to a semester-based academic year, will continue to require attention to guarantee intended learning outcomes are achieved. Other goals, in addition to securing MCIBSE and CEng, include being appointed as external examiner for a Building (or Environmental) Services Engineering course, and formulating a clearer strategy to enhance recruitment of post-graduate researchers in both building services disciplines and across the broader range of disciplines covered by the School.

Medium-term* goals build upon short-term objectives in that they involve the ongoing development of a research portfolio of international standing. This will require sustaining external funding levels - quantifiable at 2-3 projects and 3-4 post-graduate researchers. Success would then facilitate the role of research group leader for a core academic staff team. In order to sustain funding, research capabilities will have to be broadened to meet demand in areas such as the response of building drainage systems to climate change impacts, the interaction of building drainage and local sewer networks, risk assessment and the transfer of methodologies to areas such as fault detection in sewers. Adaptation in this way has already begun however, success in establishing a presence within a national and international arena will remain a key objective in the medium-term.

In striving for the implementation of a teaching-research nexus within the delivery of taught elements of the Architectural Engineering course, it is planned that module content will be continually adapted and revised to take due cognisance of industrial priorities. This would be achieved through the maintenance of links with both industry partners and CIBSE. By adopting the responsibility for implementation of this approach across a broader spectrum of undergraduate modules, a further identifiable goal in the medium-term is hence one of securing the role of course leader. This role would be undertaken in conjunction with a sustained high quality input to the postgraduate Building Services courses.

Academic administrative and management targets include progressing from membership to convenor of the Research Education Committee, continued and increased frequency of representation (of the School) on the University's Research Coordination Board, and professional body involvement through participation in, for example, CIBSE seminars, panels and committees.

Long-term* goals lie ultimately with a chair appointment that would encompass both research and scholarly leadership. Success would be dependent upon, in terms of research, a proven track record of papers published in high-quality journals (of a number that comfortably exceeds the Research Assessment Exercise requirements), income generation (sustained at 2-3 projects), and international collaboration. In terms of learning and teaching practice, success would be evidenced through the role of programme director, facilitated by professional body membership and involvement (CIBSE and EI panels and committees) and ongoing discipline vision applied to both the undergraduate and postgraduate courses. The move from course leader to programme director will require success in the delivery of innovative, effective and efficient teaching practices (through the continued integration of initiatives introduced by the applicant) and will require the maintenance of links formed with industry, CIBSE and the EI in order to sustain relevance and to allow graduates to meet the need of employers.

Achieving this goal will also encompass successful management practices undertaken at School and University level, and it is envisaged that these will relate to the recruitment and retention of high quality, early-career academics/researchers. The role of convenor of the School's Research Education Committee as well as that of School representative on the University's Research Coordination Board represent further key objectives.

*Timescales for the above have been identified (approximately) as:

Short-term	–	within six months
Medium-term	–	1-3 years
Long-term	–	up to 5 years