Nudge, persuasion, and the influencing of human behaviour through design are increasingly important topics in design research and in the wider public consciousness. However, current theoretical approaches to behaviour change have yet to be operationalized this in design process support. Specifically, there are few empirically grounded processes supporting designers in realising behaviour change projects. In response to this, 20 design projects from a case company are analysed in order to distil a core process for behavioural design. Results show a number of process stages and activities associated with project success, pointing to a new perspective on the traditional design process, and allowing designers to integrate key insights from behaviour change theory. Using this foundation we propose the Behavioural Design process.