Document Control

Rev	Date	By	Comments
A	Sep-20	UoL	Appendix B added to GD06 Soft Landings & Handover Design Guide
B			
C			
D			

	Documents Requiring Updating/Creation	Action owner	Timeframe	Forum for approval
1	Lessons Learnt Template	CA	2 Months	Best practice
2	Standardised Data performance Energy Sheets	CA	2 Months	Best practice
3	CAD Model Document Requirements	STJ	2 Months	Best practice
4	Room data sheets	CL/ Collaborator	2 Months	Best practice
5	Building information format	SH/SA	2 Months	Best practice

University of Leicester

BSRIA's advice is to use these worksheets in the matter of a basic script and stage prompts. Using them to build our Soft Landings activities.
The soft landings process ensures end user engagement to achieve the original vision and optimal capabilities of the building. Soft Landings is a structured process of guaranteeing that operational considerations are kept at the forefront of decision making during the concept, design, delivery, handover and initial occupation of new buildings.

The start of a project will be used to define outcomes and measures of success for the project. Early integration of the client aspiration, stakeholders and involvement of the end user results in exceptional operational efficiency. During the project the soft landings team will ensure that the requirements and expectations are maintained within the design and construction. This process encourages collaboration between designers, contractors, users and operators to improve performance in use. The final stage will collect and compare actual operational performance against the planned targets agreed at the start. Soft landings create a constructive dialogue with the key stakeholders to ensure end-user satisfaction. The aim of soft landings is to champion better outcomes for the built assets to ensure full value is achieved in the operational lifecycle of an asset.

Key Points:
The document is constantly evolving and this is aimed at the framework to support all sizes of projects.
The best practice working group is to select documents to be created/improved upon/shared and implemented as overloading with too much change will run the risk of the implementation failing.

Next Steps:
Approve framework structure to be followed (amended to suit type of project where relevant)
Agree a principle for the UoL Definition tab - a proposal is that it could be project size dependent for relevance
Approve the documents hyperlinked to be re-branded and then used in a SharePoint location to be dragged into the project folders on commencement on a project to ensure there is always only one 'live version' of a document being used per project.

Inception and briefing

Stage	Action	Purpose	Initiator	Participants	Scope of duties	Notes	Documents	Required in Scheme	Completed/Evidence Available		Evidence Type
B1	Define roles and Responsibilities **Teams should identify a Soft Landings Champion for the full duration of the project (Design Team/Contractor/Client)**	To review individual roles, highlight any gaps and clarify the scope of individual's responsibilities	Client PM	Design team Contractor The Soft Landings champion	Client: Issue a list that states clearly the roles and scope of responsibilities	Roles and limits of responsibility must be clear from the start. If nothing else, this will highlight any gaps and, possibly, the unsuitability of individuals in their assumed roles. Titles are less important than an individual's ability and temperament. While the focus is often on the supply-side (the design team and Contractors), it is equally important that the roles and responsibilities in the demand-side client team are equally well defined. The team should involve the project sponsor, Soft Landings Champion, building users representative, facilities manager, client advisors, and the project manager.	RACI matrix Updated at every RIBA sign off stage	NO	YES	Pass	
B2	Review past experience	To identify past experience (good and bad) which may benefit the design and construction and the soft landing process	Client PM and design team	PM Design team User representative (where relevant) Asset/Compliance Representative	Agree which issues need to be taken into account	Include feedback for reality checking, quality assurance and awareness of constraints, past experience and past performance. What has worked before in similar situations? What is the PPM Schedule?	Lessons learnt/Project awareness meeting to be chaired at the beginning of the project.	YES	YES	Pass	
B3	Intermediate evaluation programme	To ensure stakeholders are engaged in the process and that input from key users is not lost along the way	Design team	Design team Client Contractor User representative Facilities manager	Include evaluation and decision points in design programme	Intermediate evaluation workshops during the early design stages are very effective in flushing out misconceptions on all sides. They ensure stakeholders are fully engaged in the process and that input from key users is obtained and is not lost along the way. In particular the workshops will help to incrementally fix decisions on the many smaller (but still important) issues during this stage. Depending on the scope of the project, two may be required (beginning and	Project meeting minuted Stakeholder Engagement Plan	YES	YES	Pass	
B4	Set environmental performance targets	Ensures that the actual performance of key issues is realised	Client PM and the design team	PM Asset/Compliance Representative Energy Consumption Representative	Agree subjects, target(s) and appropriate measurement methods	All targets should be unambiguous, measurable and of some value. The setting of environmental and energy targets (whether with some financial incentive or not) raises a number of issues that need consideration: ● The design solution must be within the ability of the users to control it ● Common sense must be applied to averaging out expectations. Ideally, the processes of target setting, prediction and measurement should be able to identify the roles of client requirements, design solutions and user and management behaviour in achieving the desired outcomes. The individuals who will take over the installed systems must be involved.	Stage 1 Report to include the performance targets Outline Business case to include targets required	YES	YES	Pass	
B5	Sign-off gateways, including reality checks	Creates the structure for fixing decisions	Client PM	Client User representative Design team Independent reviewer(s)	Agree decision makers and criteria for sign-offs	Sign-off gateways create the structure for fixing decisions. The following questions should be addressed at each gateway: Is the brief being met? Are intermediate evaluation decisions incorporated/documented? Have risks been assessed and are they acceptable? Are targets likely to be met?	Minutes recorded from the Project board of evidence the Building User Document has commenced development	YES	YES	Pass	

Design

Stage	Action	Purpose	Initiator	Participants	Scope of duties	Notes	Documents	Required in Scheme	Completed/Evidence Available		Evidence Type
D1	Continue building revisits for specific design options, and use the findings to inform design decisions	To refine the design in the light of information from feedback of other relevant projects and/or properties owned by the client	Client PM	Client Design team Facilities/premises managers Maintenance personnel Contractor (where appointed) End-user representative(s)	Building revisits, talks between property managers and maintainers and the design team. Checklists created of both well-functioning and dysfunctional systems, and occupant experiences. Tie-in findings with project reality-checking procedures.	Building revisits can generate checklists of technical and non-technical watch points. The checklists can be used to refine the client requirements, to inform the design brief, and to provide insights for reality-checking meetings throughout the construction process.	Operational risk register to accompany the design risk register https://www2.le.ac.uk/offices/estates/information-for-estates-staff/HSC/design-guides	YES	YES	Pass	
D2	Review design for buildability, commssionability and maintainability	To ensure that the design concepts can be built, commissioned and operated successfully	Client PM	Client Contractor Design team Project manager Cost consultant Asset/Compliance manager Commissioning manager Maintenance personnel End-user	Identify key sub-contractors to attend pre-contract, or find proxies. Tie-in outputs with project reality-checking procedures.	The review process may be a single meeting or a series of meetings. If time and budget only allows for one review meeting, its timing will be crucial. Deliberations and decisions should be related to the cost plan, and any cost implications discussed with the client and cost consultant. The in-use performance implications should be made clear, agreed by all, approved by the client, and recorded in the project documentation.	Design team meeting - minuted with the design risk register populated accordingly Risk Register Template	YES	YES	Pass	
D3	Review Bio Diversity & Biophillic design guides	To esnsure that the design concepts incorprate unviersity standard best practise	Client PM	Client Design team Facilities/premises managers Maintenance personnel Contractor (where appointed) End-user representative(s), Space Management, Social Impact Lead	Building revisits, talks between property managers and maintainers and the design team. Checklists created of both well-functioning and dysfunctional systems, and occupant experiences. Tie-in findings with project reality-checking procedures.	The review process may be a single meeting or a series of meetings. If time and budget only allows for one review meeting, its timing will be crucial. Deliberations and decisions should be related to the cost plan, and any cost implications discussed with the client and cost consultant. The in-use performance implications should be made clear, agreed by all, approved by the client, and recorded in the project documentation.	Biophillic & Biodiveristy Guides	YES	YES	Pass	
D4	Review design for usability and manageability	To review the design from the perspective of those who will control and manage the building after handover, and to identify how the environmental control needs of	Client PM	Client Contractor Design team Project manager Cost consultant Asset/Compliance manager Commissioning manager Maintenance personnel End-user representative(s)	Identify gaps in knowledge and spot specific risks for building management and end-users. Determine the end-user control systems. Tie-in findings with reality-checking (see D4).	The review process may be a single meeting or a series of meetings. A workshop can still be useful even where time and budget restrictions only allow for one review meeting, but expectations will need to be realistic. Controls usually play a significant role in usability and manageability. Where the controls company has not been appointed, efforts should be made to find a proxy. Many controls companies will be jump at the chance to give pre-contract advice.	Design team meeting - minute with the design risk register populated accordingly	YES	YES	Pass	
D5	Undertake the reality-checking process started in the Briefing stage worksheet and import the outcomes from B1, B2 and B3.	Chose a reality-checking process and reality-check selected elements (see notes)	External PM	Client Project manager Design team Selected sub-contractors or proxies End-user representative(s)	Duties in line with the BSRIA process BG27/2011 Pitstopping.	. Outputs from reality-checking should inform the activities for the pre-handover, handover and aftercare stages.	Building User Handover Document	YES	YES	Pass	
D6	Revisit and update early performance targets	To ensure that targets remain realistic and appropriate	External PM	Client Project manager Contractor M&E contractor Design team Facilities manager BREEAM advisor (optional)	Identify and describe the performance targets, such as energy, environmental, social and other performance targets (such as water and embodied energy). Review, and communicate to all relevant parties	By their nature, early energy targets generated for planning compliance are simplistic and do not require designers to break down energy consumption by end-use. Soft Landings requires the project team to develop more detailed models of the building's energy and environmental performance, including unregulated (plug-in) power loads and hours of operation. Early modelling will use notional values, but these can be progressively refined during later Soft Landings stages. The team should use tools that can be understood by facilities managers (such as Excel charts). Facilities teams should inherit the spreadsheets after handover. They should be updated over time, and used to inform formal post-occupancy	Data sheets on energy performance refined through the design stage process suitable for adoption by maintenance following completion	YES	YES	Pass	
D7	Incorporate Soft landings requirements in tender documents, and evaluate tender responses and results from interviews	To ensure that contract requirements are worded to reflect outputs from reviews	Project manager/External Project Manager	Client Project manager Lead designer Contractor M&E contractor Cost Consultant	Create contract documents, review and sign-off in accordance with design review and reality-checking findings. Review tender responses against requirements.	Alongside the tender needing to include the soft landings framework a set up to review the tender submissions and results from tender interviews is also required. Some sub-contracts will be more important than others. The increasing preponderance of specialist sub-contracts that include bespoke controls systems will need extra attention to ensure the vendors' systems will satisfy the requirements.	Tender package CAD Model Document	YES	YES	Pass	
D8	Iterate between stages D1 to D4 during the design process as required. The sequence, number of iterations and participants will depend on the procurement route						Minutes recorded from the Project board of evidence the Building User Document has commenced development	YES	YES	Pass	

Pre-handover

Stage	Action	Purpose	Initiator	Participants	Scope of duties	Notes	Documents	Required in Scheme		Completed/Evidence Available		Evidence Type
P1	Environmental and energy logging review	To clarify responsibilities and the scope of energy logging and review	Asset/Compliance Manager	Design team Contractor Internal/External PM	Review and agree routine for future logging. Integrate with the requirements of the Building Logbook	The energy and environmental plan and the targets set earlier will influence logging demand. Soft transfer of data will help reduce visits by the design team	Develop data sheets from RIBA Stage 3 into live logging documents	YES		YES	Pass	
P2	Building readiness programme	To ensure coordination to site activities, and witnessing by the designer and/or client representative	Contractor	Design team, Client, Contractor, User representative, Asset/Compliance Manager, Move Manager	Provide updated sub-programme in good time ahead of any commissioning start	Static commissioning (such as inspections, airtightness checking, and window operation) should be included. Move Manager is to be involved to develop the readiness programme	Developed handover programme Updated Building user handbook	YES		YES	Pass	
P3	Commissioning records check	To verify adequacy of records	Asset/Compliance Manager	Contractor, Asset/Compliance Manager	Include evaluation and decision points	Include energy performance checks	Develop data sheets to include as part of O&M	YES		YES	Pass	
P4	Building services maintenance contract	To ensure there are no gaps in support, post-handover	Asset/Compliance Manager	Design team Contractor Facilities manager	Agree subjects, target(s) and appropriate measurement methods	Important in helping to avoid confusion of roles and responsibilities post-handover	Ensure Tender includes relevant documentation covering post hand over support	NO		YES	Pass	
P5	Training programme	To ensure adequately trained operation and maintenance staff are in place, pre-handover	Asset/Compliance Manager	Asset/Compliance Manager, Maintenance, Building user, contractor	Agree decision makers and criteria for sign-offs	As P4. Designers also need to be open to the views of operational staff	Developed handover programme Updated Building user handbook Relevant training packages form supply chain	YES		YES	Pass	
P6	BMS interface demonstration	To demonstrate operation and fine-tuning of systems	Contractor	Design team, Contractor User representative Asset/Compliance manager Building services maintenance contractor	Agree targets and define measurement criteria	As P4. Operational staff also need to be involved in interface development, specification and review where possible	Building user handbook updated	YES		YES	Pass	
P7	Migration planning	To coordinate move-in with site continuing activities	Move Manager	Internal/External PM Design team Contractor Space Planning	Set up meetings	It's important that the design team and Contractor are not left out of the loop during user logistics planning	Developed move manager programme	YES		YES	Pass	
P8	Aftercare team	To provide visible and accessible home for the aftercare team during the initial post-handover phase	Asset/Compliance Manager	Internal PM Contractor	Arrange suitable workplace with datacoms links	Essential if the aftercare team is to be effective	Update Building user handbook with relevant protocol's in place	YES		YES	Pass	
P9	Technical guidance	To smooth transitions to local operation by the client's facilities management team	Design team	Contractor, Asset/Compliance Manager	Provide a building operations technical guide. Relate to the Building Logbook. Liaise with the facilities manager over content	Copy filed in the O&M records and/or the building logbook	O&M Records Building user guide Data Sheets updated	YES		YES	Pass	
P10	O&M manual review	To check content of the O&M Manuals	Asset/Compliance Manager		Verify content and sign off	Should be coordinated with P4, P5, P9 and P10	Minutes recorded from the Project board of evidence the Building User Document has commenced development	YES		YES	Pass	

Initial aftercare

Stage	Action	Purpose	Initiator	Participants	Scope of duties	Notes	Documents	Required in Scheme	Completed/Evidence Available		Evidence Type
A1	Resident on-site attendance	Spot, respond to, and help to deal with emerging issues	Contractor	Design team Contractor Asset/Compliance Manager	Team members resident in the building for (n) days per week	The number of days per week will depend on the size and complexity of the building. Team members should have good people, practical capability and continuity with the project	Building User guide documented	YES	YES	Pass	
A2	Provide workplace and Datacom's links	To give resident team members a visible home within the new building	User or client representative	User representative, client representative	Set up and make available prior to actual handover	See pre-handover actions. The workplace must be available from the first day of occupation	Building User guide documented	YES	YES	Pass	
A3	Building use guidance	To introduce users to how their building operates, and the use of local controls. This stage is useful for obtaining feedback	Design team Contractor	Typical user groups	Participate in (n) focus groups of building users to present key information. Introduce the building user guide and discuss views and queries	Anticipate at least two meetings. See pre-handover actions. Mention the helpline and/or newsletter	Building User guide documented	YES	YES	Pass	
A4	Technical guidance	To smooth transition to local operation by the client's facilities management team	Design team Contractor	Building facilities management representatives	Participate in (n) meetings with the facilities management representatives to introduce content of the technical guidance, and explain systems and discuss	Anticipate two meetings. Ideally, this should have already happened during the pre-handover stage	Building User guide documented	YES	YES	Pass	
A5	Helpline/newsletter	To encourage local feedback and communicate status of issues	Design team User representative	Building operator and user representatives. Contractor	The design team to set up a simple bulletin board, possibly linked to the client's intranet, for e-mail dialogue and posting of information updates. The user representative should aim to update the website or newsletters fortnightly and to moderate user comments	Keep this simple, not too technical and easy to update. It's best if the newsletter or helpline is available electronically		YES	YES	Pass	
A6	Walkabouts	To spot emerging issues and observe occupation usage	Design team Contractor	If required: the users, the maintenance team, and the commissioning engineers	Roam building informally on a regular basis. Make spot checks with instruments if necessary	Combine with other visits as appropriate. See and be seen	Minuted walk rounds scheduled with observations recorded in a lessons learnt/observations format	YES	YES	Pass	

Extended aftercare Years 1-3

Stage	Action	Purpose	Initiator	Participants	Scope of duties	Notes		Required in Scheme	Completed/Evidence Available		Evidence Type
Y1	Aftercare review meetings	Review progress	Design team Contractor	Design team Contractor Client representative User representative	Participate on on-site meetings	Four to six meetings in the 10 months following weeks 1-8 should be adequate		YES	YES	Pass	
Y2	Log and review energy use	To provide the basis for comparison with the energy plan and to assist fine-tuning of systems	Asset/Compliance Lead	Design team	Asset/Compliance Lead to monitor and forward-read every (n) weeks. Design team member to review readings every (n) weeks	The frequency will depend on the extent of sub-metering and the quality of the BMS links. Monthly readings should be a minimum. the design may be able to log consumption directly via the bms, but this must not replace the facilities manager's monitoring		YES	YES	Pass	
Y3	Systems and energy review	To monitor overall enery usage and systems	Design team Asset/Compliance Lead	Design team Asset/Compliance Lead Client representative User representative Maintenance team	Participate in review meeting every (n) weeks	Six-monthly is suggested. This activity may need to be more frequent, though some can be done remotely and much of the rest absorbed into stages Y1 and Y4		YES	YES	Pass	
Y4	Fine-tune systems	To adjust systems for seasonal change and any emergent usage patterns	Facilities manager	Design team Contractor Asset/Compliance Lead	Carry out fine-tuning at month(s)	The frequency will depend on seasonal timing and any particular emergent issues. The maintenance team and commissioning engineers may sometimes need to be involved		YES	YES	Pass	
Y5	Record fine-tuning and changes of use	To help progressive changes	Facilities manager	Design team Contractor Asset/Compliance Lead	Record changes to systems in the building logbook and add to the O&M Manuals	Essential for accurate comparison of forecast energy use		YES	YES	Pass	
Y6	Helpline/newsletter	To encourage local feedback and communicate status of issues	Design team	Facilities and user representatives	Update every (n) weeks	A monthly update should be adequate		YES	YES	Pass	
Y7	Walkabouts	To spot emerging issues and observe occupation usage	Design team	Contractor	Roam building informally on a regular basis	Every two months is a good baseline; combine with other visits as appropriate. See and be seen		YES	YES	Pass	
Y8	Measure environmental and/or energy performance	To compare actual against forecast targets	Design team Contractor		Measure performance to agreed programme	Use to inform the end of Year 1 review meeting agenda		YES	YES	Pass	
Y9	End of year review	To review overall building performance	Design team Contractor	Design team Contractor User representative Asset/Compliance Lead Client representative	Participate in annual meeting	Coordinate with the end of defects liability sign-off. This is also the opportunity to decide any change of focus for the coming year		YES	YES	Pass	