An Enlightened Clients Guide to Total Project Quality

Table 4: Total Project Quality Framework (6Ps)

Introductory notes;

Purpose:

- To provide a total project quality framework across the project lifecycle.
- To provide a framework of best practice examples and resource guidance generally and for clients operating in various sectors of the built environment.

Principles: Underlying management philosophy

- An Enlightened Client understands the challenges of working in a highly fragmented sector and achieving a quality, bespoke product that represents the values and strategic outcomes required.
- Such a client understands that it will need to invest in taking an effective leadership role to establish and maintain a project culture and procurement strategies that enable the parties to work through integrated, collaborative processes to address the challenges and deliver the required product and outcomes.
- Through a total quality, whole life-cycle approach and longer term thinking an Enlightened Client and its delivery partners become a virtual integrated learning organisation, continuously improving knowledge and performance, innovating product and service, to deliver exceptional outcomes.

Quality related activity (6 P's) Strategic: 1. People; 2. Purpose; 3. Procurement Delivery: 4. Product; 5. Process; 6. Performance	Approach, format, resources, etc used e.g;	Responsibility/Comments (Workbook version) or Links to resource guidance (ref. table 3)
P1. PEOPLE: Leadership, Behaviour, Culture, Competance **1.1 Approach to Project Leadership:** Visible commitment to achieving quality outcomes **1.2 Establishing project organisation values and attributes expected of team members** **1.3 Establishing and maintaining effective communications** **1.4 Assessment and provision of appropriate levels of professional, technical skills, competence and resources.** **1.5 Encouraging knowledge sharing and project team improvement**	**P1. PEOPLE:** Leadership, Behaviour, Culture, Competance {Collaborative behaviour, Communications: Personal/organisational, Knowledge sharing/ Learning/Feedback/Feedforward, continuous improvement, pursuit of quality} **1.1 Approach to Project Leadership:** Visible commitment to achieving quality outcomes; - Providing a clear, concise statement of quality objectives: e.g. from the Project Brief, effectively communicated. - Setting out the project leadership team's commitments and key quality strategies: e.g. Project Quality Charter; Memorandum of Understanding, etc - Actively manage risks to protect quality targets throughout the project: e.g. Quality Trackers, Gateway reviews, Quality Reports, etc - Endeavour to prevent cost and programme considerations compromising quality objectives. **1.2 Establishing project organisation values and attributes expected of team members** e.g. Collaborative, open, trusting, respectful, proactive, forward thinking, etc **1.3 Establishing and maintaining effective communications** e.g. Communications Plan/Manual, on-line tools, face to face, meetings structure/agenda, informal, social, etc **1.4 Assessment and provision of appropriate levels of professional, technical skills, competence and resources.** e.g. Designer Competency questionnaire, Contractor CSCS cards, Technical Passports, CVs, Professional/technical qualification & experience, competence certification, Resource schedules, etc **1.5 Encouraging knowledge sharing and project team improvement**, e.g. lessons learnt from previous projects/Feed-forward/feedback, individual & team learning and development, project/organisational improvement, joint training, CPD, share POE results, incident root cause analysis, case studies, etc	
P2. PURPOSE: Strategic Definition **2.1 Developing the Business Case and Client's strategic requirements:** **2.2 Indentifying project Stakeholders:** *(NB. Update following RIBA Briefing Template & Tracker review)*	**P2. PURPOSE:** Strategic Definition {Business case/Client strategic needs, outcomes, scope, stakeholders, critical to success criteria, KPIs; Capex/Opex budget policy, etc} **2.1 Developing the Business Case and Client's strategic requirements** e.g. whether by in-house resource and/or with consultant Client Advisor; aligning strategic needs, outcome requirements, scope/Quality aspirations with available project budget for affordability + acceptable risk; policy towards Capex/Opex budgets, feedback from previous project performance, KPIs, etc **2.2 Indentifying project Stakeholders:** e.g. Stakeholder Plan	
P3. PROCUREMENT: Commercial Strategy **3.1 Consider longer term contracting models:** **3.2 Creating sustainable, effective, win-win contracting arrangements**	**P3. PROCUREMENT:** Commercial Strategy **3.1 Consider longer term contracting models:** e.g. strategic collaboration/partnering with consultants and contractors across portfolios and programmes for better understanding of requirements, values, behaviours, alignment of resources and reliability of outcomes including value and quality requirements. **3.2 Creating sustainable, effective, win-win contracting arrangements** that incentivise better project outcomes and improved risk management e.g. project collaboration/partnering, early supply chain involvement, use of value adding procurement frameworks, 2 stage contracts, outcome-	

3.3 **Equitable Risk Allocation**	based specifications, project scorecards, Integrated Project Insurance (IPI) model/Latent Defect Insurance, etc. 3.3 **Equitable Risk Allocation** to the party or parties best able to manage and bear them: e.g. aligned to strategic outcomes, project scorecards, early supply chain engagement to develop solutions to mitigate risk, take into account practical capability and financial capacity to manage and absorb risk should it occur, develop an equitable, optimum balance between risk and profitable return, preventing unrealistic pricing/cost cutting and late value engineering compromising quality.	
P4. PRODUCT DESIGN: Quality defined 4.1 **Defining product quality – key attributes & Client requirements** (Following on from P1 project strategic brief/outcomes/Value profile) 4.2 **Indentifying product quality performance standards** 4.3 **Identifying product quality risk criteria** *(NB. Update following RIBA Briefing Template & Tracker review)*	**P4. PRODUCT DESIGN:** Quality defined {Basis of Design/Design Brief, Quality 'attributes delivering value', characteristics, Design Quality Indicators (DQI), Critical to Quality criteria, Operational criteria, Opex/Capex criteria, Learning/Knowledge/Past Experience} 4.1 **Defining product quality – key attributes & Client requirements e.g.** - Quality Aspirations - Corporate quality measures, brand values, etc - Stakeholder criteria, users, public realm/planning, etc - Critical to Quality criteria, special requirements - Operational criteria, Opex/Capex criteria/weighting - Design life criteria, durability of materials, life cycle/maintenance criteria - Spatial requirements, site/context, - Compliance Standards, codes, derogations - 'Beyond minimum compliance' additional Asset/Building Safety criteria - Design Quality Indicators (DQI), - BREEAM target criteria - Precedent designs, model specifications, feedback from previous projects, - Innovation opportunity/risk criteria, etc 4.2 **Indentifying product quality performance standards** - generally, to designer performance specified element/systems and verification requirements, - Client specific performance requirements, e.g. In-use Energy consumption, occupant comfort/satisfaction, other asset/Building Performance Evaluation (BPE) criteria. 4.3 **Identifying product quality risk criteria** - Feedback from client operational/past experience: product/systems failures and under performance - Project warranty provider criteria - risk engineering/technical assurance, specification standards, etc - Excluded materials and systems, deliterious materials, etc - Products/Systems subject to risk-based derogation e.g. HTM Alternative Pipework Jointing	
P5. PROCESS EXECUTION: Design, Procure and Construct *(Ref. RIBA Plan of work activities, BiQ Tracker, etc)* 5.1 **Preparation & Briefing** 5.1.1 **Preparing the Project Brief** 5.1.2 **Preparing a Project Execution Plan** 5.1.3 **Sourcing pre-application Planning advice, early feasibility studies**, 5.1.4 **Preparing detailed procurement and commercial arrangements**: 5.1.5 **Determining competency of designers, contractors & consultants**: 5.1.6 **Considering Digital strategy** for efficiency in design, construction and use 5.1.7 **Considering Offsite Manufacturing/ Modern Methods of Construction** 5.1.8 **Preparing a Responsibility Matrix** 5.1.9 **Managing risk for quality and compliance related issues** 5.1.10 **Maintaining Client focus** 5.2 **Concept to Technical Design Development** 5.2.1 **Agreeing Project Brief derogations:**	**P5. PROCESS EXECUTION:** Design, Procure and Construct {Project Execution, Procurement Strategy, Project Controls: Design, Procure, Construct; Deliverables; Aftercare; Client focus, etc} 5.1 **Preparation & Briefing** 5.1.1 **Preparing the Project Brief** e.g. including Project Outcomes, Quality Aspirations, Value profile, KPIs, Corporate quality measures, Spatial requirements, Sustainability Outcomes – *(incl. Social Value of product and build process),* Agreeing Project Budget and Programme*,* RIBA Briefing Template & Tracker 5.1.2 **Preparing a Project Execution Plan** e.g. including strategic roles, responsibilities, strategies, etc for managing the project, (including quality assurance procedures in design and construction), client satisfaction criteria, etc 5.1.3 **Sourcing pre-application Planning advice, early feasibility studies**, etc 5.1.4 **Preparing detailed procurement and commercial arrangements** from the Procurement Strategy (section P3): e.g. Consultant agreements, Contractors Pre-construction services agreements, Risk Allocation Matrix, Building Contracts, PI and contractor insurances, 'fair' payment terms/mechanisms, pricing approach, transparent Risk Registers, risk reduction protocols, etc 5.1.5 **Determining competency of designers, contractors & consultants**: e.g. duty holders for CDM, Building Safety; competency questionnaires/ statements identifying qualifications, experience, etc 5.1.6 **Considering Digital strategy** for efficiency in design, construction and use: e.g. BIM, Information Requirements, Asset Information/Register, etc	

5.2.2 **Preparing & monitoring Design Management Plan & Programme:**

5.2.3 **Reviewing specialist consultant Concept Design contributions:**

5.2.4 **Undertaking Design Reviews with Client and Project Stakeholders**:

5.2.5 **Obtaining pre-application Planning advice, submitting application:**

5.2.6 **Agreeing route to Building Regulation or other statutory compliance:**

5.2.7 **Undertaking Stage 2 & 3 Design Reviews with designers & consultants:**

5.2.8 **Undertaking Stage 4 Technical Design Reviews including subcontractors:**

5.2.9 **Identifying Independent Construction Inspection requirements,**

5.2.10 **Identifying Construction Quality Management requirements**:

5.3.3 Manufacturing and Construction

5.3.3.1 **Preparing Construction Management Plan**

5.3.3.2 **Preparing Construction Project Quality Plans**

5.3.3.3 **Preparing Quality Plans/Inspection Frameworks by Designers & Independent Inspection Authorities**

5.3.3.4 **Requesting and monitoring information and technical queries** from the design team:

5.3.3.5 **Maintaining Site Change Control:**

5.3.3.6 **Monitor Construction programme**

5.3.3.7 **Planning and undertaking Commissioning:**

5.3.3.8 **Preparing Building Manuals and Asset Information**, including H&S information:

5.3.3.9 **Preparing a Plan for Use Strategy/ Aftercare Plan:**

5.3.4. Handover and Use/Post-occupation/Aftercare

5.3.4.1 **Obtaining Regulatory Completion Certificate/Final Certificate, before occupation:**

5.3.4.3 **Undertaking Seasonal Commissioning:**

5.3.4.4 **Rectifying Defects/Providing Aftercare:**

5.1.7 **Considering Offsite Manufacturing/ Modern Methods of Construction** e.g. programme/cost/return on investment/quality/safety, etc

5.1.8 **Preparing a Responsibility Matrix** e.g. including scope of consultant & specialist subcontractor/supplier design; consultant verification/acceptance of performance specified subcontractor design; Independent consultants for design evaluations & peer reviews; consultant inspections of manufacturing & construction; Regulatory compliance; As-built/Verified Construction Information; Plan for Use strategy/Aftercare, light touch and detailed post occupancy evaluations, etc

5.1.9 **Managing risk for quality and compliance related issues** e.g. Risk registers (including technical as well as commercial issues), cost and programme pressures, regulatory compliance trackers, Breeam/Soft Landings trackers, RIBA/CIOB/RICS Quality tracker, etc

5.1.10 **Maintaining Client focus** e.g. providing/obtaining feedback on Client Satisfaction of the performance of the design and construction team at various stages – design/pre-construction, mid-contract, completion, aftercare, etc

5.2 Concept to Technical Design Development

5.2.1 **Agreeing Project Brief derogations:** e.g. Briefing Document Control, stage approval/sign-off, derogations from recognised sector good practice guides, etc

5.2.2 **Preparing & monitoring Design Management Plan & Programme:** e.g. Lead Designer's integrated programme including specialist consultant and subcontractor design, change control, design reviews, quality assurance, etc

5.2.3 **Reviewing specialist consultant Concept Design contributions:** e.g. Lead Designer review of their schedules of services, timing of tasks that may disrupt design progress, co-ordination of their Project Strategies, etc

5.2.4 **Undertaking Design Reviews with Client and Project Stakeholders**: e.g. facilitated stakeholder engagement workshops/surveys – Users, FM, Asset Managers/Strategic Advisors, Planning/Regulatory Authorities, Public, etc; consider 3D technologies/VR, etc alongside traditional deliverable, 2D drawings, etc

5.2.5 **Obtaining pre-application Planning advice, submitting application:** e.g. managing risks such as developer contributions affecting viability, affordability of Concept Design

5.2.6 **Agreeing route to Building Regulation or other statutory compliance:** e.g. design team and/or other consultant expert advice on requirements and guidance – Fire Safety, H&S, Nearer Zero carbon/energy targets; audit trail for certification and documentation both during the build and after occupation etc

5.2.7 **Undertaking Stage 2 & 3 Design Reviews with designers & consultants:** e.g. Independent Peer Reviews and assessments, coordinating specialist consultant Project Strategies, Sustainability, BREEAM, DQI, Regulatory compliance reviews, alignment with cost plan, etc.

5.2.8 **Undertaking Stage 4 Technical Design Reviews including subcontractors:** e.g. individual designers internal checking/verification procedures,

5.2.9 **Identifying Independent Construction Inspection requirements,** including off site manufacturing**:** e.g. by designers or specialist consultants; early stage 4 information/specifications for specialist higher risk or unusual work requiring a focus on quality control e.g. Passive Fire Protection, Gas resistant membranes, post-tension concrete, welding NDT, etc to include in budgets and tenders.

5.2.10 **Identifying Construction Quality Management requirements**: e.g. Contract Quality Management Requirements; general BS EN ISO 9001 systems/ NBS Prelims A33 Quality Controls; Quality Plans; particular sector/ risk category/ specialist works requirements requiring a focus on quality control, to include in budgets and tenders.

5.3 Manufacturing and Construction

5.3.1 **Preparing Construction Management Plan,** including off site manufacturing**:** e.g. Contractor's construction stage Project Execution Plan and Construction Strategies.

	5.3.2 **Preparing Construction Project Quality Plans,** including off site manufacturing: e.g. Contractors supervision, Quality/Inspection & Test Plans, Checksheets, verification records, sample submittals, Non-conformance Reporting, pre-handover 'snagging', supply chain on-line management tools, etc (including 2.10 client specific requirements) 5.3.3 **Preparing Quality Plans/Inspection Frameworks by Designers & Independent Inspection Authorities,** including off site manufacturing: e.g. by Architect, Engineers, Clerk of Works, Resident Engineer, NEC Supervisor, Specialist Inspection Consultants, LABC or Approved Inspector, etc 5.3.4 **Requesting and monitoring information and technical queries** from the design team: e.g. RFI, TQ's schedules, Contractor Reports, document management system, on-line collaboration platforms, etc 5.3.5 **Maintaining Site Change Control:** e.g. approvals to change design details to respond to site conditions, materials/product substitutions, etc 5.3.6 **Monitor Construction programme,** including off site manufacturing**:** e.g Contractor reports, monthly, etc 5.3.7 **Planning and undertaking Commissioning:** e.g. Commissioning Plan, Independent Commissioning Manager for complex installations, witnessing tests, providing certificates and verification records, etc 5.3.8 **Preparing Building Manuals and Asset Information**, including H&S information: e.g. As-built drawings, Verified Construction Information, BIM model, Asset Schedules, barcodes/QR labels by Supply chain/FM, Regulatory certificates, etc 5.3.9 **Preparing a Plan for Use Strategy/ Aftercare Plan:** e.g. Seasonal Commissioning, Post Occupancy Evaluation, Project Performance sessions, Defect response periods, extended Aftercare/Defects Liability Period, periodic Aftercare Reviews, Appointment of Statutory duty holders - Accountable Person for Building Safety, etc. 5.4 **Handover and Use/Post-occupation/Aftercare** 5.4.1 **Obtaining Regulatory Completion Certificate/Final Certificate, before occupation:** e.g. Building Regulations, certificates of compliance from competent persons schemes, providing information required for the Accountable Person/Building Safety Manager, etc 5.4.3 **Undertaking Seasonal Commissioning: e.g.** if required: BREEAM for complex/innovative installations, Client/M&E specified, etc 5.4.4 **Rectifying Defects/Providing Aftercare:** e.g. Defect correction periods, response periods, Aftercare Plan, etc.	
P6. PERFORMANCE: Evaluation, verification, outcomes 6.1 **Undertaking a review of Project Performance:** i.e. with the project team, provide performance feedback, etc 6.2 **Undertaking Post Occupancy Evaluations:** 6.3 **Verify Project Outcomes:** 6.4 **Encouraging knowledge sharing, organisation and project team improvement:**	**P6. PERFORMANCE:** Evaluation, verification, outcomes **{**Client: Outcomes, KPIs, POE: Users & Stakeholders, Asset/Building Performance Evaluation (BPE), Project Performance Evaluation: Team} 6.1 **Undertaking a review of Project Performance:** i.e. with the project team, provide performance feedback, etc 6.2 **Undertaking Post Occupancy Evaluations:** e.g. 'light touch' POE, detailed BPE; by design consultant's appointments, contractor or independent, to agreed objectives, scope/methodology - occupant comfort survey/energy analysis, BREEAM, etc 6.3 **Verify Project Outcomes:** e.g. Sustainability outcomes, KPIs/DQIs, POE/BPE objectives, etc 6.4 **Encouraging knowledge sharing, organisation and project team improvement**, e.g. lessons learnt Feed-forward/feedback, individual, team & organisational learning, development and improvement, joint training, CPD, share POE results, incident root cause analysis, case studies, etc (also ref. People 1.5)	