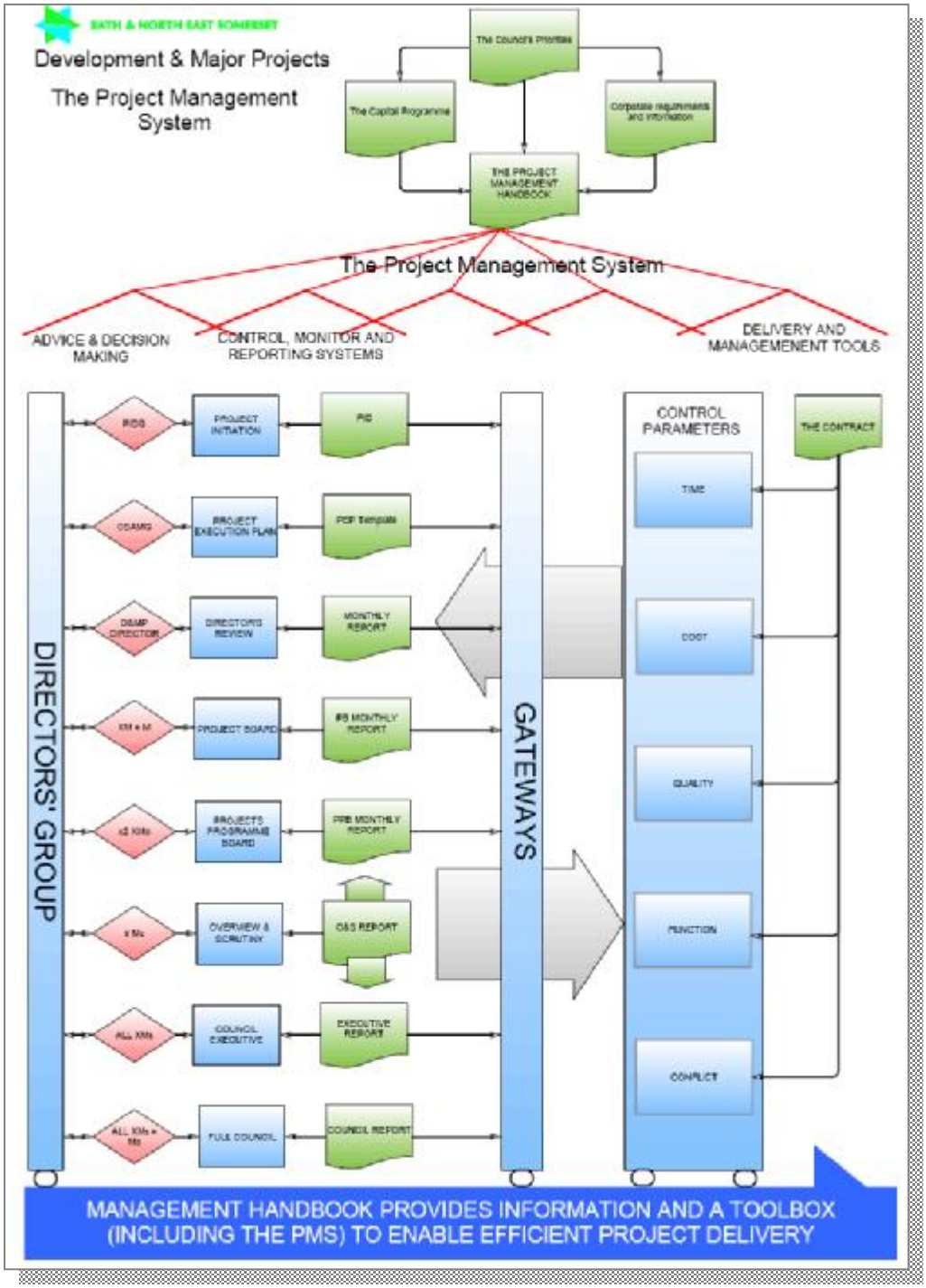
BATH & NORTH EAST SOMERSET

Project Management Handbook



THE PROJECT MANAGEMENT SERIES

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Introduction

Projects are fundamentally about change, and change is inherently difficult to manage and get right. The Project management Handbook provides a standard framework to successfully manage and deliver a project.

Capital projects are usually complex, requiring significant management skills, co-ordination of a wide range of people with different expertise, ensuring completion within the parameters of time, value and necessary specification.

The Handbook provides a strategic and systematic approach to implementing change that:

- supports corporate governance requirements for project management, with standards that can be set and applied efficiently and effectively across all business/service areas;

- enables a consistent application of good practice across all parts of the Council in the delivery of excellence in products and services.

This Handbook is delivered alongside training and awareness in project management; it is insufficient by itself to enable inexperienced teams to properly set up and run projects.

The Handbook provides a common approach that is applicable to all projects, though the delivered outputs may vary from buildings, public services or ICT services.

The Handbook provides a basic introduction to project-based working, so those unfamiliar with projects and project management will need additional support and training to give them confidence in applying the processes and techniques described.

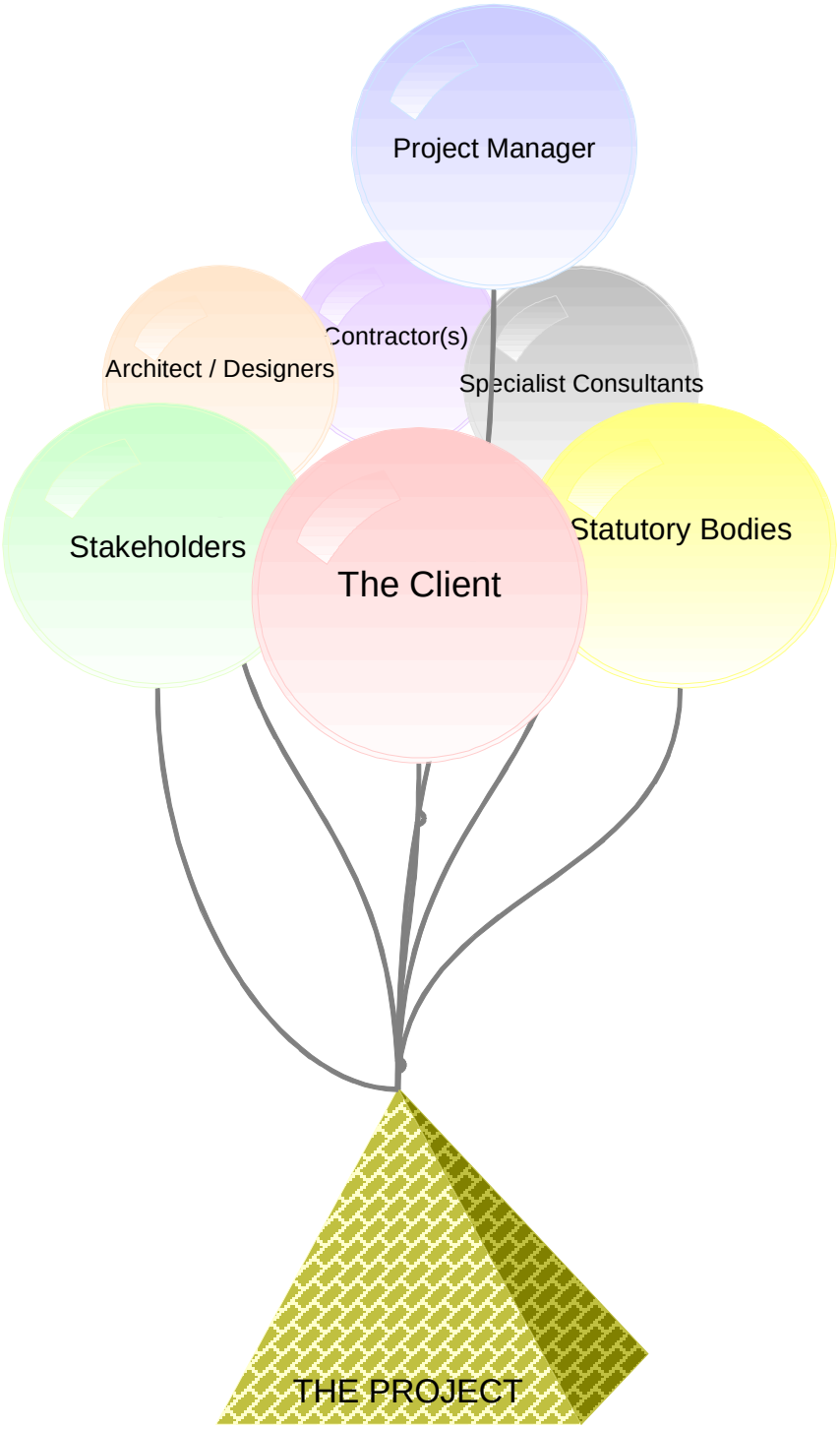


Figure 1 - The importance of being a team

Instructions

Purpose of this Handbook

The main purpose of this Handbook is to regulate and provide the necessary tools to ensure that a project, whatever it may be, has the best chance of success. A successful project is one that fully meets the Client/User needs, which means that a project:

- is to budget;
- is on time and
- is to the required quality.

This tri-partite project requirement means that the project management control systems fall into five categories of:

- time,
- cost,
- quality,
- function and
- conflict.

The time control is documented in the programmes, cost in the bills or financial statements, quality in the specifications, function in the brief and conflict in the contracts and conditions of engagement. The Handbook provides the information, instructions and tools to control a project from beginning to end.

The Project Management Handbook is for individuals and groups who have any form of involvement with projects, whether as executives, sponsors, end-user, project managers, team members, suppliers, stakeholders or other interested parties.

The Handbook is intended to give rigour and consistency to all phases of a project, especially project start-up (inception, viability, and feasibility), managing, governing and reporting. Its use achieves an accurate view of any single project that is able to be consolidated with many other projects thus enabling an accurate picture of total progress and status. This, very importantly, ensures that a precise analysis of the Council's financial position and commitment is readily available and can be measured against policy objectives.

It is important to understand that this Handbook only gives a basic description of project management, its processes and techniques. It will not necessarily make a good project manager, but it gives an understanding of the basic rules of best practice in project management. Most importantly, it does give the tools and techniques to enable good, professional project management to be achieved. Project management will not be 'perfect', but it is important to recognise and understand where the deficiencies may be

and have the confidence to say, “I don’t know”, “It doesn’t meet all my requirements”, “I believe I can improve on this”, “I need help”. It is intended, therefore, to create a Users Group that is able to receive and act upon users’ experiences and requirements and be a forum for discussion to enable continuous improvements to be made to the Handbook both in terms of content, tools and training.

REMEMBER: Good project management gives
guidance, rules, instructions and tools

to enable:
- monitoring
- reporting and
- communications

giving
- control and
- **predictability** of outcome.

When to use this Handbook

For setting up and managing a project (of all types) from inception to completion. Some elaboration is given below: -

- ‘Setting up’ a project is the single most important part of a project. Time and resource spent at this time will vastly improve the chances of success. It includes the process of examining ‘a bright idea’. ‘Examining’ is probably too neutral; ‘put through the wringer’, ‘put under the microscope’, ‘knock it around’, ‘make the pips squeak’, probably better describes the processes that ‘a bright idea’ goes through before it gets anywhere near being called a project. After these initiation processes have been carried out a ‘bright idea’ MAY then become a project. A rejected ‘bright idea’ is just as important as an accepted ‘bright idea’, both save time and money! The Handbook gives the tools and describes the processes necessary to ensure that the ‘birth’ of a project is not premature and is carried out as efficiently and effectively as possible.

- The Handbook MUST be used throughout the lifetime of a project. The adherence to the governance, monitoring, reporting procedures and project management techniques described here is ABSOLUTELY required.

- How a project is handed over including a comprehensive and understandable O&M manual is also a critical area of a project, which can be often overlooked. This area should be clearly defined within the project brief, preferably by the end-user, to enable ALL relevant information to be gathered during the lifetime of a project. A clear consistent approach to the methods, purpose and requirements of information gathering at the earliest stage will enable a really useful and most importantly, accurate O&M manual to be produced. This Handbook gives important rules in this area.

How to use this Handbook

This Handbook is designed for web-based use, but can also be used in Word or hardcopy formats.

The web-based Handbook is designed to give easy access to all parts of the Handbook. The depth and/or detail to which the user may wish to go is controlled by linking to the relevant parts of the Handbook, whether it be straightforward information, process/governance issues or downloading appropriate documents.

The Word-based document also follows a similar format to the web-based Handbook.

The hardcopy version should only be used if access to the electronic versions is unavailable, especially as the current version will always be in the electronic formats and the most up-to-date downloads will only be available electronically.

General Approach:

- The Handbook gives easy access to all the information, from initiation to post completion/handover and all the rules and regulations related to a project and the tools in the form of template documents, forms, reports, spreadsheets and the like. Process diagrams feature throughout the Handbook to enable the user better able follow the protocols, rules, regulations and procedures that are required.

- Consistency of approach to the management of all projects is fundamental to achieving the three prime objectives of being:

    - on time,
    - within budget and
    - to the required quality,

by using the project management systems that control:

    - time,
    - cost,
    - quality,
    - function and
    - conflict.

- The Project Manager needs to take ownership of the documents used for the project and be personally responsible for updating the documents in discussion with the relevant specialists (e.g. Accountant, Quantity Surveyor). The Handbook is designed for everyday use; it is the supporting framework for all project management needs. The Project Manger must use it; the Client must use it; Council members should have an understanding of it.

Structure:

- Each element of a project will form part of the structure called 'the project'. It is very important that each element is carefully designed to ensure that it fits within the overall structure and contributes in supporting it. If the analogy of building a house is used, then the positioning of the windows, doors, walls etc form a critical part in ensuring that the house is stable and is fit for its purpose. BUT a project is much more than this, using the same analogy, a house cannot be built without a plot of land, planning permission, building regulation approval, a design that works for the end user and sufficient finance to fund whole job.

- The documents/ templates in this handbook form the basic elements, whilst the rules and regulations form the cement that keeps the elements together to the required plan.

- The reporting processes ensure that the state/progress of the project is understood fully by ALL.

- The decision making and governance processes ensure that progress is made in a fully informed and agreed manner.

- The structure helps to ensure that all aspects of a project from inception right the way through to operations is fully understood, controlled and monitored. Decisions are made in a timely manner with complete knowledge and understanding of risk and outcome.

Planning and managing:

- The Handbook is designed to give a clear route map to planning and managing a project, including the 'bright idea' stage. Much of the key information related to project processes on the timeline, and decision making processes related to project governance, are given by flowcharts*(insert links)*. It is important to understand these processes and if they are not understood then ask for help and training *(insert link)*. Much of the project planning process will been done at the 'bright idea' stage *(insert link to project initiation form)* before any project is accepted and given the go-ahead to the next stage. The key documents at this initiation ('bright idea') stage are: -

    - Project initiation form
    - Project brief/scope
    - Business case
    - Budget
    - Cost plan
    - Cash flow
    - Project drivers
    - Other resources

- Risk register
- Programme with key milestones
- Gateway 01 document

- Once a project has been given the go-ahead to the next stage, then the whole of the project management system comes into play. The key managing documents and templates are designed to facilitate detailed project planning, managing and reporting. The key documents and templates are: -
  - The project execution plan (PEP) which is the core document. It acts as an umbrella under which all of the project documents sit. This is a live document that enforces discipline and planning with a wider circulation than the project design team.
  - The project management system (PMS), which includes management and reporting systems for budget, cost planning and forecasting, programme, risk, change, communications and project team information, procurement, health and safety and any other statutory issues.
  - Gateway documents, which ensure a 'safe steps' approach to project progress.

- Project governance is designed to ensure that decisions are made in a timely manner with FULL knowledge of the relevant facts. It is important to include all the relevant decision making processes in the project programme to give an accurate picture of the project's overall duration. The main decision making and/or advising bodies that deal with projects are: -
  - Full Council (d) [1]
  - The Executive (formal and informal) (d)
  - The Executive Member (d)
  - Projects Programme Board (PPB) (a)[2]
  - Directors' Group (a)
  - Capital Strategy and Asset Management Group (a)
  - Project Board (PB) – the main decision making body - one set up for each project (a)
  - Director's Review – monthly project management report from the PMS (a)
  - Project Initiation Panel – in front of which, 'bright-ideas' sink, swim or given lifebelts. (a) *(insert links as appropriate)*

[1] (d) = Decision making body as defined within the Council's constitution
[2] (a) = Advisory and guidance body

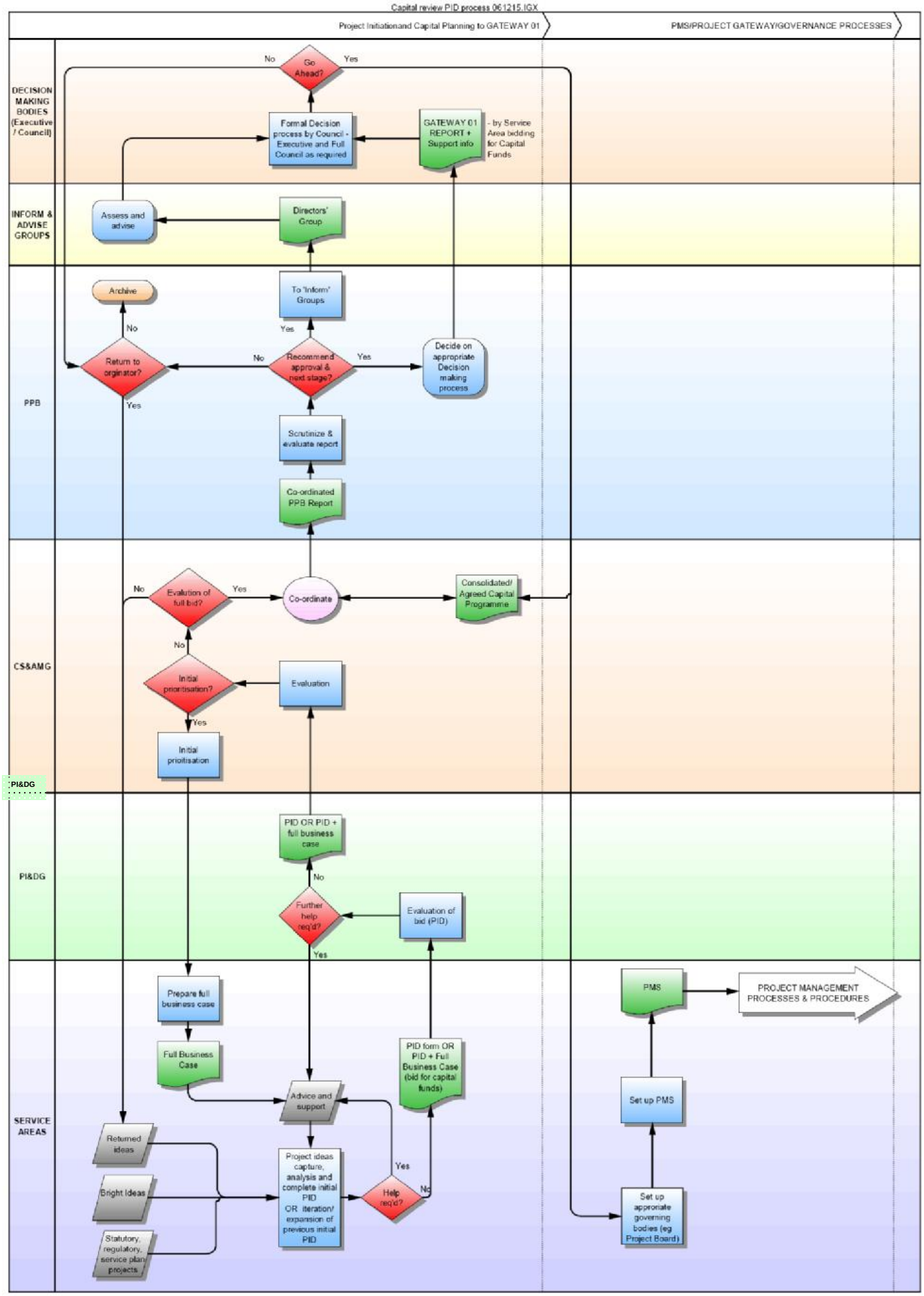


Figure 2 - Project initiation process

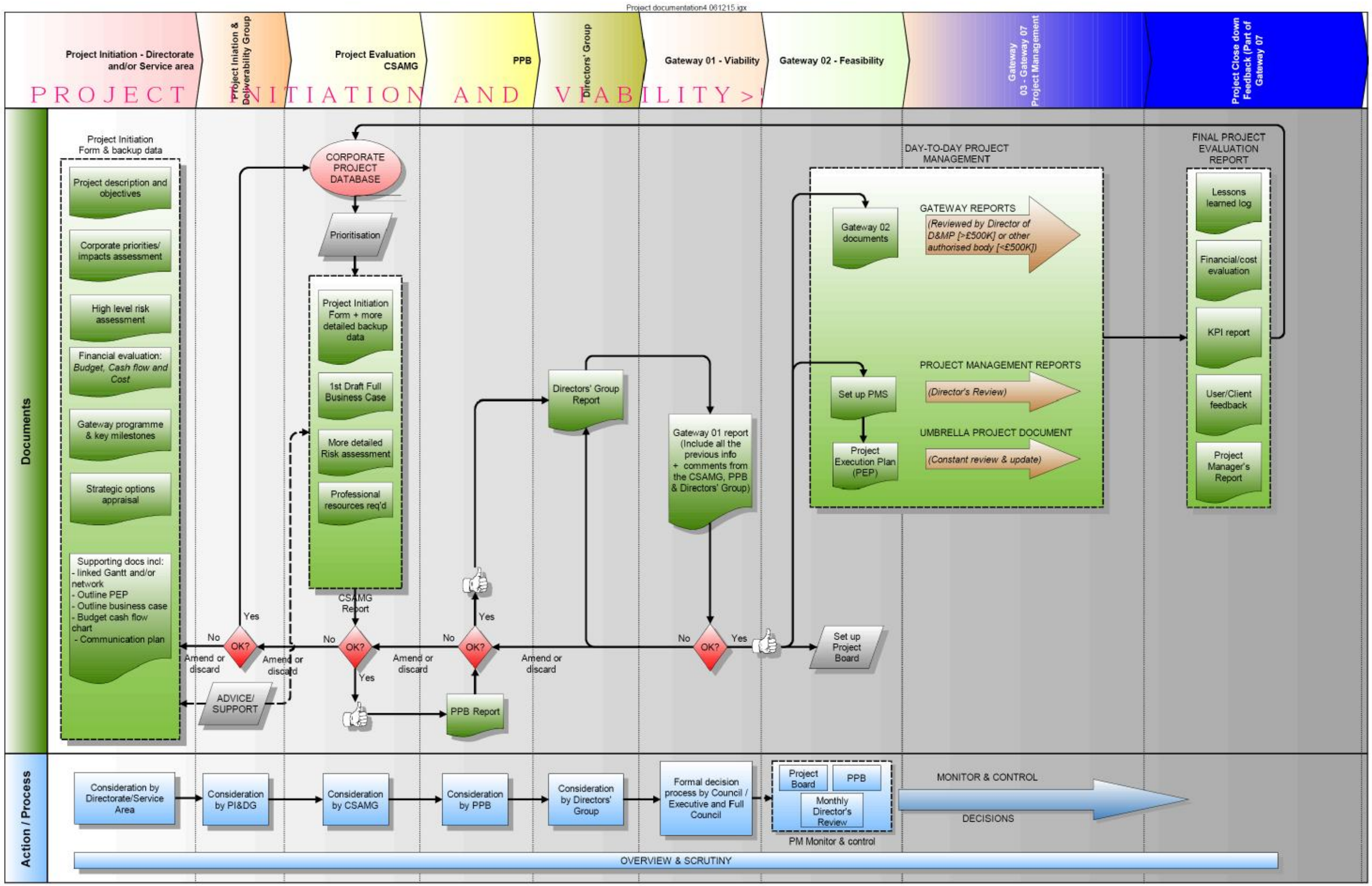


Figure 3 - Project document and process flow chart - initiation to close out

Completion and operation:

The essential question asked here, “Is the Client ready to assume responsibility”? This may be of a building, an IT system, a policy. The completion and operations strategy must be decided at the earliest possible stage at the beginning of a project; do NOT leave to the end. The detailed activities and processes at this stage must have been planned at the beginning of a project and be part of the project programme, to ensure a smooth handover to the operational phase.

It will usually consist of matters related to completion of an O&M manual, user and maintenance training for the case of a building or IT system or a final report in the case of a new/change of policy or management restructuring. In any case, the detailed requirements must have been planned at the earliest possible phase of a project.

Feedback forms an important part of this phase and includes feedback from Client, installers, suppliers and the like. The ‘lesson learned’ form *(insert link)* (part of the PMS suite of documents) will have been used throughout the lifetime of the project and will have been useful in collecting and collating this kind of information.

Structure of this handbook

The Handbook is split into two main parts:

Part 1 – Project management – planning and governance (INFORMATION)

Part 2 – Techniques, methods and processes (TOOLBOX)

Part 1 - Project management – planning and governance (Information)

1.1 Definition of a project and project management

A project is the process of creating a specific result or objective; a means to an end. It is a management environment that is created for the purpose of delivering one or more business products or services to a specified Business case.

There are a variety of other valid definitions; however, this definition highlights some important points:

- In order for a project to be created, a Business Case must exist. The Business Case may be developed in advance of the project, or it may be developed as part of project start-up.
- A project is created to deliver something – one or more business products or services. Planning the project will involve defining exactly what should be done in order to deliver the products or services.
- A project is a management environment that is created specifically for the project – it is not normal operational business
- Planning the project will involve defining exactly what should be done in order to deliver the products or services.
- Projects are temporary things, each with a defined start, middle and end. Projects do not just happen, nor do they go on forever.
- Project management is the management of that process with the resource available (i.e. Time, Money, Materials and people).

The following list provides examples of business activities that would be suitable candidates for projects:

  - planning an office move
  - arranging a major event
  - carrying out a feasibility study
  - building a new school or road
  - introducing a new method of providing a service
  - delivering a new ICT service
  - developing a new policy.

The essential elements of a project management system are given in 1.1.1 to 1.1.5 below. These are not listed in any particular process/chronological order and all are of equal importance.

1.1.1 Starting a Project (Project Initiation)

This forms a critical part of any potential project. Time and resource spent at this time will vastly improve the chances of success. It includes the process of examining 'a bright idea'. A 'bright idea' needs a structured approach to its presentation in terms of information collected and provided. This will then allow an informed and consistent examination of that 'bright idea', so that decisions to proceed amend or decline is the best that can be made.

The project initiation process also forms the foundation of the capital planning process that enables the Council to select and prioritise those projects that best meet the Council's duties and objectives. Figure 4 shows how the project initiation process fits with the capital planning process.

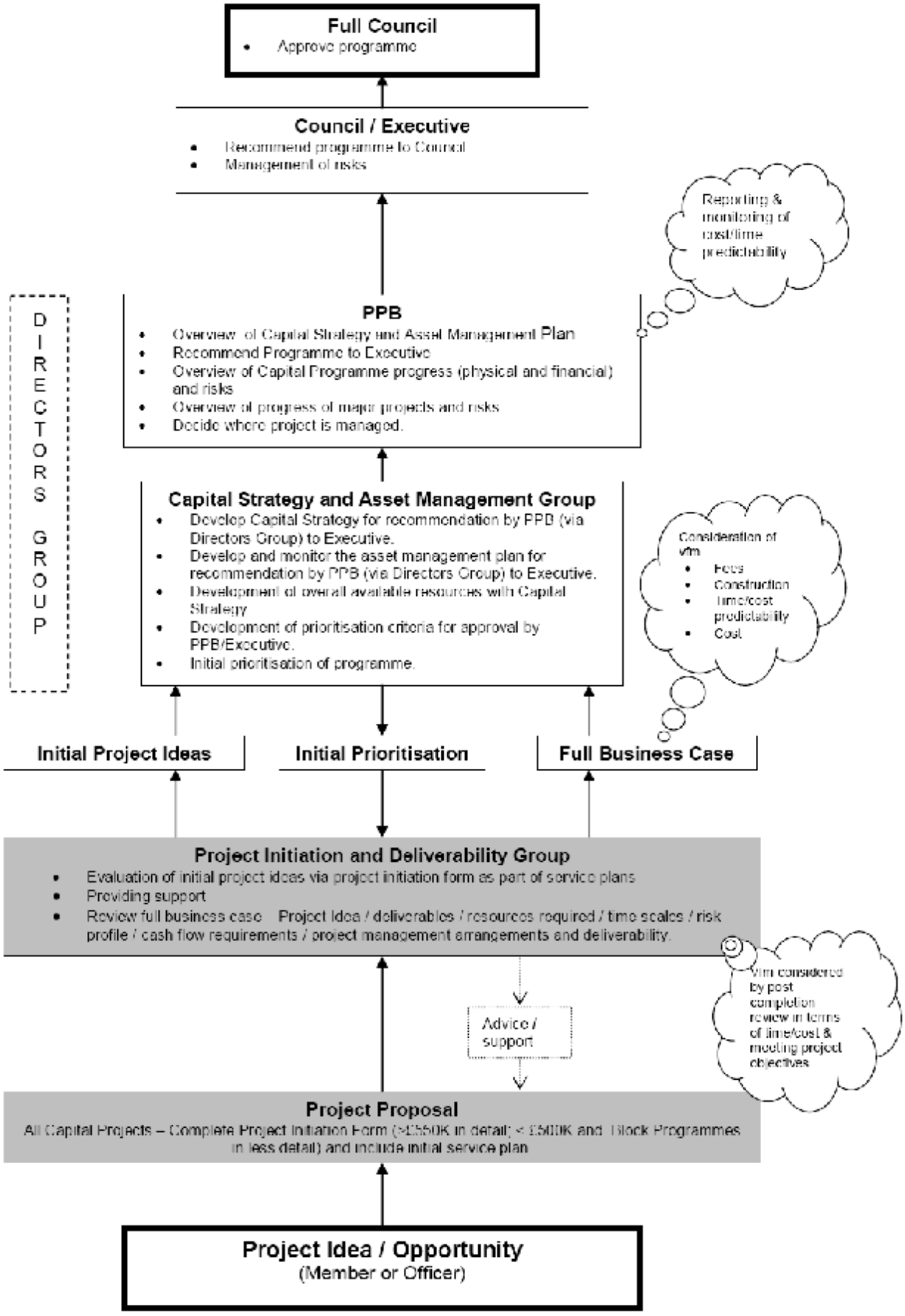


Figure 4 - Project initiation and the capital planning process

The initial information required is collected on the Project Initiation Form *(insert link)* and the information required will usually include the following depending on the value and complexity of the intended project:

- Objectives and outcomes
- Project description
- Why now?
- Responsible officers
- Options
- Statutory and regulatory duty/other legal and government requirements
- Extent of compliance with Council priorities
- Outline feasibility
- Risk (corporate and project)
- Intended programme (Gateways) with key assumptions
- Consultation / communication strategy
- Supporting documents
    - § Required – environmental impact assessment and list of sub-projects within a block programme
    - § Optional – will depend on the type of project and the stage of initiation i.e. after initial evaluation and/or prioritisation from the PI&DG and/or PPB
- Financial evaluation

The depth of the information required and/or available at this stage will very much depend on size, complexity and risk profile of the intended project. Risk is generally a function of complexity and complexity a function of size, and size a function of cost, **BUT** not always. This project initiation phase is intended to tease these relationships out so that a project/ bright idea profile is formed with **ALL** the relevant information.

A very complex 'bright idea', for example, will probably only have outline data/information related to its costs, programme and risk profile available at this stage and will need a relatively long and intensive viability and feasibility phases through the PM gateway processes before implementation. Whilst a simple 'bright idea', with a low risk profile, is more likely to have enough detailed information at this project initiation stage to swiftly go through the initial decision processes.

A ‘bright idea’ may be declined or deferred, not because it is not a good idea, but it does not fit the current Council/Government strategies or capital spending profile.

Importantly, the examination and decision processes are the same for **ALL** types of ‘bright idea’.

1.1.2 The Project Execution Plan (PEP)

The PEP *(insert link)*. is the core document for the management of a project. It is a statement of policies and procedures defined by the project sponsor, although usually developed by the project manager for the project sponsor’s approval. It sets out in a structured format the project scope, objectives and relative priorities.

This is a live document used throughout the lifetime of a project; it enforces discipline and planning with a wider circulation than the project design team. It forms the basis for:

- Gateway 02 – feasibility sign off
- A prospectus for funding (e.g. grant monies or joint ventures)
- An information and ‘catch-up’ document for prospectus contractors.

Some of the confidential information in the client version will be taken out of the published version to other parties.

The PEP is in a standardised format that can be readily modified to meet the particular circumstances of each project. The PEP will change as a project progresses though the gateways. It should be a dynamic document regularly updated and referred to as a communication tool, as well as a control reference.

1.1.3 Gateways

Gateways create ‘safe steps’ in a project by being positioned at critical points within a project. As their name suggest, a Gateway forms a barrier that must be opened to be able to proceed further.

The Gateways occur at critical points in a project:

- Gateway 01 – Initiation (inception) and Viability *(insert link)*.
- Gateway 02 – Feasibility *(insert link)*.
- Gateway 03 - Scheme design *(insert link)*.
- Gateway 04 – Detail design *(insert link)*.
- Gateway 05 – Procurement *(insert link)*.
- Gateway 06 – Construction *(insert link)*.

- Gateway 07 – Operations *(insert link)*.

Each Gateway sets outs the:

- objectives
- inputs
- processes
- responsibilities
- deliverables
- validation
- completion

in a format that allows the required activities to be readily identified. Most importantly, to ensure that sufficient time and resource is given to the relevant activities, their inclusion within the project programme is essential.

The Gateway process together with its report ensures that project decisions are made with all the appropriate information at the appropriate level at the appropriate time.

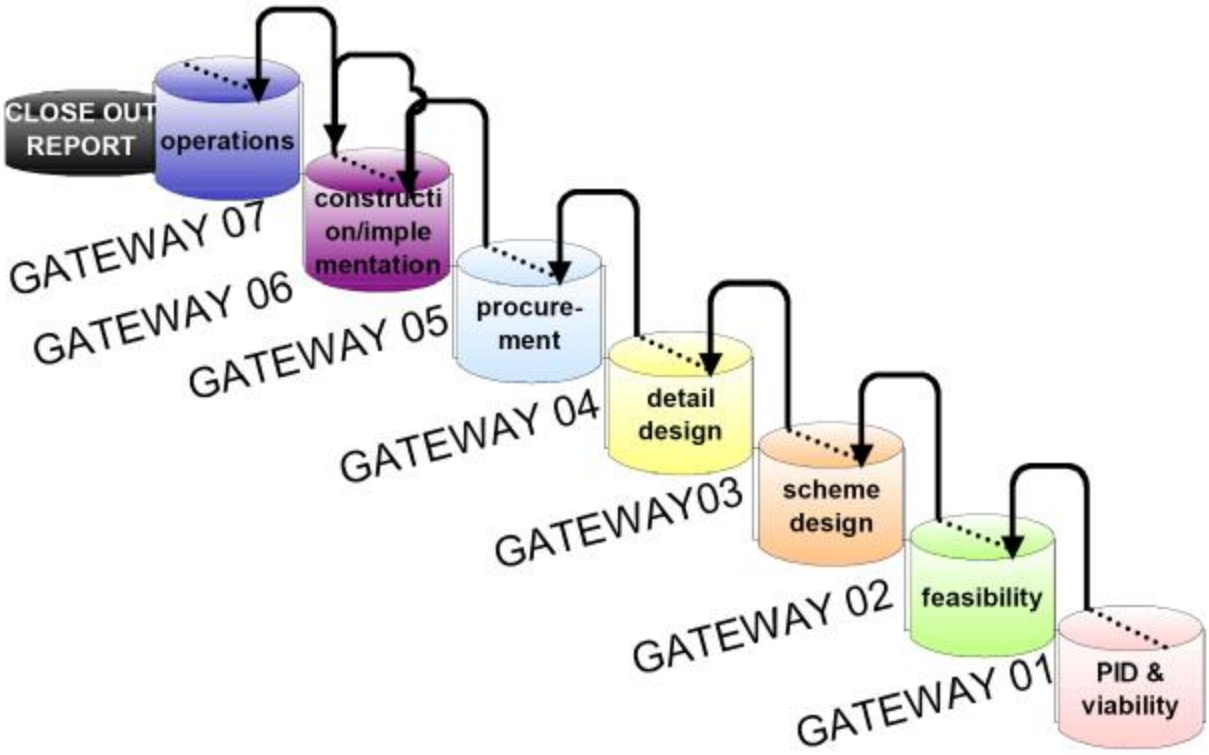


Figure 5 - Gateways and safe steps

1.1.4 Business Case

The Business Case explains the business rationale for undertaking the project, the expected benefits as a result, and analysis of the balance between costs, risks and benefits. At the early initiation stage, the Business Case information may only be outline but it should clearly explain how the project fits to overall organizational objectives.

Although the project Sponsor is the “owner” of the Business Case, the Project Manager is usually responsible for developing the information, with input from advisors and specialists as necessary:

- all the benefits justifying the project, for example financial savings, improvements in current working practices, provision of new services. The benefits from one project may actually benefit other organisations than the one sponsoring the project. These “indirect” benefits should also be included in the Business Case;
- the estimated costs of the project covering capital investment required, resource costs, staff costs, equipment costs;
- summary of the options considered for the project. Where procurement is required, the options should also include the different procurement options;
- summary of the key risks facing the project
- outline timescales for the project showing major milestones
- appraisal of the overall investment describing the balance between costs, benefits and risks.

The Business Case will be reviewed by the Project Sponsor/Project Board and updated as required at specific points during the project lifecycle, usually at least at the end of each Gateway stage. These reviews are critical to understanding the ongoing viability of the project both at start-up and throughout the project.

Plan what needs to be done during Initiating a Project.

Planning takes place throughout the project, but at this stage the Project Manager should focus on detailing what work is needed to complete the Initiation stage. The Project Initiation Form*(insert link)* will help in ensuring that the right amount of information is gathered to support the business case and will be carried forward into Gateway 01 *(insert link)*. The initiation phase should include the resources and effort necessary to develop the detailed plans for the project:

- required outputs from initiation, for example, Communication Plan, Project Execution Plan
- resources needed and any associated costs

- activities and timescales, usually shown as a Gantt chart. The critical path[3] should also be elucidated especially for more complex projects.

- quality control and checking, e.g. review of outputs by internal audit

Outline business case:

The outline business case *(insert link)* includes:

- A description of how the project supports the Council strategy, plans or schedules

- The reason for selection of this solution

Detail business case:

This will include in much more detail the financial case for the proposed solution(s) with a reasoned argument for the necessity of undertaking the project. The case should include the degree(s) of risk and their amelioration and an explanation of how the project meets the Service and Corporate objectives.

Techniques, such as life cycle and whole life costing, best value and the like should be used, where appropriate to support the case.

1.1.5 Project Brief/Objectives

The two major roles and their responsibilities are:

- **Client role** – responsible for the investment and setting objectives

- **Project Manager role** – responsible to the Client for the project implementation and meeting the project objectives.

Client objectives:

The Client (i.e. The Council) will have set its objectives through a series of policies usually driven by local and central government requirements, needs and aspirations. These policies can be delivered by setting up a programme that is implemented through a number of projects.

e.g. policy – improve educational attainment by reducing class sizes

programme – school improvement programme

project – build new schools/or additions to existing schools

BUT not always. Projects may arise through central government initiatives or local business opportunities, in which case the Client (Council) objectives must be clearly defined within these initiatives and/or opportunities. Professional advice

[3] The activities on the critical path together indicate the shortest duration that a project can be finished.

should be sought through possibly the services of a project manager to ensure that the objectives are set in a co-ordinated, effective and efficient manner.

Project objectives:

The project manger will develop the Client objectives into the project objectives, then project brief, usually after extensive consultation with the Client, stakeholders, appropriate Statutory Bodies and the like. The project objectives will form an integral part of the Project Execution Plan (PEP) *(insert link)*. It is probably worth re-stating here that the PEP will be the critical document under the umbrella of which, the project will reside and the Gateway *(insert link)* processes give guidance to the activities, roles and responsibilities that are required to successfully progress the project.

Project brief (detailed):

This is usually further development of the project objectives and is an interactive process involving most members of the design team and appropriate representatives of the client team. It is for the project manager to manage the process, resolve conflicts, obtaining client's decisions, recording the brief and obtaining the client's approval.

The project brief should probably consist of the following, which should be tailored to the requirements and environment of each project:

- Background
- Project definition, explaining what the project needs to achieve. It will contain:
    1. Project objectives
    2. project scope
    3. Outline project deliverables and/or desired outcomes
    4. Any exclusions
    5. Constraints
    6. Interfaces
- Outline business case
    1. A description of how this project supports business strategy/policies, plans or schedules
    2. The reasons for selection of this solution
- Customer's (Client and/or End-users)
- Acceptance criteria
- Risk assessment

If earlier work has been done, the project brief may refer to the document(s) containing useful information, rather than include copies of them. In any case the Project Execution Plan (PEP) will form the important repository and reference for all the project documentation and information.

It is not unusual for the client to modify their thinking on various aspects of the proposals and there is certainly the opportunity and scope for change during this phase (Gateway 02 – Feasibility) *(insert link)*. Figure 6 demonstrates graphically the relationship between 'scope for change' and the 'cost of change' set against the time-scale of a project. The crossover point occurs at the completion of the Gateway 03 – scheme design phase. The client's attention should always be drawn to this relationship and to the benefits of brief and design freezes.

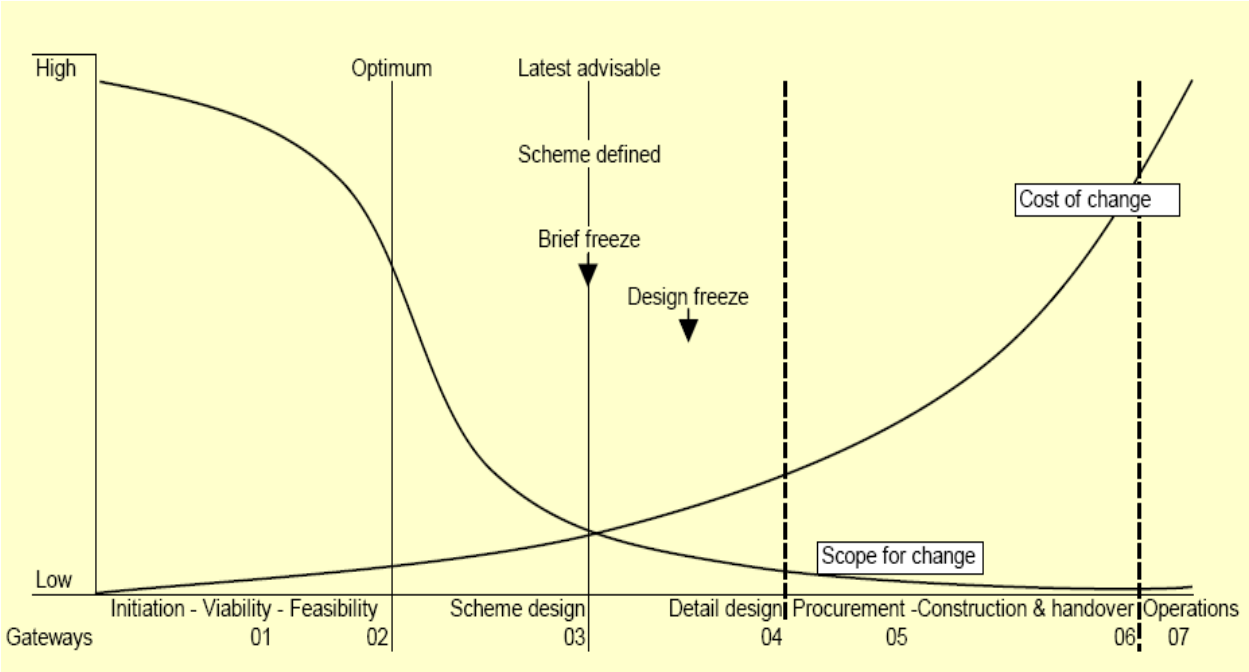


Figure 6 - Relationship between scope for change and cost of change

It is key that the client understands the importance of establishing enough information at this stage to determine the end requirements and objectives for developing the project. This point cannot be overemphasised. It is essential that the client/end-user's needs and objectives are clearly identified and these are thoroughly (and tactfully) examined to minimise potential future changes to the project brief. The project manager should, therefore, ensure that the client is familiarised with the potential cost and time implications of design changes and identify as clearly as possible the precise requirements of the client.

The detailed design brief will form part of the detailed project brief and the project manager will monitor the assembly of the detailed design and co-ordinate consultations, programme and outline project brief compliance. The project manger will also notify the client of any cost, time, quality function and financial viability of any changes from the outline design brief. The formal approval by the client will form part of the Gateway process (Gateway 03 – Scheme design or at the latest part way through the Gateway 04 – Detail design phase – see Figure 6).

1.2 Why project management is required

1.2.1 Plan

Organise tasks in a logical manner to enable an understanding of the requirements of the project, especially in relation to: -

- time to implement the project;
- resources required (money, materials and people)

A well planned project will also mean it will be much easier to: -

- understand the interrelationships that drive the project and are critical for a successful outcome;
- communicate the scheme to others, in gaining approval for the project, managing and reporting progress;
- effectively consider and manage changes to the programme.
- effectively consider and mange risk associated with the project

1.2.2 Control

- Progress
- Resources (includes money)
- Changes/actions
- Quality
- Risk
- Conflict

1.2.3 Monitor

- Progress
- Resource management (includes cost)
- Change/action management
- Time management
- Quality
- Risk

- Issues
- Conflict resolution

1.2.4 Communicate

- Communication plan (Project Execution Plan - PEP). This is detailed in the PEP and should show all the communication links with ALL the parties involved in a project, including stakeholders, consultants, contractors, and the like.
- Consistent reporting (Project Management System - PMS – monthly review, Project Programmes Board, Project Board)

1.2.5 Progress

- Resource usage and requirements
- Reporting outputs that are readily understood and measured, upon which effective action can be taken.
- Instruct

1.2.6 Forecast/Predict

Project Management Systems (PMS) are not just about reporting the past, important as that maybe, but about the ability to collect and collate ALL the information both past, present and future in such a way that a reliable forecast can be given to be able to predict outcomes with an increased degree of certainty. The future data will include things like:

- risk level changes from low to high or vice versa;
- new or eliminated/managed risks;
- changes in costs;
- cost trends
- cash flow
- changes in design and/or specification;
- changes in statutory requirements.

The PMS in conjunction with the other tools available from this Handbook and appropriate training enables the user to gain this important ability.

Carrying out 1.2.1 above to 1.2.5 above as part of a comprehensive project management system gives the project team the ability to forecast/predict the outcomes with a very much enhanced degree of certainty.

1.3 Who should use it?

- Anybody who is contemplating change
- Anybody that has an interest in ensuring that change is carried out in the most efficient and effective manner.
- Anybody who has control of change that has a discrete beginning and end e.g.
    - planning an office move
    - arranging a major event
    - carrying out a feasibility study
    - building a new school or road
    - introducing a new method of providing a service
    - delivering a new ICT service
    - developing a new policy
- The principles and techniques of project management described here are relevant to non-construction related projects.
- The Handbook will of benefit to anyone that needs to query or question a project process and/or decision.

1.4 Project governance

Project governance ensures that:

- a project conforms to its agreed objectives,
- is being carried out to all the appropriate rules and regulations, (e.g. Council Standing Orders, OJEU procurement rules, Health & Safety regulations).

It also enables, makes and confirms key decisions that may be required (e.g. at Gateways and Change Requests).

The bodies that make up the overall governance have varying functions and operate at particular levels.

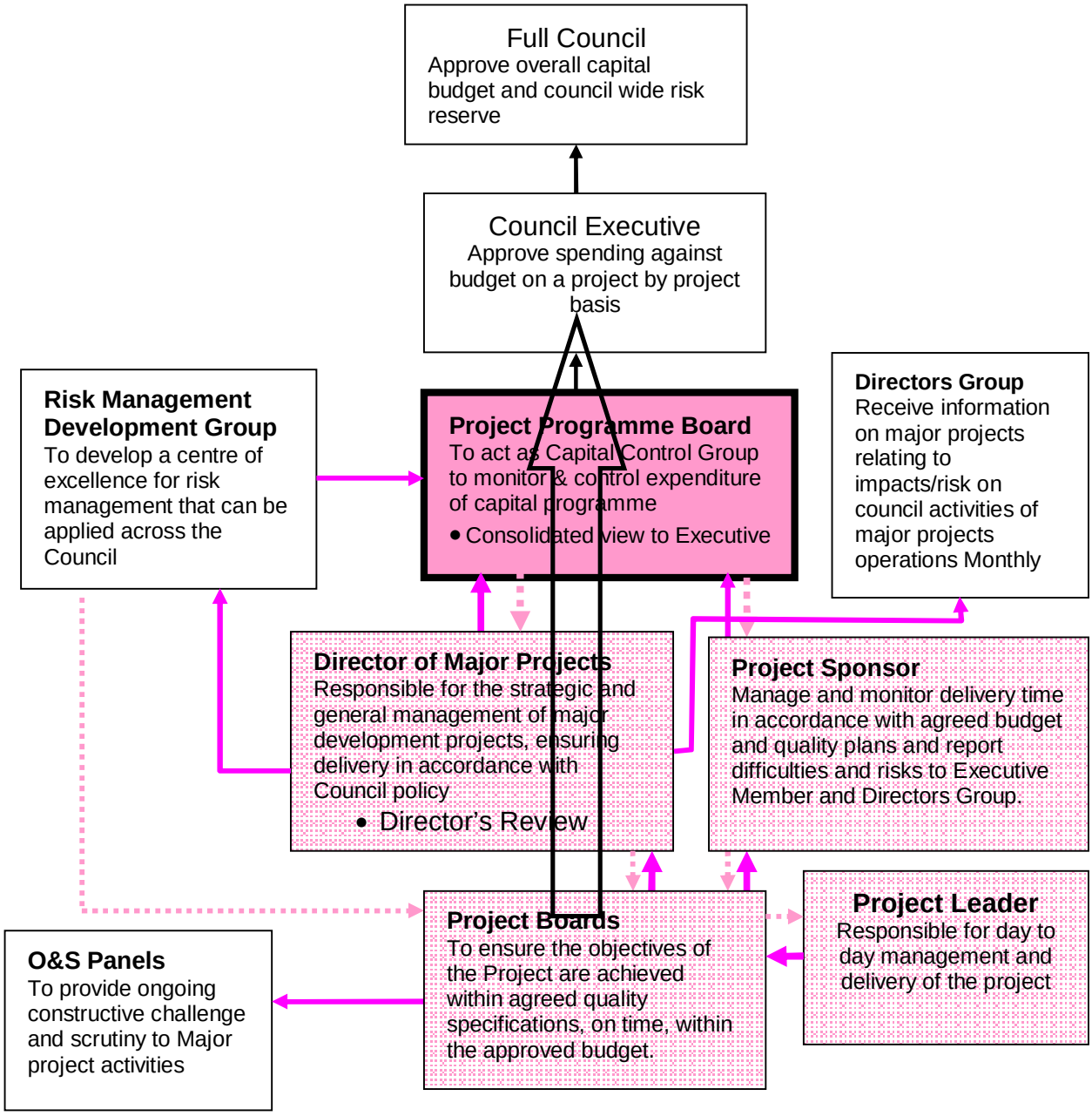


Figure 7 - Overall project governance – roles and responsibilities

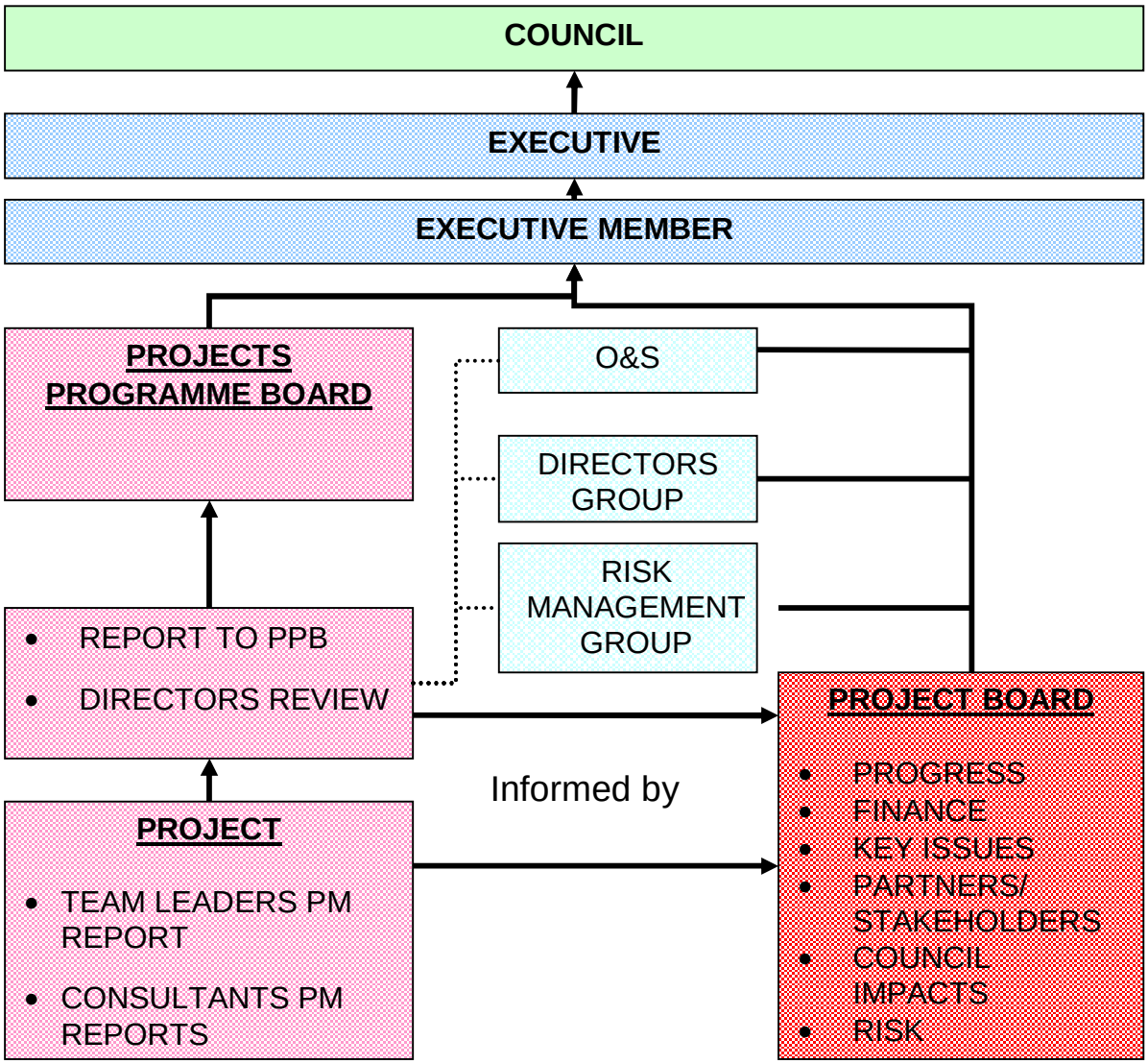


Figure 8 - Roles & responsibilities – decision & advisory relationship

1.4.1 Overview & Scrutiny Panels (O&S) *(insert link)*

There are seven O&S panels that deal with various aspects of the Council's responsibilities. The Major Projects and External Bodies panel is the important one as far as most major projects are concerned. It is an information and exception receiving body. The O&S panels have two key roles:

1. to develop new ideas about how services can be provided and performance improved.

2. to examine critically the decision making of the 'executive' and where necessary call decision makers to account. Panels have the power to require senior officers and Executive Councillors to appear before them to explain their actions.

Overview:

- To assist the Council and Council Executive in the development of new policy

- To assist the Council Executive by giving comments on issues identified as "Key Decisions" prior to a decision being made

- To contribute to Best Value Reviews and major service reviews at scoping and "key issues" stages

- To assist the Council Executive by giving comments on selected Service & Budget Plans at their draft stage

Scrutiny:

- Scrutinise performance management information to ensure that the Council is performing to agreed targets and to agreed Action Plans

- Determine "call-ins" of decisions made but not yet implemented by the Council Executive or an officer

- Scrutinise particular "Key Decisions" and other aspects of Council Executive activity to ensure compliance with agreed Council policies and plans.

- Evaluate the impact of Council and or Council Executive decisions and policies

1.4.2 Directors' Group (DG)

This Group receives information on major projects relating to impacts/risk on council activities of major projects operations both before any project is started and during any current projects' lifetime. The group has an important guidance and monitoring role in being able to take an holistic view of all the projects proposed, in progress and completed and their impacts on the Council. The

Group currently considers major projects on a monthly basis, but important project issues are able to be considered on an ad hoc basis as and when required.

1.4.3 Projects Programme Board (PPB)

The terms of reference of the Projects Programme Board is to advise the Executive in relation to the impact of the Capital Programme on the Corporate Body; to act as Capital Control Group to monitor & control expenditure of the Capital Programme and to monitor and direct major project activities, exposure to risk and resource impacts. The PPB is a decision, advising and guidance body.

Membership:

The board shall be made up of the Executive Members for Resources and Economic Development together with the Chief Executive (Chair), S151 Officer and Director of Development and Major Projects.

Role:

The Project Programme Board will:

- Review the position and progress of the capital programme. Monitor the overall or combined spend/predicted final costs and cash flows against the agreed budgets.
- Have an overview of projects and to identify any major exceptions of corporate concern.
- Monitor and review the overall risk exposure of the Council from developments and major projects and ensure satisfactory actions/plans are in place to manage this.
- Advise the Executive on the overall level of exposure from project risk that should be considered when formulating the Council's budget and financial plan.
- Review use of programme resource.
- Ensure the various projects are programmed with due regard to the Council's capacity and best interests (including minimising disruption to the community).
- Oversee the development of best practice in project management processes and reporting arrangements across the Council.
- Advise Executive on 3rd party influences outside of Council control.
- Appoint the project leader, members of project boards and approving TOR for boards.
- Monitor the adequacy of project governance arrangements.

- Oversee procurement approach, risks etc.

1.4.4 Project Board (PB)

The terms of reference of the Project Board is to provide guidance to the Project Sponsor on overall strategic direction and help to spread the strategic input and buy-in to a larger portion of the organisation. It is an advising and guidance body.

Membership:

The board shall be made up of the relevant Executive Members(s), a representative of the Section 151 Officer, a representative of the Monitoring Officer and the Project Sponsor. The Project Leader and other officers will attend and report to the Board to guide it in its work.

Role:

The Project Board will:

- Advise on the scope of the project.
- Advise on priorities for development of the project.
- Approve an overall project plan.
- Provide guidance to the Project Sponsor and decision makers on overall strategic direction.
- Approve an implementation plan that delivers the benefits within agreed costs.
- Receive monthly high level progress and financial reports
- Understand the level of exposure of the Council to tangible and intangible risks and report to Directors and Executive Members accordingly.
- Recommend referrals to Overview and Scrutiny Panel when appropriate.
- Ensure strategic liaison with related service areas and other strategic partners.
- Liaise with the Project Programme Board to identify any interdependencies with other Major Projects.
- To monitor whether project is meeting agreed criteria.
- To ensure that the project is managed in a manner which is consistent with the approved Council project management methodology.

The Executive Member retains key decision making powers in accordance with the Councils Constitution, although these may be delegated to the Project Sponsor.

1.4.5 Project Officers

These will include all those people who take part in the day-to-day operational tasks in undertaking any particular project. Their roles relating to project governance include understanding and complying with the rules and regulations, as well as providing and reporting the requisite information to the governing bodies in the appropriate time and manner.

Project Sponsor:

- Approve a project plan that delivers the benefits within agreed costs.
- Ensure appropriate resources are available for the Project through support of the Directors Group and Executive Members.
- Ensure that significant projects risks are identified and appropriately managed through the Project Board.
- Make key contact with key external bodies at a high level to promote the project and help lay foundations for project leader and team to secure agreement in taking project forward.
- Make key decisions when expressly delegated to do so by the Executive Member.
- Provide leadership and monitor roles to motivate the project team in successful delivery.
- Liaise with the PPB to identify any interdependencies with other Major Projects and direct Project Leader accordingly.
- Spread the strategic input and buy-in to a larger portion of the organisation.
- Produce a project plan that delivers the benefits within agreed costs.
- Manage and monitor delivery time in accordance with agreed and budget and delivery plans.
- Produce monthly progress and financial reports.
- Ensure that projects risks are identified and evaluated to ensure actions to be agreed and documented in a Risk Register.
- Ensure stakeholders (including the media) are kept informed of progress and key stages in the project.
- Ensure key decisions are identified in the Executive Forward Plan.
- Prepare reports for key decisions.

- Seek advice when appropriate to ensure that no Council financial regulations or standing orders are breached and that probity is maintained.
- Ensure Project delivers appropriate quality and fitness for purpose.
- Prepare detailed reports to the Project Sponsor and high level reports to the Project Board.
- Report against standard agenda items for project board

Project Leader:

- Produce a project plan that delivers the benefits within agreed costs.
- Manage and monitor delivery time in accordance with agreed and budget and delivery plans.
- Produce monthly progress and financial reports.
- Ensure that projects risks are identified and evaluated to ensure actions to be agreed and documented in a Risk Register.
- Ensure stakeholders (including the media) are kept informed of progress and key stages in the project.
- Ensure key decisions are identified in the Executive Forward Plan.
- Prepare reports for key decisions.
- Seek advice when appropriate to ensure that no Council financial regulations or standing orders are breached and that probity is maintained.
- Ensure Project delivers appropriate quality and fitness for purpose.
- Prepare detailed reports to the Project Sponsor and high level reports to the Project Board.
- Report against standard agenda items to Project Board

Who is responsible

1.4.6 Processes, procedures and decisions

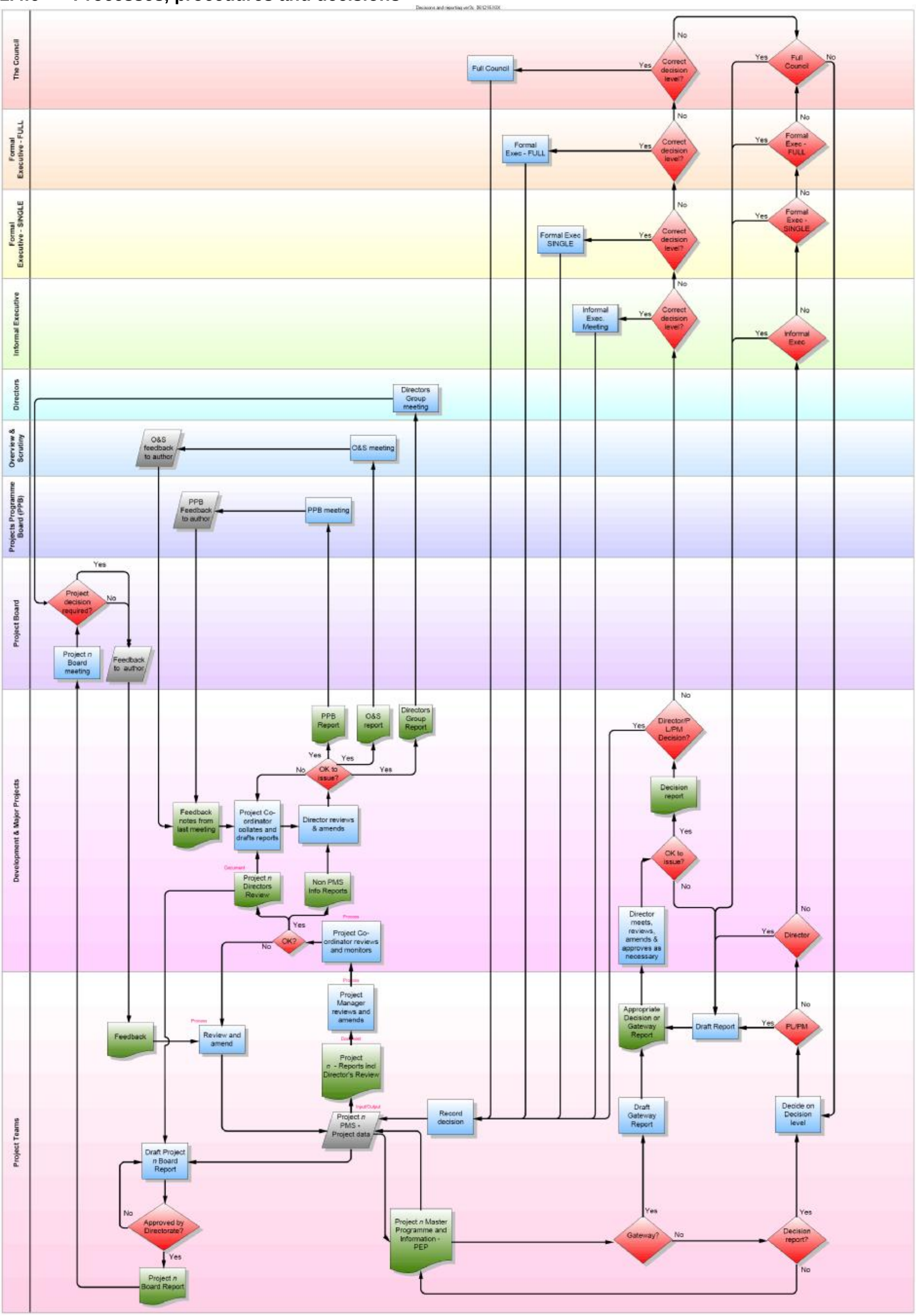


Figure 9 – Decisions and reporting

1.4.7 Reporting and monitoring

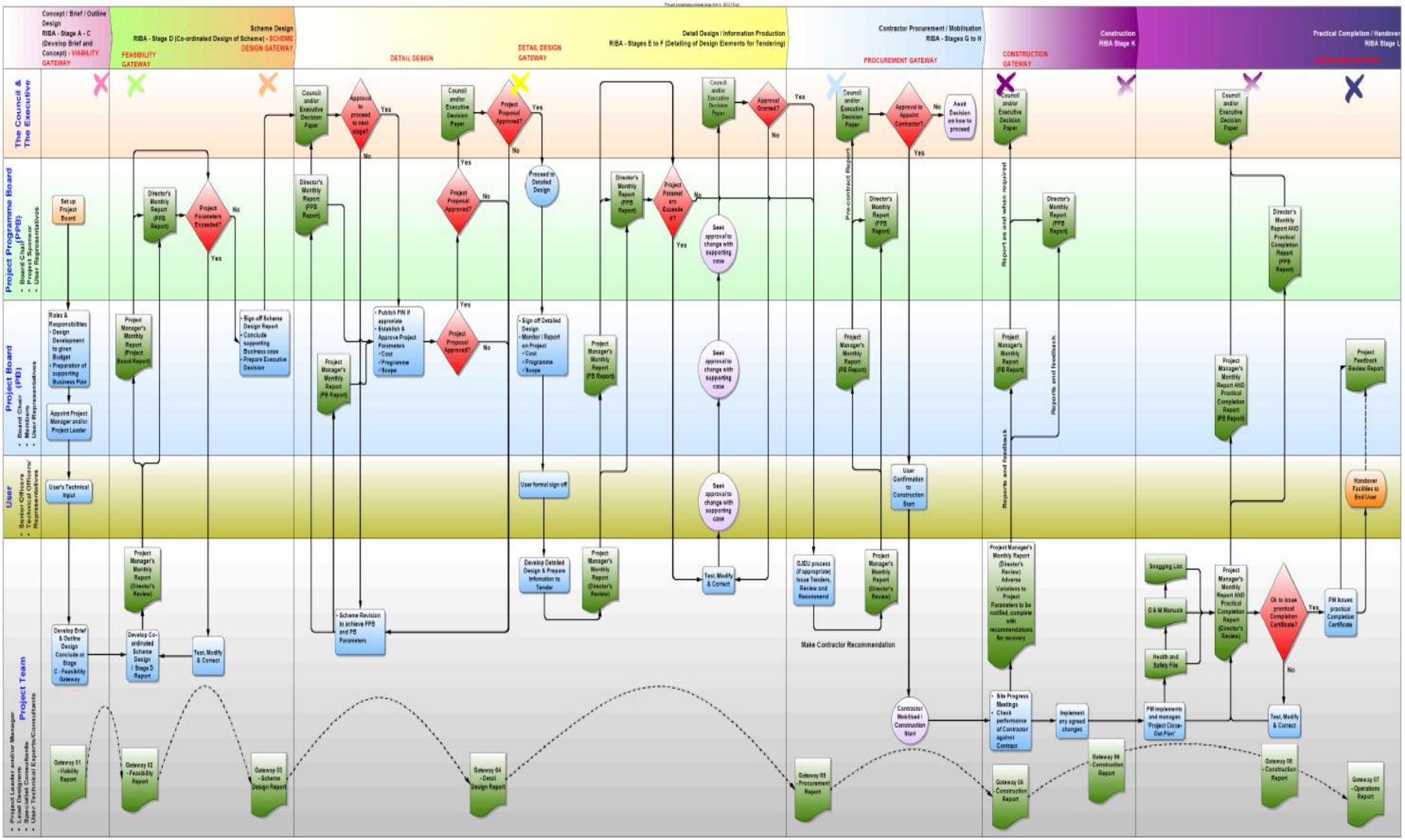


Figure 10 - Project reporting and monitoring

1.5 Quality assurance

See 1.8.21Quality management
(insert link)
This section is to be rolled out over the next 12 months

1.5.1 What is it?

1.5.2 Why do we need it?

1.6 Levels of authority

Decision Maker Increasing levels of authority	**Level of Decision they can make** Increasing levels of money or principle
Senior Officers within a Directorate	All managerial and operational decisions for the service delegated by the Director. Where designated by a Director to act as a Head of Service, the Officer (or external appointee) may perform the specific functions described in the Constitution - Part 3 page 20 - *e.g. fees and charges, managing premises, recruit/manage staff, represent the Council* ***but only in accordance with the policy framework and budget management rules of the Council.***
Director level e.g. Major Projects Director	Presumption that all decisions will be delegated to Director level unless • the triggers for a member level decision are met e.g. contentious, sensitive, beyond agreed project plan (see Constitution Part 3 page 27 for full criteria); or • the Director him/herself delegates to others - mainly other officers within his/her service area (see above) - and the details are recorded in the Register of Delegations held by Head of Democratic Services
Chief Executive	Full authority to act in an emergency on any matter. At his/her discretion to exercise any powers of a Director/Head of Service other than those of a statutory officer - e.g. monitoring officer or finance officer Highest level interaction with political leadership to deliver the political management arrangements of the Council.
Single Executive Member decision via Weekly1ist	Presumption the any member level decision will be made by portfolio holder alone, unless the full-executive criteria are met (see below).
Full Executive via monthly public Executive meeting	Member level decisions that have corporate significance or cross-portfolio interest. Single member decision matters that an executive member asks instead be made by the full Council Executive. **Executive cannot decide Council matters or Regulatory matters**.
Full Council	Agrees budget and overall highest level policy framework within which services and decision makers must act. Makes in year changes to the policy framework. Determines Council functions e.g. Constitutional matters, Byelaws. **Council cannot take executive decisions.**

Table 1 – Levels of authority

1.7 Gateways

Introduction:

Gateways form a 'safe steps' approach to managing a project. The Director of Development and Major Projects gives permission to proceed, which can then be ratified by a formal decision by the appropriate authority at the appropriate level. It ensures that decisions to proceed are made in an authoritative manner with all the facts laid before the guidance and decision making bodies.

1.7.1 Gateway 01 – Initiation (project inception) and Viability *(insert link)*

Project Initiation phase:

Much of the project planning process will been done at the 'bright idea' stage *(insert link to project initiation form)* before any project is accepted and given the go-ahead to the next stage. The level of detail required at this stage will very much depend on the size and complexity of the proposed project. Help and advice from the Development and Major Projects team should be sought if there is **ANY** doubt on what to do. The key documents at this initiation ('bright idea') stage are: -

- **Project initiation form**: This form collects, collates and references all the information required to allow informed decisions to be made and guidance to be given on if and when a 'bright idea' becomes a live project or not. The information from all the 'bright ideas' are collated into a database that enables an overall view of all capital projects to be monitored and reviewed. *(insert link)*

- **Project brief/scope:** This document describes the Client's objectives for the project and gives an outline of the likely constraints and risks. It should be as well defined as possible, even at this early stage, because it makes project planning much more effective and more accurately reflect the true position.

- **Business case:** An outline of the business case is usually given at this stage, which justifies the commercial basis for carrying out the project. The benefits/justification , drivers (corporate and project), resource requirements (including financial, personnel, IT and time), sources of funding, project timescale, project team and significant risks must be included within the business case. *(insert link to template)*

- **Budget:** This should be included within the business case. For large and/or complex projects a schedule of major budget items/headings indicating source of funds, timings and relevant terms and conditions should be made.

- **Cost plan:** This should show the major cost items/headings and an indication of how accurate these costs are e.g. recent quotations from suppliers, estimates from suppliers or specialist consultants, market research etc). An indication as to the size of the likely contingency should also be made; this will usually depend on the degree of cost certainty and risk level of the project.

- **Cash flow:** This is the rate at which money is to be expended on the project and is usually planned at a rate of £/month.

- **Project drivers:** These will be related to the Council's strategies and those particular to the project and will form the major part of the rationale for undertaking the proposed project. *(insert link)*

- **Other resources:** Other identifiable resources other than money should be considered e.g. specialist advice/personnel, IT requirements, in-house resource requirements, external resources and the like.

- **Risk register:** Identify the key risks to the project and evaluate them carefully. This should be carried out as a team effort including stakeholders and other interested external bodies. *(insert link)* The information gathered here should inform the cost plan, either as contingency or an identifiable cost heading. Remember, if a risk is certain to happen then it is NOT a risk, but a **task/activity** that will need to be included in the project programme and will have an identifiable cost of its own.

- **Programme with key milestones:** This is a key document usually in the form of a linked Gantt chart and/or network, which should include the key milestones. At this stage it would normally be at high level, meaning that not all the detailed tasks/activities and interdependencies have been elucidated, BUT the main tasks and their dependencies are known. It should model the project in way that indicates how it would be carried out taking into account all the project parameters of time, cost, quality, function and conflict.

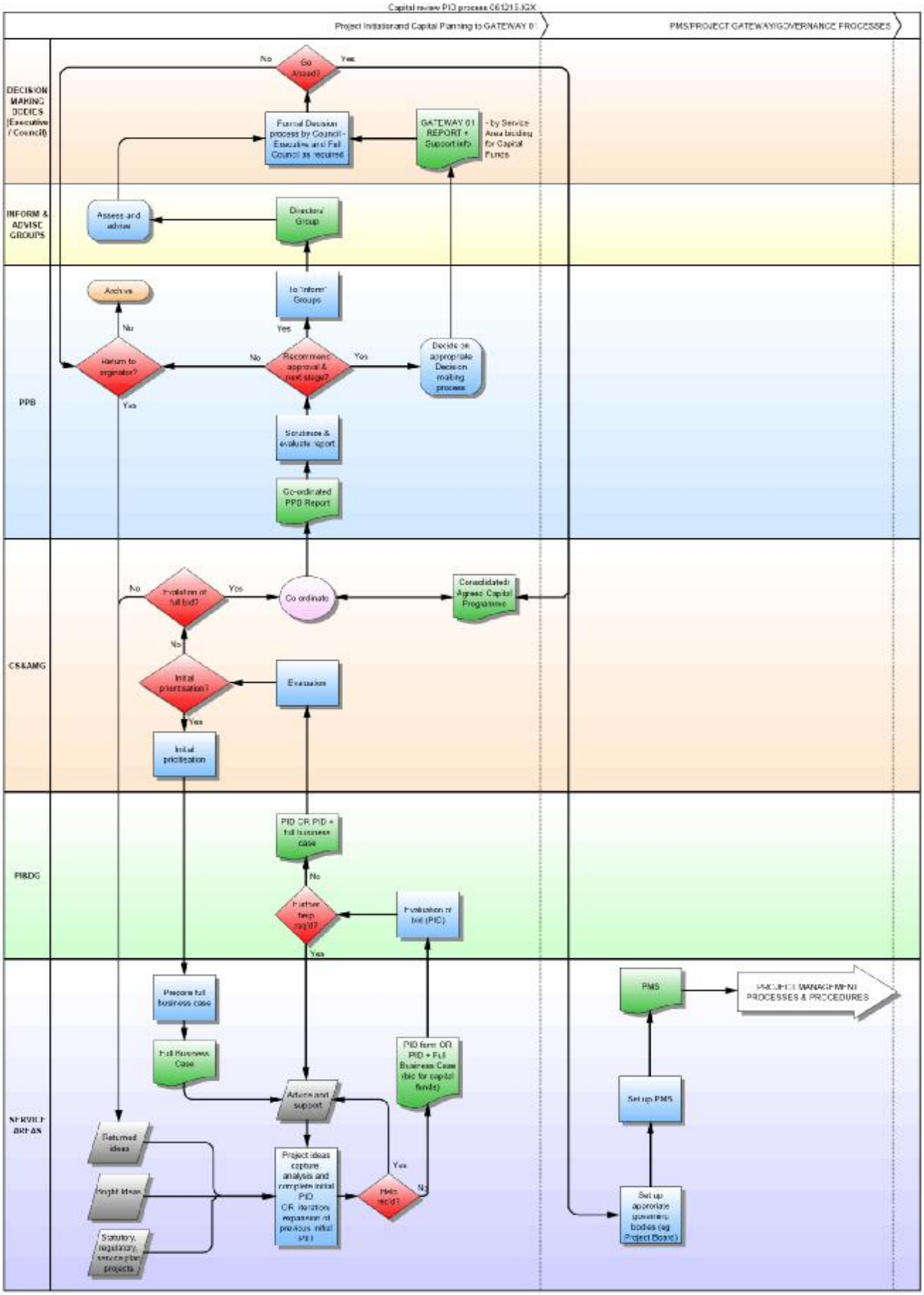


Figure 11 - Project initiation process flowchart

Objectives:

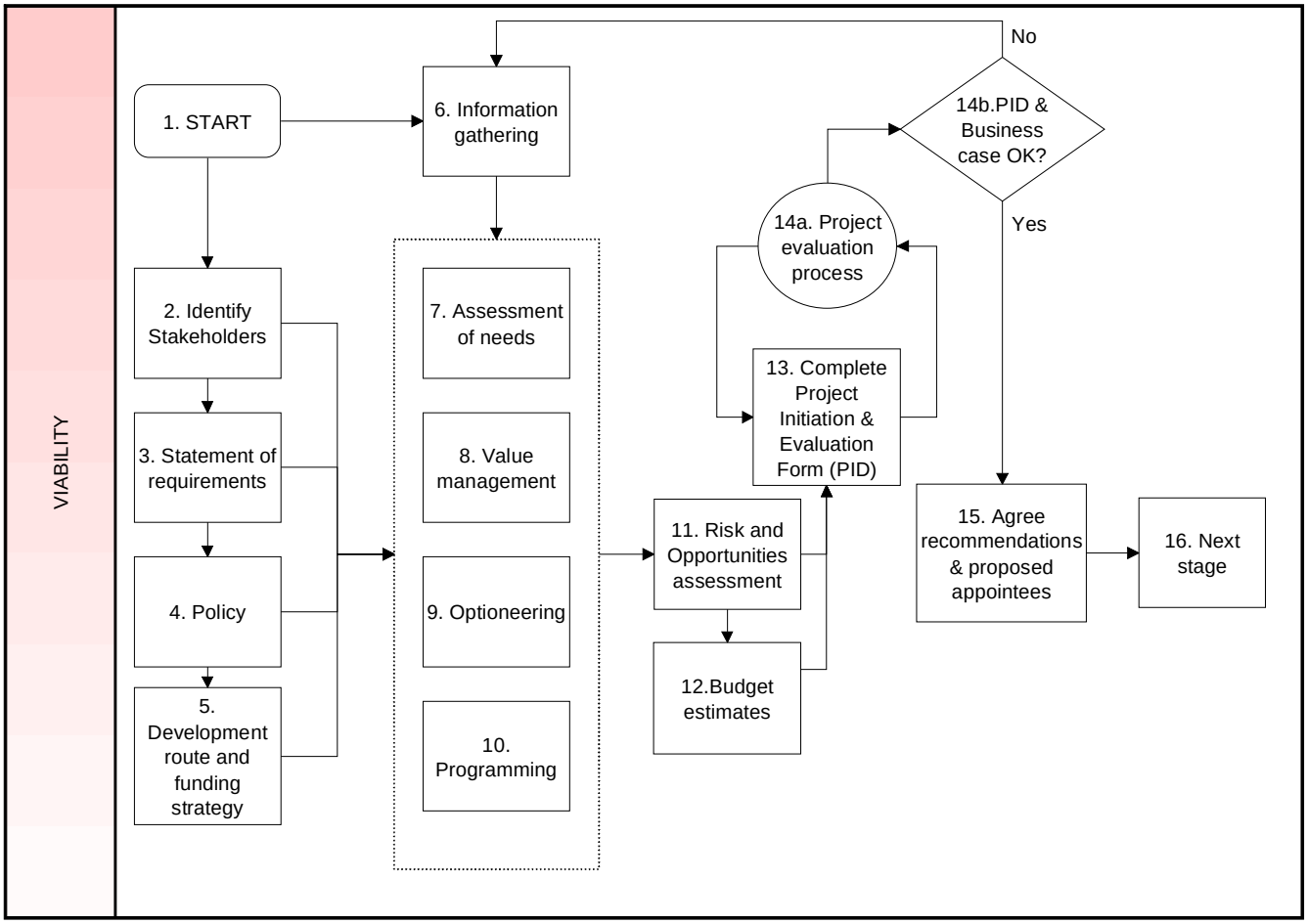
An evaluation of strategic options is initiated in response to an identified need within the corporate vision/policy and business rationale. The gateway approval considers (or confirms) the need for a project, selects the preferred options, and provides policy and strategy to initiate the project.

The Project Viability (Inception) stage may be undertaken prior to the project ownership transferring to the Directorate e.g. when a project is commissioned by another department or directorate within the Council. It may still however, be appropriate to apply this gateway prior to moving to the Feasibility (Briefing and Concept Design) as a means of ensuring that the necessary foundations are in place to allow the project to move forward productively. The Gateway Review, in this circumstance, forms the basis of a transfer of responsibility for the delivery of the project to the Major Projects Directorate.

Inputs:

- Point of (Client) Contact
- Initial financial approval
- Client and team resources

Stage Process Map



Responsibilities:

At this stage, it is unlikely that an external project manger or lead designer is appointed to the project, although these resources may be available where a framework is in place and the project forms part of the framework. The Project Manager function is usually undertaken by an internal officer from within the Directorate. The Directorate undertakes the responsibilities assigned to the lead designer where no external lead designer is appointed.

The responsibility matrix *(insert link)* assumes that the project inception is carried out within the directorate, where the 'Client' (or end user) can either be another Council body or the Directorate itself.

Deliverables:

- Statement of need
- Policy audit and documents where available
- Value Management Report
- Risk Register
- Development strategy
- PID and Business case
- Approval to proceed
- Professional Service Agreements

Validation:

- Clearly identified client needs
- All major issues addressed
- Careful selection of project team
- Clear and measurable targets
- Client participation and ownership
- Value criteria and testing
- Appropriate quality expectation
- Optimum life cycle costs
- Safety issues identified
- Environmental performance
- Appropriate flexibility

Completion:

- Decision on the business case
- Approval to proposal(s) for the briefing and design phase
- Appoint consultant to execute feasibility study

1.7.2 Gateway 02 – Feasibility *(insert link)*

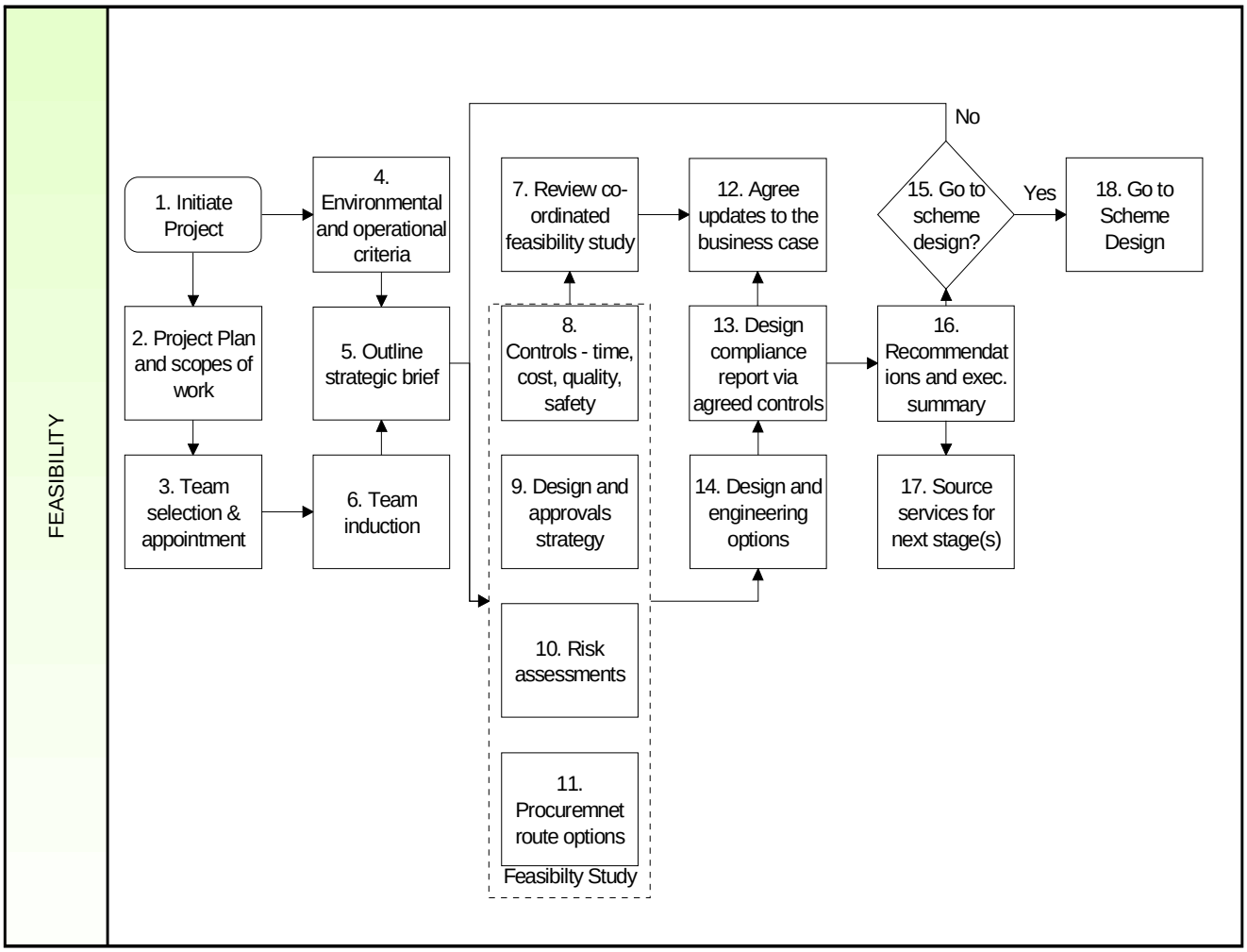
Objectives:

- Definition of the conceptual basis of development of the design to meet the Strategic Brief.
- Documented approval in a formal Project Brief and Business Case.

Inputs:

- Approval to the outline business case
- Statement of requirements / basis of design
- Framework cost information
- Boundary, survey and records of site and interfacing properties
- Appointments for the feasibility stage
- Sponsor and business partner attendance at start-up workshop

Stage Process Map:



Responsibilities:

The Project Manager, on behalf of the client, monitors and controls this and subsequent stages of the delivery of the project to the requirements previously defined. In order to effect control the Project Manager requires the team to establish procedures implicit in their professional appointments and to present key deliverables for review and approval as appropriate.

The Project Manager, at this phase of the project, is usually an in house Major Projects officer prior to any external consultant appointment, who carries out these duties on behalf of the Directorate from the Scheme design stage. On larger or more complex projects a Project Manager may be appointed following the Viability stage and manages this phase of the project.

Nevertheless, it is not appropriate to attempt to impose black and white rules of ownership of responsibilities. Different clients, projects and procurement routes require a judgement on the degree of delegation to the team. The level of service offer for project management varies from project to project.

Even when duties are delegated, the degree of Client involvement must be clearly defined and agreed so that the Directorate and Project Managers team effectiveness is not reduced. The stage processes with gateway approvals facilitates controlled progress of the project.

Deliverables:

- Strategic brief
- Project Directory
- Feasibility report
- Procurement strategy confirmed
- Project brief
- Outline planning application
- Initial Project Execution Plan
- Updated risk assessment
- Updated business case
- Cash flow forecast
- Approval to proceed

Validation:

- End of Stage Workshop
- Deliver reports to Project Board
- Presentation to Project Board

Completion Criteria:

- Agreed Feasibility report
- Agreed Business case
- Agreed Project brief
- Design commitment

1.7.3 Gateway 03 – Scheme design *(insert link)*

Objectives:

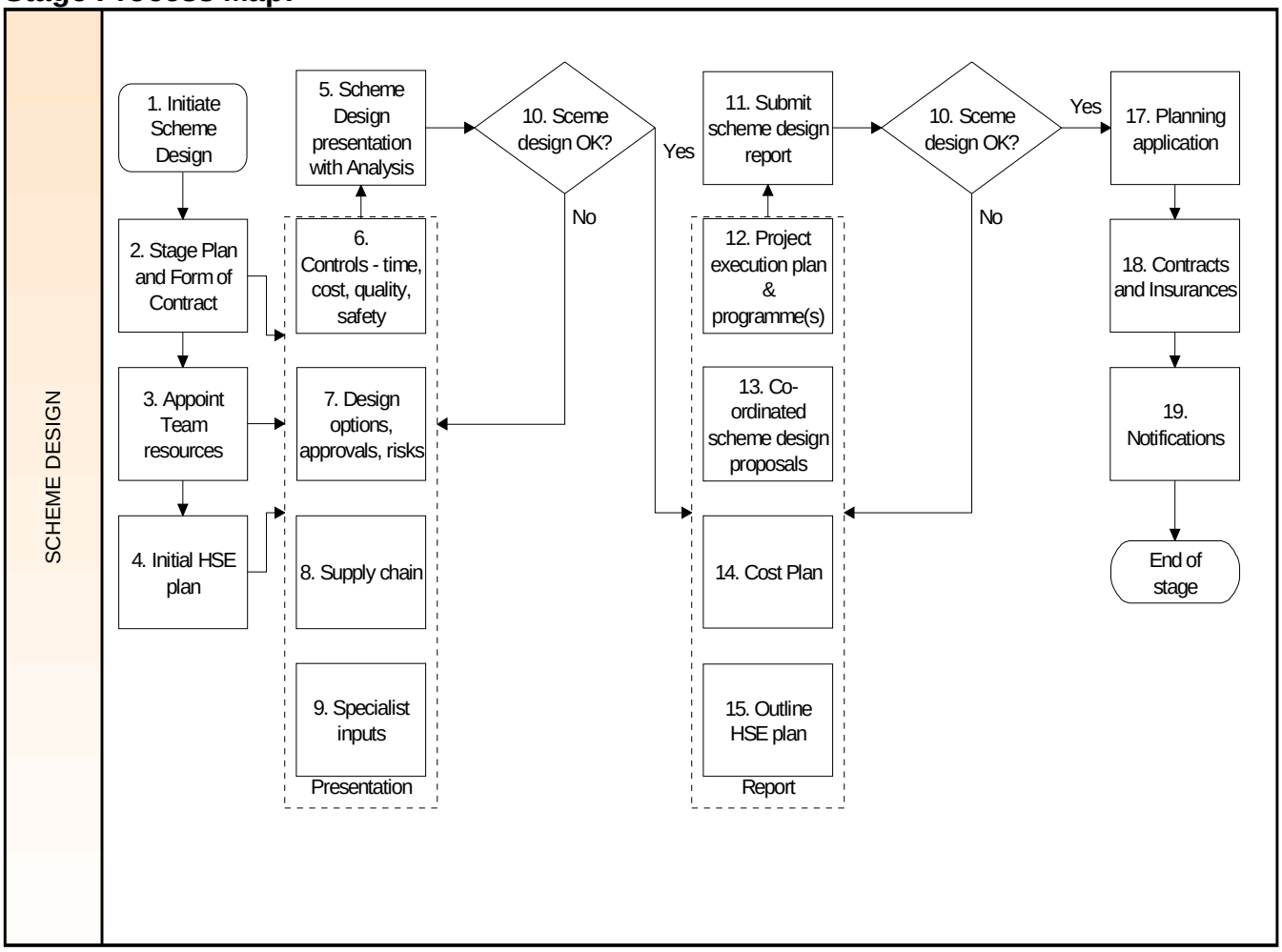
Develop a single, costed business and physical solution to the requirements, via the study of options for the physical and engineering systems.

Maximise value and mitigate risks, whilst meeting project brief and planning consent requirements.

Inputs:

- H&S file / site or base building information
- Approval of the business case
- Appointments for the design and cost management stage(s)
- Attendance at stage workshop(s)
- Procurement Strategy
- Framework suppliers

Stage Process Map:



Responsibilities:

The responsibilities during the Scheme Design traditionally lie with the Project Manager / Design team. However, when an 'early-contractor-involvement-route' (such as a framework) is chosen, the contractor is more closely involved in scheme development. This early involvement is particularly valuable in serial development projects because this allows the lessons learned in earlier developments to be fully incorporated into the next new scheme. The responsibility matrix below assumes early contractor involvement; if this is not the case the lead designer assumes these responsibilities.

The Project Manager, on behalf of the client, monitors and controls this and subsequent stages of project delivery. In order to effect control the Project Manager requires the team to establish procedures implicit in their professional appointments and to present key deliverables for review and approval as appropriate.

The Project Manager may either be an in house Major Projects officer or an externally appointed consultant who carries out these duties on behalf of the Directorate.

The Project Manager owns and leads certain processes during delivery in order to provide strategic management to effectively control the project.

It is not appropriate to attempt to impose black and white rules of ownership of responsibilities. Different clients, projects and procurement routes require a judgement on the degree of delegation to the team. The level of service offer for project management varies from project to project.

Even when duties are delegated, the degree of Client involvement must be clearly defined and agreed so that the Directorate and Project Managers team effectiveness is not reduced. The stage processes with gateway approvals facilitates controlled progress of the project.

Deliverables:

The following documentation will be subject to formal sign-off by the client:-

- Scheme Design Report - documents design decisions.
- Project Execution Plan - sets out the proposed plan for delivery.
- Health & Safety Plan - development of plan incorporating designers' risk assessments and construction issues to be accommodated in design development. The plan will be incorporated in enquiry documents for appointment of Principal Contractor.
- Elemental Cost Plan - benchmarked elemental costs reflecting the design and specification.
- Level 2 programme - provides confirmation of programme for next stage including scheduled deliverables and resources.
- Suite of Contracts & Insurances - terms and conditions appropriate to the chosen procurement strategy.

Validation:

- By submittal to the Client of an end-of-stage design report, programme, phasing and updated project plan with costs.

Completion Criteria:

Planning submission, and agreement to a proposal for the co-ordinated design and production information stage.

1.7.4 Gateway 04 – Detail design *(insert link)*

Objectives:

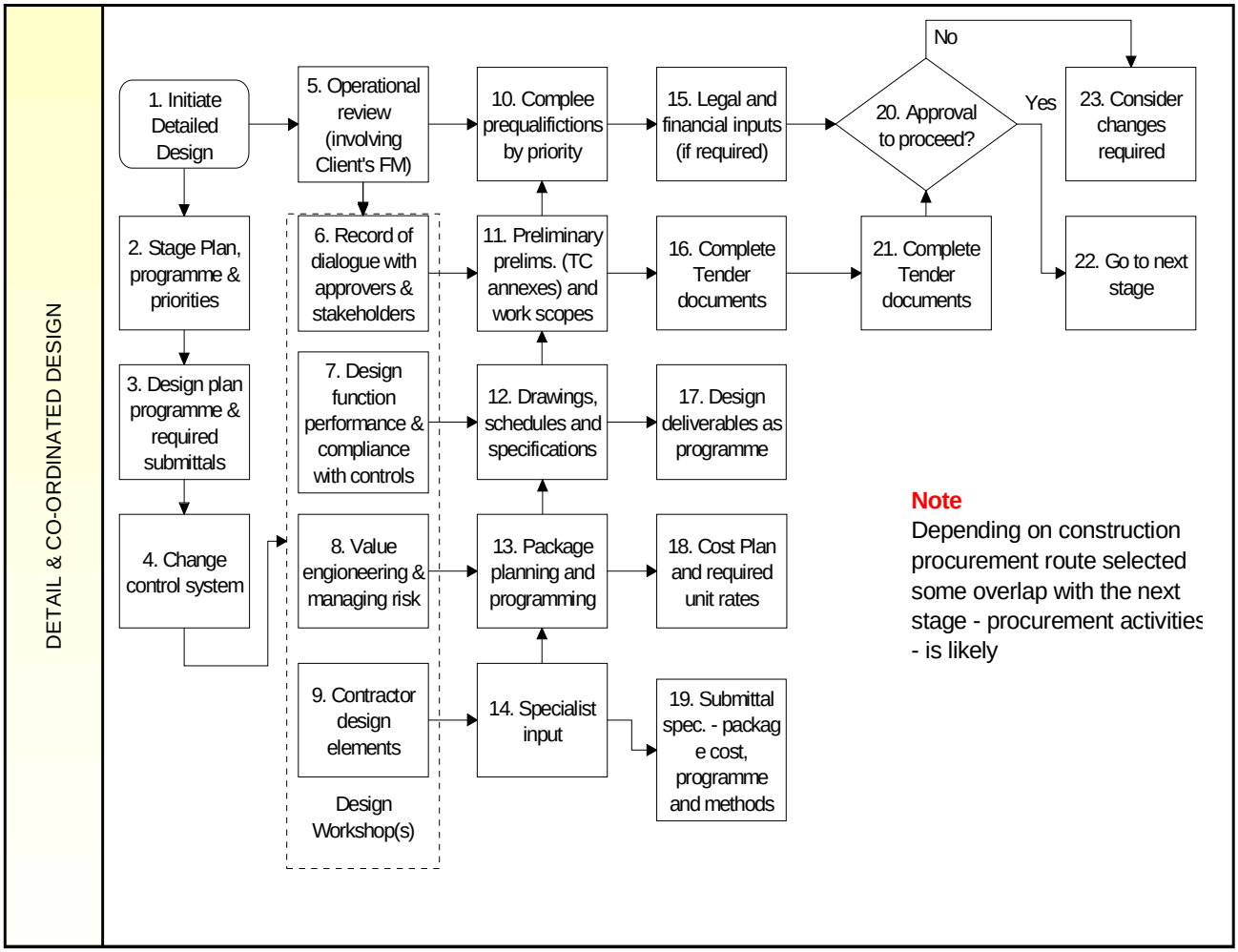
To co-ordinate the construction, engineering and systems design output to the standards required by the Client

To achieve quality of function, arrangement, components and assembly

Inputs:

- Approved design and cost management report
- Agreed detailed design / production information programme
- Index for H&S file and data standards
- Contract form and generic annexes
- Breakdown of intended packages
- Planning Approval – generally the detail design stage will not commence until an appropriate consent has been obtained.

Stage Process Map



Responsibility:

The visibility of activities and the composition of the team beyond Scheme Design largely depend on the chosen procurement route. When an 'early-contractor-involvement-route' (such as a framework or design & build) is chosen, the client and his management team are more closely involved in the detailed development. The responsibility matrix below assumes early contractor involvement, if this is not the case the lead designer assumes these responsibilities for the initial co-ordination and validation of the specialist design.

The Project Manager, on behalf of the client, monitors and controls this and subsequent stages of project delivery. In order to effect control the Project Manager requires the team to establish procedures implicit in their professional appointments and to present key deliverables for review and approval as appropriate.

The Project Manager may either be an in house Major Project officer or an externally appointed consultant who carries out these duties on behalf of the Directorate.

The Project Manager owns and leads certain processes during delivery in order to provide strategic management to effectively control the project.

It is not appropriate to attempt to impose black and white rules of ownership of responsibilities. Different clients, projects and procurement routes require a judgement on the degree of delegation to the team. The level of service offer for project management varies from project to project.

Even when duties are delegated, the degree of Client involvement must be clearly defined and agreed so that the Directorate and Project Managers team effectiveness is not reduced. The stage processes with gateway approvals facilitates controlled progress of the project.

Deliverables:

- Fire compartments and life safety systems
- HVAC layouts, plans and specifications
- Structural layout and details
- Electrical details including specialist systems
- Data and IT layouts
- Room data sheets
- Mock-ups and control samples
- Finishes schedule
- List of long-lead equipment
- Controls and BMS
- Handover, commissioning and maintenance plan
- Updated Health and Safety plan
- Tender Documents
- Tender Health & Safety Plan

- Contract package cost plan
- Level 3 programmes

Validation:

- Submittal of end-of-stage detail design report to and Directorate Client
- Mock up review with the Client
- Record of dialogue with the approving authorities

Completion:

(Phased or complete) sign off by the Client

1.7.5 Gateway 05 – Procurement *(insert link)*

Objectives:

To deliver design, bid, planning, and logistics information required to procure the works

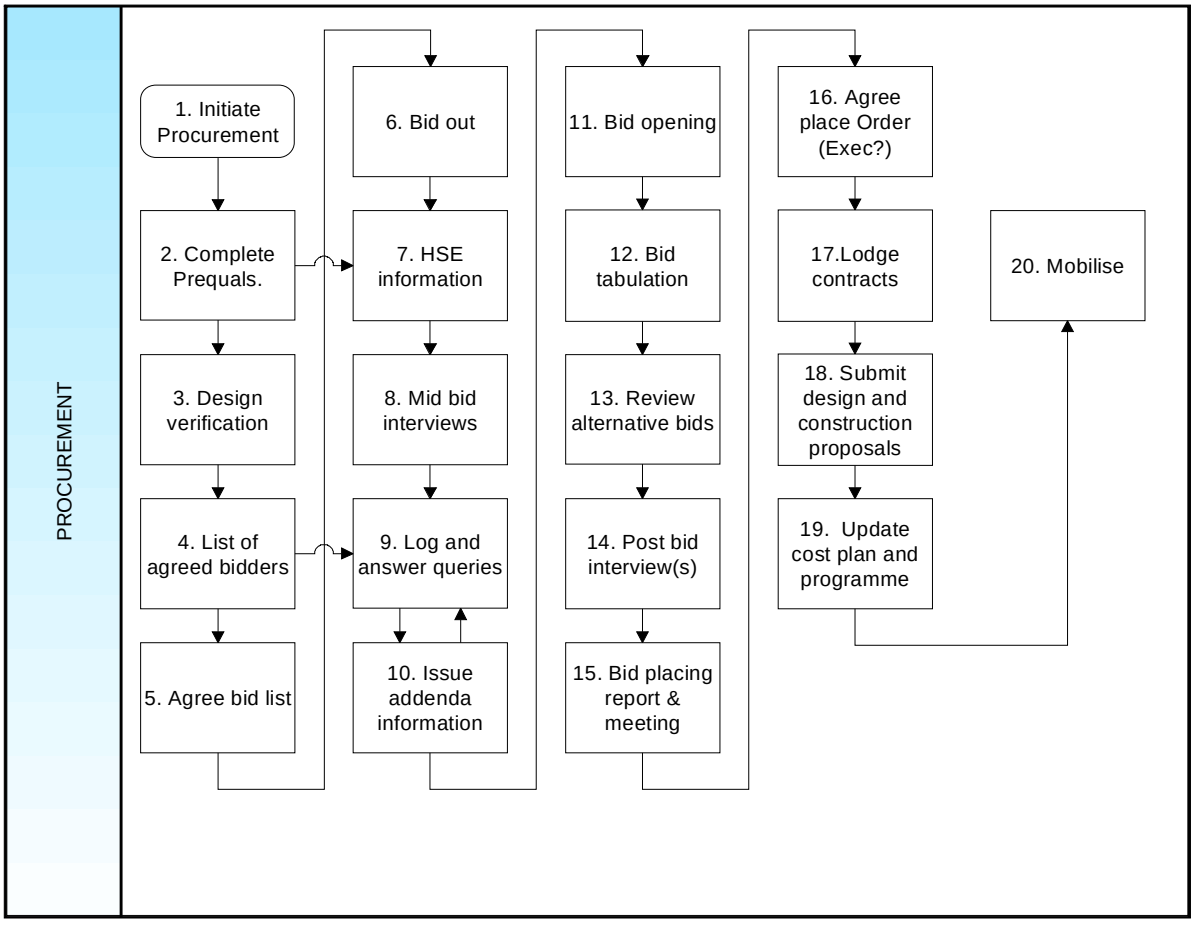
To conduct final cost checks and negotiation prior to finalising terms and conditions with contractors and suppliers

Inputs:

- Agreed production information and mobilisation programme
- Agreed initial H&S plan
- Defined deliverables and service requirements
- Elemental Cost Plan
- Agreed Roles and Responsibilities

Stage Process Map:

The general procurement flowchart below applies to Designer, Consultant, and Principal Contractor selection. Refer also to linked checklists clarifying contractors' duties for different contract forms.*(insert link)*



See also:-

Contractor Design & Build to Client Requirements (D&B)

Contractor Build to Client detailed design (Traditional Contracting)

Construction Management to Client detailed design (CM)

Responsibilities:

This chart looks simply at a typical process of procurement used by the Directorate. The procedure enables a complete audit trail from initiation to bid placement. Although this majors on the Client and the PM, in many instances the Designer will contribute to interviews, hence C in the responsibility matrix *(insert link)* where the appointment is related to the contractor.

The Project Manager may either be an in house Major Project officer or an externally appointed consultant carrying out these duties on behalf of the Directorate

Deliverables

- Bid placing reports per consultant and contractor including advantages, disadvantages, risk and overall strategy behind the chosen form of contract.
- Cost plan update(s) based on current market cost
- Evaluated technical alternatives
- Mobilisation, enabling, design and / or construction works programmes

Validation

- By Client review of bid placing report and recommendations
- Stakeholder Partnerships - do external Funders approve of the tender release? Need Funder approval in writing
- By assessment of procurement risks (eg legal, document production, insurance, will tenders confuse the contractors?) - this should only concern risks to the tender process, not the actual project
- Form of Contract - why it is being used? Risks attached and contract strategy - (1-2 page max / bullet points)
- By ensuring an approved Scoring Matrix is used. How are the tenders to be scored?
- By review of planned costs against estimates
- By review of programme with a detailed programme of the steps/activities to the next Gateway and quality compliances

Completion

- Sign off by Client
- Decision notice paper with required attachments. This MUST be signed prior to the tender being released.

1.7.6 Gateway 06 – Construction *(insert link)*

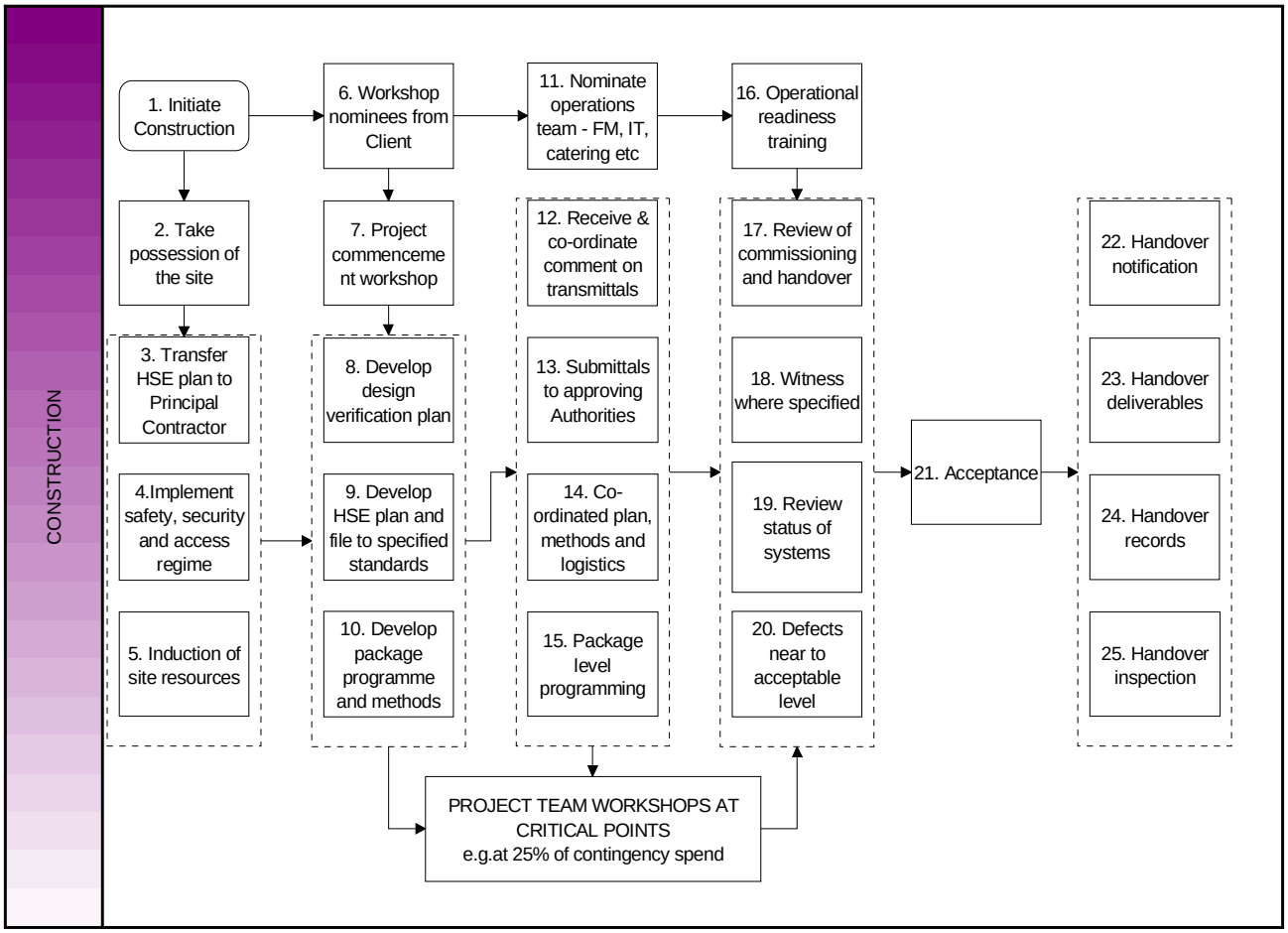
Objectives:

To create the right site environment to support safe and high levels of productivity that can be both recorded and monitored to maintain benchmarks for future projects.

Inputs:

- An agreed master plan for site management
- Enabling works orders
- Acceptance of contractors safety and method statements
- Availability of logistics to and through the works
- Factory acceptance tests
- A witnessing authority

Stage Process Map:



Responsibilities:

The Project Manager may either be an in house Major Project officer or an externally appointed consultant carrying out these duties on behalf of the Directorate

Notes: (These notes relate to construction, but the principles can be applied to any project.)

- The position and configuration of all site facilities should be planned to minimise disruption to site productivity.
- The site logistical plan should address the issues of material delivery, unloading, movement and storage to optimise productivity levels.
- All site personnel must be required to accept and abide by the site rules.
- A good neighbour policy will be produced by the contractor and should address the concerns of adjoining owners and occupiers.
- The policy should be followed up with on-going consultation and communication with the neighbours in order to ensure the minimum impact from the construction works upon the surrounding area.
- The ultimate goal will be to achieve zero defects upon project handover. Snagging will operate at every stage of the construction process to establish quality benchmarks. This will help following trades to achieve quality finishes on a quality checked substrate. To ensure the correct specification of material and workmanship quality, construction activities both on and off site will be preceded by a representative benchmark sample. A protocol for approving these benchmarks should be established involving the Client and the consultants.
- Attention should also focus upon the quality of the handover documentation in a timely manner, including the Health & Safety File, Operation & Maintenance manuals and the record drawings.
- Teamwork should be promoted at every opportunity to create the correct environment for the participants to work as an integrated team.

Deliverables:

A building logbook to include: -

- A completion certificate
- Operating and maintenance data
- As installed records
- Maintenance agreements
- Spares / service
- Operational readiness training

Validation:

- Testing combined systems to ensure specified performance is achieved
- Demonstrating to the witnessing authority and/or statutory authority as appropriate to system(s) compliance

Completion

- Practical completion sign off by the Client

1.7.7 Gateway 07 – Operations *(insert link)*

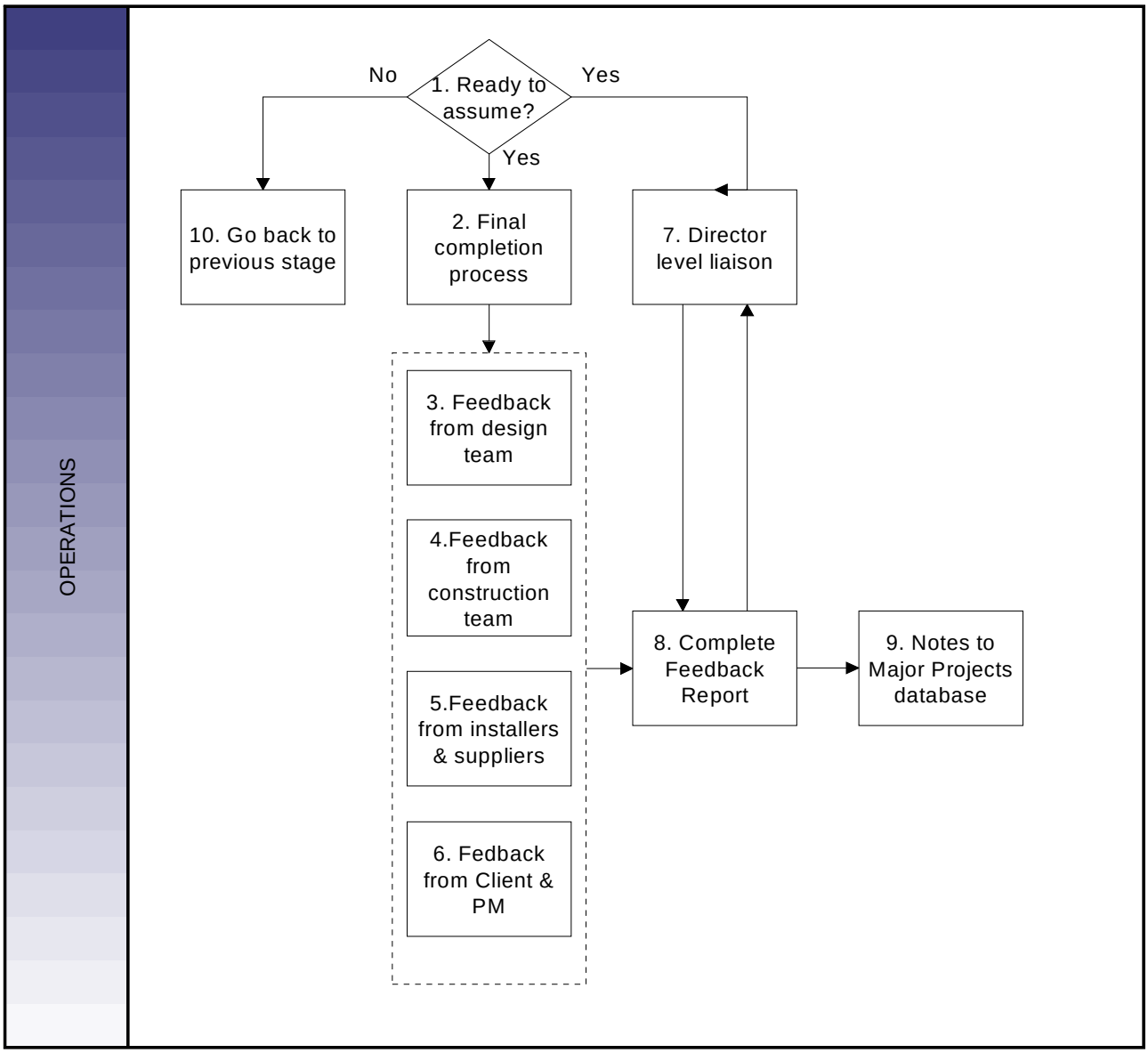
Objectives:

- An agreed programme for the clearance of outstanding defects (snags)
- Managed completion of agreed post-handover contracted works
- Ensure that the Client is ready to operate and maintain the building and its systems
- Gather and feedback 'wish list' data

Inputs:

- Finalised Health and safety file
- Agreement to 'wish-list' format

Stage Process Map:



Responsibilities

The Project Manager may either be an in house Major Project officer or an externally appointed consultant carrying out these duties on behalf of the Directorate

Deliverables

- Final Certificate
- Operational handovers.

Validation

- Evidence of performance of systems
- Audit trail through all remedial works

Completion

- Agreement of Final Certificate

1.8 Controlling projects

1.8.1 Duties of the client

It is incumbent an ALL Clients to be aware and understand:

- Council rules and regulations;
- Council strategies and policies;
- project initiation procedures;
- decision making procedures and processes – especially Gateways;
- reporting and monitoring requirements;
- risk management.

It is very important that if the Client has any gaps in their knowledge, then filling those knowledge gaps is of prime importance BEFORE undertaking serious consideration of a project. The Project Management Handbook is designed to help in this respect or at least point the Client in the right direction in seeking help.

During a 'live' project the Client should be proactive in ensuring that they are kept fully informed of project progress. The Project Management Systems that this handbook provides, properly used, will ensure that a Client is fully informed, but this should not deter the Client from seeking more information from the project manager if so desired.

1.8.2 Stakeholders

Stakeholders are individuals or groups who have an interest in the project. As the project progresses and the focus of work changes then the stakeholders may also change. A common criticism of many projects is that stakeholders are not kept informed of changes and developments. Lack of stakeholder engagement will have a negative impact on the project.

Stakeholders are identified from many different areas affected by the project. The following list provides some examples of possible stakeholders: users, customers, employees, suppliers and subcontractors, trade unions, pressure groups, regulators, project team, human resources, finance, legal, public relations, IT, other organisations. Not all stakeholders will support the changes brought about by the project. This is a key consideration for any change management activity. A key part of managing stakeholders is to recognise their level of commitment to the project and to understand their objections so that these can be addressed by the project.

1.8.3 The Construction (Design & Management) (CDM) regulations 1994

These regulations apply to most construction related projects.

Always check on the Council's Health & Safety intranet website

- http://cis/healthsafety/c.5.htm
- http://cis/healthsafety/f03.htm
- http://cis/healthsafety/hiringcontractors.htm
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5274/ContractorSafetyPolicyAssessmentForm.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5276/ContractorsampleHSQuestionnaire.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5277/ContractorScoringCriteriaforSampleHSQuestionnaire.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5267/CDMPreProjectchecklist.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5268/CDMProjectProgressSheet.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5269/CDMRiskAssessmentForm.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5262/AssessmentofContractorHSCompetence1.doc
- http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5263/AsbestoscontractorChecksheet1.doc

AND the HSE internet website for the latest information.

- http://www.hse.gov.uk/new/index.htm
- http://www.hse.gov.uk/index.htm

The extracts below are taken from the HSE construction information sheet related to the duties of the client

Does CDM apply?

- CDM applies to **all** demolition and structural dismantling work, except where it is undertaken for a domestic client.

- CDM applies to most construction projects. There are a number of situations where CDM does not apply. These include:

    - some small-scale projects which are exempt from some aspects of CDM;
    - construction work for domestic clients, (although there are always duties on the designer, and the contractor should notify HSE where appropriate);
    - construction work carried out inside offices and shops, or similar premises, that does not interrupt the normal activities in the premises and is not separated from those activities;
    - the maintenance or removal of insulation on pipes, boilers or other parts of heating or water systems.

What are my duties as a client?

As a client, you have to:

- Appoint a planning supervisor (either an individual or a company, eg a design team). The appointment should be made in sufficient time to allow the planning supervisor to develop a suitable pre-tender health and safety plan before arrangements are made for construction work.

- Ensure that the planning supervisor is provided with health and safety information about the premises or site where construction work is to be carried out.

  A planning supervisor has responsibility for co-ordinating the health and safety aspects of design and for ensuring a pre-tender health and safety plan is prepared. Your designer may be able to advise you on this appointment.

- Appoint a principal contractor. Do this in sufficient time to allow the principal contractor to develop a suitable construction-phase health and safety plan before construction begins.

  A principal contractor has responsibility for co-coordinating health and safety aspects during the construction phase.

- Be reasonably satisfied that all those you appoint are competent and adequately resourced to carry out their health and safety responsibilities for the job in hand.

- Ensure, so far as is reasonably practicable, that a suitable construction-phase health and safety plan has been prepared by the principal contractor before construction begins.

- Take reasonable steps to ensure that the health and safety file you will be given at the end of the project is kept available for inspection by those considering future construction work.

1.8.4 The Brief

The brief is usually the development of the project objectives such that it eventually contains all the critical information that describes and defines the project. As such it controls the shape, direction and purpose of the project. A good brief usually enhance the likely success of a project, whilst a poor brief will most likely mean disaster! Paragraph 1.1.5 more fully describes the role of the brief.

The project brief should probably consist of the following, which should be tailored to the requirements and environment of each project:

- Background
- Project definition, explaining what the project needs to achieve. It will contain:
    1. Project objectives
    2. project scope
    3. Outline project deliverables and/or desired outcomes
    4. Any exclusions
    5. Constraints
    6. Interfaces
- Outline business case
    1. A description of how this project supports business strategy/policies, plans or schedules
    2. The reasons for selection of this solution
- Customer's (Client and/or End-users)
- Acceptance criteria
- Risk assessment

1.8.5 The PEP

The PEP *(insert link)* is the core document for the management of a project. It will describe ALL the project controlling mechanisms – reporting, decision making and monitoring processes and levels of authority within a project team.

The PEP will change as a project progresses though the gateways. It should be a dynamic document regularly updated and referred to as a communication tool, as well as a control reference.

1.8.6 Fiscal authority

It is important that fiscal authority *(insert link)* has been gained before any work is carried out on any project. This especially includes the project initiation phase up to Gateway 01. **Remember that the capital planning process leading to approval of the annual capital programme budget by Council in February/March is NOT an authority to spend the money allocated.** Fiscal authority will come from the Section 151 officer *(insert link)* and the appropriate Member either as a single Member Decision or as an Executive Decision. This authority will often be channelled through the appropriate Director and through the Major Projects directorate as appropriate.

If external money, including grant monies, is part of the funding for a project then it is important to fully understand and made clear in writing any terms and conditions associated with the funding. Clear authority must be given before any application for external funding is made.

Always remember clear audit trails are essential elements of all financial transactions.

1.8.7 Managing issues

A project issue is anything that is currently happening that could have an effect on the project. For example, an issue might be a problem or query raised by someone connected with the project, or a request for something to be changed or carried out differently. Issues are very often the results of risks that were considered earlier, but have now occurred.

Keeping control of issues and ensuring they are quickly and appropriately dealt with is an important part of managing any project. Like risks, issue should not be ignored. Resolving issues involves:

- capturing all issues in an Issues Log from which key issues can be reported on a monthly basis *(insert link)*
- assessing how best to resolve each issue, including whether it needs escalating outside the project
- checking whether the issue, and the total set of unresolved issues, is putting the project in jeopardy
- putting in place the necessary actions and follow-up to resolve the issues and inform whoever raised it on the outcome.

1.8.8 Project Programme Board

The terms of reference of the Projects Programme Board (PPB) is to advise the Executive in relation to the impact of the Capital Programme on the Corporate Body; to act as Capital Control Group to monitor & control expenditure of the Capital Programme and to monitor and direct major project activities, exposure to risk and resource impacts. The PPB is an advising and guidance body.

The PPB report is a consolidated view of the all the current major projects*. (The smaller projects that are amalgamated into programmes will usually report the programme status – under discussion as at July 2006.)* The PPB reports on a monthly basis. The Development and Major Projects Project Co-ordinator prepares the report based on the most recent Director's Review report. Projects that are being managed by Development and Major Projects will report through the directorate's project co-ordinator. Advice should be sought from the Development and Major Projects Project Co-ordinator on the detailed requirements, if your particular project is NOT being reported through the Development and Major Projects directorate. *(insert link to an example)*

1.8.9 Project Board

The terms of reference of the Project Board (PB) is to provide guidance to the Project Sponsor on overall strategic direction and help to spread the strategic input and buy-in to a larger portion of the organisation. It is an advising and guidance body.

The PB receives reports in a standard format on a monthly basis. The report is prepared by the Project Leader. *(insert link)*

1.8.10 Development and Major Projects Director

(find JD) The Development and Major Projects Director plays a key role in defining, monitoring and controlling the implementation of projects throughout the Authority. The role involves:

- creating a centre of excellence in project management and maintaining that position by ongoing research and development into project management methods and systems.
- ensuring that projects undertaken meet the aspirations, policies and strategies of the Council
- ensuring that projects are initiated, planned and implemented according to the Project Management Handbook
- to be proactive in giving help and advice to ALL Service areas of the Council in matters relating to this handbook.
- ensuring governance, authorities, decision making and reporting procedures and processes are properly carried out in the most efficient and effective manner thus creating a culture of continuous improvement, responsibility and openness.

1.8.11 Taking corrective action

A project, no matter how well managed, will at some time(s) during its life not go according to plan. It is the main purpose of this Handbook to give the user the information and tools to ensure:

- predictability of outcome;
- real time status of project related to all of the main parameters of time, cost, quality, function and conflict;
- efficient and effective management of all those parameters mentioned above and also including issue and risk management AND most importantly
- a forecast of the type and magnitude of likely problems ahead in the short, medium and long term.

This last point enables any corrective action to be taken well in advance of a problem becoming uncontrollable. Early problem recognition together with effective corrective

action will usually ensure that problems remain controlled and do not disrupt the normal project management routine, by allowing decision making to take place within the usual processes. Depending on the nature and size of the problem the corrective action can become a subproject of the main project and it is important to treat the corrective action in this manner.

Testing of options, scope of the actions and all the normal project parameters will need to be considered. For small and/or simple problems resolution is usually obvious and the PMS will generally ensure that these are dealt with and corrected within the project manager's normal routine. But, for major problems corrective action needs to be thoroughly planned and tested for effectiveness like any project plan and involvement of ALL the project team, client and other interested parties will need to be considered.

1.8.12 Procurement

Choosing the correct procurement route is an essential element of good project management. The process of choosing the procurement route will essentially look at the project profile that relates to the interactions and apportionment of risk between the parties whether these are cost, design, time, or quality. The chosen risk apportionment and project delivery mechanism will usually decide the best method for procuring the project team from the specialist consultants, architect and contractor (builder, supplier etc).

1.8.12.1 Consultants

Currently the Council has a framework contract in place for construction-related professional services and this should be used for these services. This is a NEC3 Professional Services Contract under the umbrella of the NEC3 Framework Contract. Advice on its use should be obtained from the Development and Major Projects team.

Procurement guidance for consultants outside of the framework:[4]

Stages	Key steps
Strategy	Decide works procurement strategy Prepare project brief Prepare consultant's brief Decide terms of engagement including the choice of single/multiple appointment and phased appointment
Pre-selection	Prepare preliminary list Decide criteria of selection
Selection	Invite to tender Evaluate tender Assess tender
Appointment	Finalise terms of engagement

[4] Source and further information: Association of Consulting Engineers (1993) *Balancing Quality and Price;* CIRIA (1994) *Value by Competition;* OGC (2002) *Guide to the Appointment of Consultants and Contractors.*

Stages	Key steps
	Finalise management, monitoring and review process

Table 2 - Consultants procurement guidance

Guidance for selection process:

- Determine what duties are to be assumed by the consultants and prepare a schedule of responsibilities. If applicable, consider what level of in-house expertise is available.
- Check to see if the client has any in-house procedures or standard conditions of engagement for the appointment of consultants and what scope there is for deviating from them.
- Decide on the qualities most needed for the project, and the method of appointment. Agree them with the client.
- Establish criteria for evaluating consultants with weighting values
- Assemble a list of candidates from references and recommendations. Check any in-house approved and updated lists of consultants.
- Prepare a short list by gathering information about possible candidates. Check which firms or individuals are prepared in principle to submit a proposal.
- Assess candidates against general criteria and invite proposals from a select number (no more than six and no fewer than three per discipline). Invitation documents should be prepared in accordance with the checklist given below. Competitive fee bids, if required, should conform to relevant codes of practice.
- Arrange for conditions of engagement to be drawn up. The conditions, the form of which will vary with the work required and the type of client, should refer to a schedule of responsibilities for the stages for which the consultant is appointed and include a clause dictating compliance with the project handbook. The conditions of engagement should be based as closely as possible on industry standards (e.g. as set by RIBA, ACE, NEC and RICS). Consistency of style and structure between conditions for different members of the team will improve each member's understanding of their own and others' responsibilities. Each set should include this aspect. Fee calculation and payment terms should be clearly defined at the outset, together with the treatment of expenses, i.e. included or not in the agreed fee.
- Determine the criteria for assessing the consultants' proposals. Agree them with the client.
- Appraise the proposals and select the candidates most appropriate for the project. Proposals should be analysed against the agreed criteria using weighting analysis.
- Arrange final interviews with selected candidates (minimum of two) for final selection/negotiation as necessary.
- Submit a report and recommendation to the client.

- Client appoints selected consultant.
- Unsuccessful candidates are notified that an appointment has been made.

Checklist:

1. The consultant's brief must include:
    - project objectives
    - requirements of other participants
    - services to be provided
    - project schedule including the key dates
    - requirement of reports including key dates.
2. Invitation documents must include:
    - a schedule of responsibilities
    - the form of interview panel
    - draft conditions of engagement (an indication of the type to be used) . design skills or expertise required
    - personnel who will work on the project, their roles, time-scales, commitment and output
    - warranties required, for whose benefit and in what terms.

Invitations should ask candidates to include information on the level of current professional indemnity insurance cover for the duration of the project. Details of policy, date of expiry and extent of cover for subcontracted services must be provided.

Example of consultancy services at different project stages:

The following is a list of consultancy services typically provided at different stages of a project. However, this neither is a comprehensive list nor outlines the preferred sequence as that may vary from project to project.

Gateway 01 – Initiation and Viability and Gateway 02 - Feasibility

- Identification of client requirements and objectives including preparation of the project brief.
- Feasibility studies including evaluation of options, environmental impact

- Assessment, site assessment, planning guidance and commercial assessment.

Gateway 03 – Scheme design through to Gateway 05 - Procurement

- Design development including preparation of outline design and scheme design.
- Development of cost estimates, tender preparation and evaluation and preparing project schedule.
- Preparation of construction specifications and schedules.

Gateway 06 – Construction/Implementation

- Preparation and issuing working drawings and variations.
- Project/construction management.
- Inspection, monitoring and valuation of construction.
- Certification of payment.
- Advising on dispute resolution.
- Confirmation of completion.
- Assisting in project handover.

Gateway 07 - Operations

- Ensuring defects correction.
- Settlement of project including final accounts.
- Confirmation of operation and maintenance procedures.
- Post-project appraisal and feedback.

1.8.12.2 Characteristics of procurement options:

The significance of the features listed in Table 3 may be outlined as follows.

- Having widely dispersed responsibilities for different activities may provide the project manager with greater control, e.g. in the selection of preferred consultants. It may, however, make it difficult to pinpoint responsibility.
- It is acceptable practice to limit the numbers of tenders invited from contractors, based on value and design development criteria. Where tendering involves

significant design development, the cost will discourage contractors, unless invitations are restricted. Such restrictions may not produce the most competitive price available, unless careful pre-tender assessments are made.

- Although the establishment of a certain financial outcome at an early stage in the development schedule will minimise client risks, it could well be at a price. This is because of the risks that the tenderers will have to assume. A balance has to be achieved that depends on all the circumstances.

- The client's requirements document associated with design and build procurement is a definitive statement. It must be produced early and it becomes the basis for all subsequent activities. Other procurement options enable progressive development of the client's brief, which may be helpful where there is uncertainty or greater complexity.

- Independent assistance with the development of a design brief, which is integral to procurement options, may be advantageous where there is uncertainty or greater complexity, similar to the item immediately above.

- Mobilisation of construction using traditional procurement is relatively slow because much of the design development must be completed before appointment of the contractor, whereas all other methods enable progressive design and construction.

- Little flexibility to accommodate variations exists within the design and build method. The other methods make reasonable provision for flexibility through the issuing of variations or additional works contracts.

- Standard documentation with which the industry is familiar allows agreements to be entered readily. Although it enables incorporation of particular requirements the drafting of unique documents often involves much negotiation and expense.

- Where there are significant uncertainties or where limited finance is available, the opportunity to develop and appraise proposals may be advantageous. There may even be an opportunity to carry out construction on a progressive basis, step by step.

- All procurement methods should seek to provide facilities for client cost monitoring, although the detail may vary.

- Contractors' input to design could produce more cost-effective solutions provided the contractors' interests are accommodated correctly. By using design and build, the contractor clearly has a vested interest in providing such input.

- The schedule for preparation of production information is often critical to, and should be determined by, the construction schedule.

- Procurement methods have different abilities to select preferred trade or works contractors that actually execute the works; no influence in selection is possible using design and build, and only limited influence is possible using the traditional method.

- Design and build procurement makes no provision for the monitoring of construction quality - any monitoring required by the client must be

independently commissioned. In other forms of procurement members of the design team - or the management contractor or the construction manager - may have monitoring responsibilities. But in all cases, except the last, only limited control of quality is available.

- Since construction works involve substantial financial transactions, there is considerable financial benefit to the main contractor in achieving payments as promptly as possible while delaying payments due as long as possible. This may have a significant detrimental effect on the attitudes and performance of the specialist subcontractors, and hence on the quality of their workmanship, thus exacerbating the limited quality control characteristics of procurement methods. Where payments to specialist contractors are under direct control of the client/construction manager, this can be turned to advantage.

- Management procurement methods provide for remuneration of the management contractor or construction manager on the basis of a fee, not necessarily related to performance. Equitable performance measurement is often difficult. In design and build procurement there is a strong incentive for good management; in traditional procurement there is also an incentive for the contractor.

- Construction quality, speed and cost can all be improved through good teamwork. Procurement methods which recognise the varying responsibilities of those managing construction operations and which preclude exploitation of any party are most likely to avoid confrontation.

Selection of procurement method:

From the foregoing it can be seen that the most important characteristics of each method will best suit particular types of project. For example, design and build procurement would be an obvious choice where a client has limited interest in involvement with the design or construction process; and when there are clearly defined, straightforward requirements, including a need for early determination of cost.

It is necessary to consider all the characteristics of the project and to compare them with the characteristics of the various procurement methods available. The most important characteristics should be identified initially, after which secondary and peripheral issues should be considered, and the details determined for any necessary adaptation of the basic procurement methods available. For example, although design and build procurement may appear well suited to the project characteristics, it will probably be appropriate for the client to appoint an architect or planning consultant to progress the project through planning approval. The documentation produced would then be incorporated in the client's requirements upon which design and build tenders would be sought.

Care must be taken in adapting any particular procurement method to compensate for perceived shortcomings, to avoid compromising the basic principles and essential characteristics. Thus, for example, although the engagement of design assistance for preparation of the client's requirements will inevitably dilute the single-point responsibility attribute of design and build procurement, the effects of this dilution should be mitigated by careful definition of responsibilities and terms of engagement. Similar care must be exercised when procuring specialist components or services incorporating design elements, within a traditional project procurement method.

Selection of a procurement method is thus an essential element in the development of the policies to be adopted for implementation of all projects. In view of the fundamental differences in philosophy between the four basic procurement methods, the procurement method should be determined at the earliest possible stage so that timely decisions can be made on the engagement of appropriate project resources. The development process can be optimised only by giving consideration at the earliest stage to the issues upon which the appropriate procurement method should be determined.

Identification of priorities

			Traditional	Design & Build	Management	Construction Management
Timing	Importance of early completion	Crucial	*4*	*4*	*4*	*4*
		Important	*4*	*4*	*4*	*4*
		Low	*4*	**X**	**X**	**X**
Controllable changes	Probability of variations	High	*4*	**X**	*4*	*4*
		Low	**X**	*4*	**X**	**X**
Technical complexity	Importance of advanced technology	High	*4*	**X**	*4*	*4*
		Medium	*4*	*4*	*4*	*4*
		Low	**X**	*4*	**X**	**X**
Price certainty	Importance of end-price fixation	High	*4*	*4*	*4*	
		Low	**X**	*4*	**X**	*4*
Competition	Importance of competitive procurement	For all construction work	*4*	*4*	*4*	*4*
		Construction/management	*4*	*4*	*4*	
		Not so important	*4*	*4*	**X**	**X**
Management	Capability of managing multiple consultants and contractors – as against appointing a single firm responsible for the project	Can manage separate firms	*4*	**X**	*4*	*4*
		Must have only one firm for everything	**X**	*4*	**X**	**X**
Technical responsibility	Importance of direct professional responsibility from the designers and cost consultants	High	*4*	**X**	*4*	*4*
		Low	**X**	*4*	**X**	**X**
Risk attitude	Nature of risk strategy	Retaining risks	**X**	**X**	**X**	*4*
		Sharing risks	*4*	**X**	*4*	**X**
		Delegating risks	**X**	*4*	**X**	**X**

Table 3 - Identification of priorities-Source: *Thinking about Building, N*EDO/HMSO (1985).

Contract Standing Orders (CSO):

http://cis/Internal/TheKnowledge/auditriskmgt/intaudit/policy/cso.htm

It is essential that CSO are strictly followed. They have been designed to be flexible enough to allow for most procurement scenarios. If you have any doubts whatsoever on the Council's procedures, then seek advice and guidance from the appropriate Council officers (see link above). It is always wise to seek professional advice relating to the most appropriate procurement route and consequently the best form of contract for any particular project.

EU procurement directives:

EU procurement directives are embodied within the Council's CSO and as such must be strictly followed. Again, it is wise to seek the appropriate professional advice, especially related to key contract values, types of supply, and aggregation. The link to the main EU procurement portal is given below.

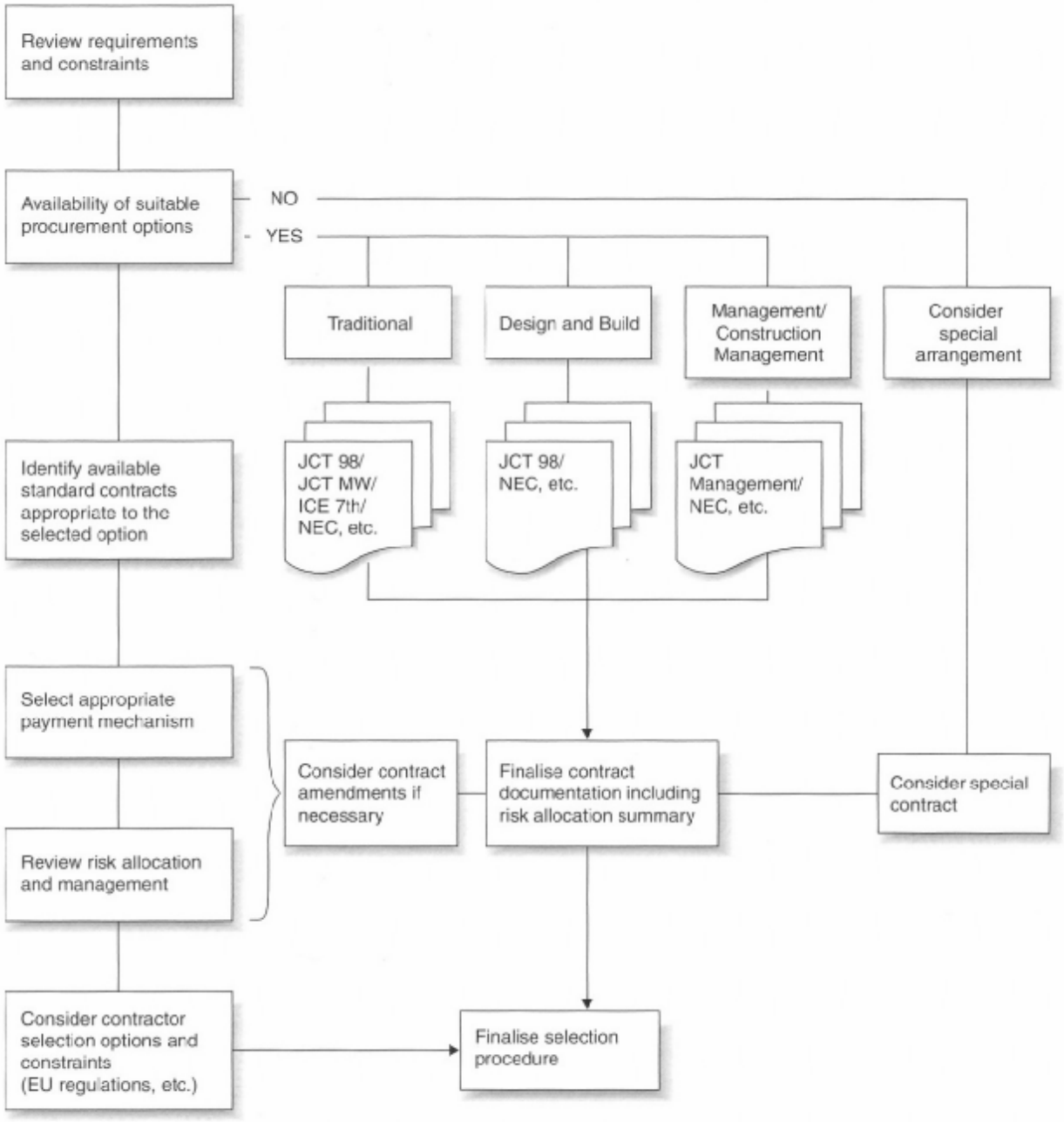
http://simap.europa.eu/

There are some useful procurement guidelines published by the EU. The link is shown below to the download page for these guidelines.

http://ec.europa.eu/internal_market/publicprocurement/guidelines_en.htm

Make sure that the procurement rules and regulations are fully understood and always take professional advice on the procurement rules, BEFORE undertaking ANY procurement actions.

Selecting a procurement route:



Source: CIRIA C556: *Managing Project Change*.

Figure 12 - Selecting a procurement route

1.8.13 Programmes and progress

The project programme is the single most important document. A well thought out and structured programme, the progress of which is monitored regularly against the agreed baseline will show the health of a project in the most effective manner.

Ref docs\Programmes\0400MPD astrategic template.pp

(insert link to programming handbook and guide)

It is critical that the programme is marked-up, at least once a month, so that it demonstrates progress on the project activities. It will show up whether activities are ahead, behind or on time and by how much. The project manger will be able to plan corrective action, when required and will form the basis of any decisions made by the contract administrator on any contractual obligations related to extensions of time, compensation events and the like.

1.8.14 Permissions and approvals

Project:

The project approval processes use Gateways (*insert link)* as the major means of progressing a project. Gateway approvals, for projects within the governance of the Development and Major Projects directorate (currently those greater than £500K), must be taken by the Director of Development and Major Projects who will also decide upon the formal decision process to be followed i.e. Director (Officer delegated), Single Executive Member, Informal Executive, Executive or Full Council. *(insert link to project reporting process chart)*

It is essential that the Gateway process is strictly followed (no matter the type of project); it ensures that the permissions and approvals are granted in full knowledge of all the relevant information, by those with the appropriate authority. For simple projects the Gateway process can be less formal and be possibly at the lowest level of agreed authority, but projects of any complexity and/or any degree of risk to the Council, will have to be processed by the Director of Development and Major Projects. In any case, the project initiation process will tease out the necessary processes, levels of authority for permissions and approvals.

It is important to remember to include all the permissions and approvals processes within the project programme, as these can make a considerable proportion of the total programme both in terms of time and resource utilisation.

Statutory and regulatory:

Statutory – this means an Act of Parliament that describes the law

Regulatory – usually those instruments that enable an Act

Many projects will have statutory and regulatory processes to consider e.g. planning permission, Environment Impact Assessments, Building Regulation Approval, Traffic

Regulation Orders, Highways works licences, HSE matters, Wildlife Act, conservation/ sustainability regulations etc, etc.

It is important to research the requirements for any particular project and include the processes within the project programme.

1.8.15 Communications

The communications/interfaces plan will be set out in the PEP *(insert link)* and it is important to include how communications will be controlled between the members of the project team, the client, Members, stakeholders, statutory bodies, Council Officers, the public and other external interested parties.

Communications with stakeholders will be of importance. Planning and monitoring and is included as part of the normal project management processes and is reviewed within the monthly Director's Review. *(insert link)*

Communication of project information will be formally through the various reports: *(insert link to project reporting flow chart)*

- Director's Review (a monthly PM report),
- Project Board (PB);
- Projects Programme Board (PPB);
- Overview & Scrutiny;
- Executive;
- Council.

Decision making is communicated via the means of:

- Officers' decision register
- Single Member decision
- Informal Executive
- Executive
- Council

AND remember it is the mark of a good project manager that is able to communicate easily, often face to face with ALL the project team, the client and other interested parties. Good communications will always ensure that it is much more likely that a project will succeed by meeting its objectives and that any problems, conflicts or changes will be solved or carried out smoothly with as little disruption as possible to the project programme.

1.8.16 Project files

The PMS is set up in a structured manner on a shared drive that allows consistent reporting of project data and information across ALL projects, thereby also allowing consistent interpretation by the reviewers of the report data and information. This also allows consolidation of the data to be carried out in straightforward manner across ALL projects, which again allows a consistent interpretation of the data and information. *(insert link to folder structure)* The project files must always be kept on a shared drive that allows access to members of the project team and the Development and Major Projects Directorate.

The folder structure should be clear and logical so that their contents are self evident. The naming of files should also be consistent and the dating convention for file names must follow yy/mm/dd, so that a logical sorting is achieved automatically.

1.8.17 Cost planning and cost controls

Cost planning:

A development budget study is undertaken to determine the total costs and returns expected from the project. A cost plan is prepared to include all construction costs, and all other items of project cost including professional fees and contingency. All costs included in the cost plan will also be included in the development budget in addition to the developer's returns and other extraneous items such as project insurance, surveys and his or her agent's or other specialist advisers' fees.

The objective of the cost plan is to allocate the budget to the main elements of the project to provide a basis for cost control. The terms *budget* and *cost plan* are often regarded as synonymous. However, the difference is that the *budget* is the limit of expenditure defined for the project, whereas the *cost plan* is the definition of what the money will be spent on and when. The cost plan should, therefore, include the best possible estimate of the cash flow for the project and should also set targets for the future running costs of the facility. The cost plan should cover all stages of the project and will be the essential reference against which the project costs are managed.

The method used to determine the budget will vary at different stages of the project, although the degree of certainty should increase as more project elements become better defined. The budget should be based on the client's business case and should change only if the business case changes. The aim of cost control is to produce the best possible building within the budget.

The cost plan provides the basis for a cash flow plan, based upon the master schedule, allocating expenditure and income to each period of the client's financial year. The expenditures should be given at a stated base-date level and at out-turn levels based on a stated forecast of inflation. A cash flow histogram and cumulative expenditure graph are shown in Figure 13.

Operational cost targets should be established for the various categories of running costs associated with the facility. This should accompany the capital cost plan and be included in the brief to consultants. Revenue, grants and VAT issues must also be taken into consideration.

When the cost plan is in place it serves as the reference point for the monitoring and

control of costs throughout a project. The list which follows should be used as an aid in setting up detailed cost control procedures for all stages of a project.

Cost control:

The objective of cost control is to manage the delivery of the project within the approved budget. Regular cost reporting will facilitate, at all times, the best possible estimate of:

- established project cost to date
- anticipated final cost of the project
- future cash flow.

In addition cost reporting may include assessments of:

- ongoing risks to costs
- costs in the use of the completed facility
- potential savings.

Monitoring of expenditure to any particular date does not exert any control over future expenditure and, therefore, the final cost of the project. Effective cost control is effectively achieved when the whole of the project team has the correct attitude to cost control, i.e. one which will enable fulfillment of the client's objectives.

Effective cost control will require the following actions to be taken:

- Establishing that all decisions taken during design and construction are based on a forecast of the cost implications of the alternatives being considered, and that no decisions are taken whose cost implications would cause the total budget to be exceeded.
- Encouraging the project team to design within the cost plan, at all stages, and adopt the variation/change and design development control procedures for the project. It is generally acknowledged that 80% of cost is determined by design and 20% by construction. It is important that the project team is aware that no member of the team has the authority to increase costs on its section or element of the work. Increased costs on one item must always be balanced by savings on another.
- Regularly updating and reissuing the cost plan and variation orders causing any alterations to the brief.
- Adjusting the cash flow plan resulting from alterations in the target cost, the master schedule or the forecast of inflation.
- Developing the cost plan in liaison with the project team as design and construction progress. At all times it should comprise the best possible estimate of the final cost of the project and of the future cash flow. Adherence to design freezes will aid cost

control. (Development also means adding detail as more information about the work is assembled, replacing cost forecasts with more accurate ones or actual costs whenever better information can be obtained.)

- As part of risk management, reviewing contingency and risk allowances at intervals and reporting the assessments are essential. Development of the cost plan should not involve increasing the total cost.

- Checking that the agreed change management process is strictly followed at all stages of the project is very important. The procedure should only be carried out retrospectively and then only during the construction phase of the project, when it can be shown that otherwise significant delay, cost or danger would have been incurred by awaiting responses.

- Arranging that the contractor is given the correct information at the correct time in order to minimise claims. Any anticipated or expected claims should be reported to the client and included in the regular cost reports.

- Contingency money based on a thorough evaluation of the risks is available to pay for events which are unforeseen and unforeseeable. It should not be used to cover changes in the specification or in the client's requirements or for variations resulting from errors or omissions. Should the consultants consider that there is no alternative but to exceed the budget, a written request to the client must be submitted and correct authorisation received. This must include the following:

    - details of variations leading to the request
    - confirmation that the variations are essential
    - confirmation that compensating savings are not possible without having an unacceptable effect on the quality or function of the completed project

- Submitting regular, up-to-date and accurate cost reports to keep the client well informed of the current budgetary and cost situation.

- Establishing that all parties are clear about the meaning of each entry in the cost report. No data should be incorrectly entered into the budget report or any incorrect deductions made from it.

- Ensuring that the project costs are always reported back against the original approved budget. Any subsequent variations to the budget must be clearly indicated in the cost reports.

- Plotting actual expenditure against predicted to give an indication of the project's progress (see Figure 13 - Examples of cost control graphs).

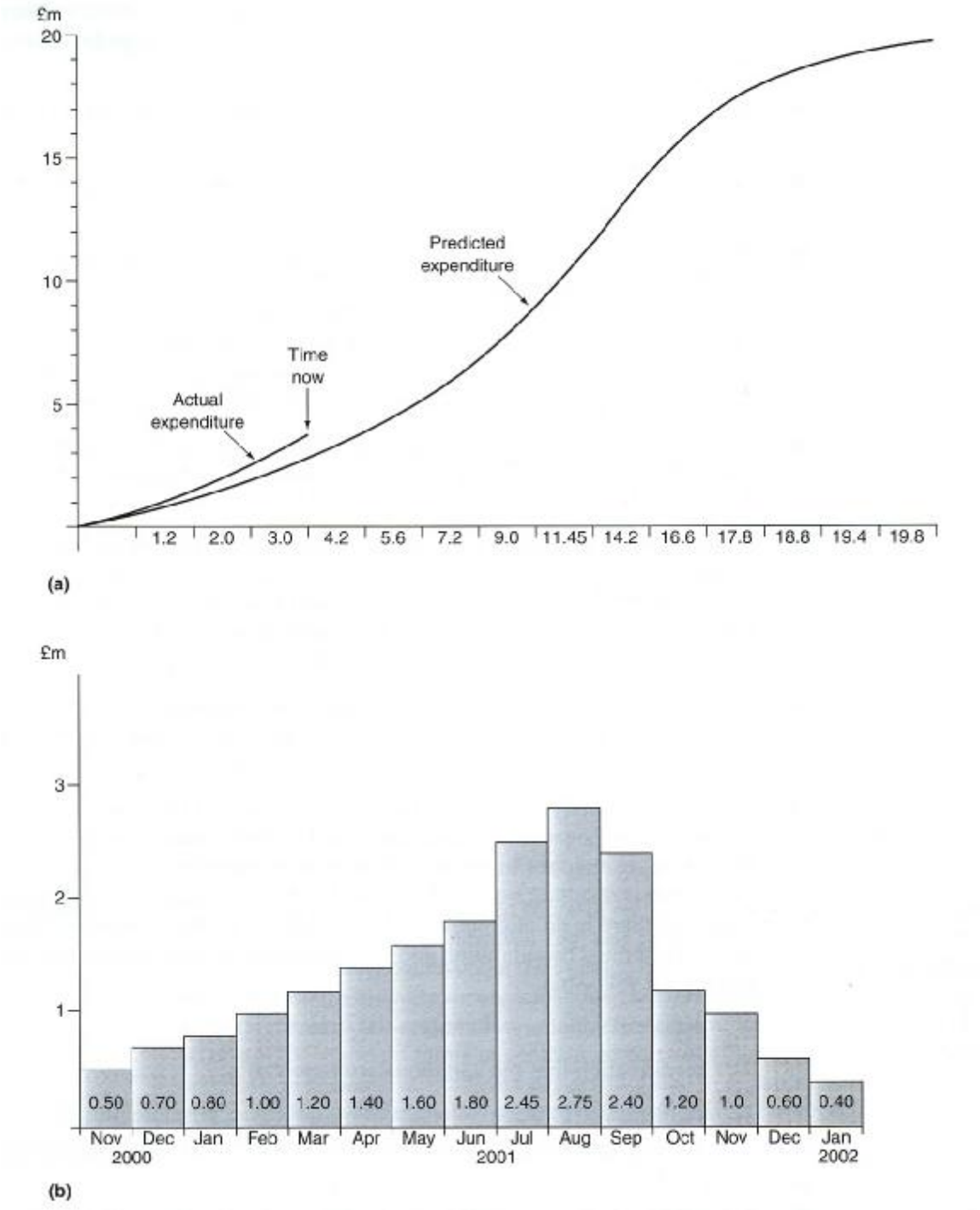


Figure 13 - Examples of cost control graphs

1.8.18 Design management

This is often an area that is given too little attention. The ability to be able to plan, monitor and control the design process will:

- enable the timely production of quality design information;

- which in turn, greatly improves the chances of the construction /implementation phase being completed to time, quality and budget and

- reduces the chances of conflict (management and contractual).

The processes and activities described in the Gateway documents *'Gateway 03 - Scheme design'* and *'Gateway 04 - Detail design'* should be followed and adapted where necessary to suit the particular project *(insert links to simple version – earlier in this Handbook and the separate full versions)*.

The important factors that a project manager needs to include in a design management plan are to:

- define the roles and responsibilities of the design team together with a programme

- advise the client on consultant requirements and appointments

- ensure inclusion of all in the design input (especially the client)

- ensure the design meets the project objectives

- define the deliverables from each member of the design team

- give clear targets for the deliverables together with the responsibility for their delivery

- ensure there is a clear co-ordination and communication (both design and programme information) between the various design responsibilities

- ensure information is available and released at the required times

- clear design change management procedures are in place

- ensure that design and cost reconciliation procedures are in place and these are included within the design programme and that this is integrated into any value management and value engineering procedures.

- design output formats are defined (e.g. drawing sizes/formats for construction projects; report content and layout for policy change and service delivery projects)

1.8.19 Value management and value engineering

Value management (VM) and value engineering (VE) are techniques concerned with achieving 'value for money'.

It is a systematic team-based approach to securing maximum value for money where:

Value = Function/Cost

Thus value can be increased by improved function or reduced cost. The technique involves identification of high cost elements, determination of their function and critical examination of whether the function is needed and/or being achieved at lowest cost. In terms of projects, VE has the greatest influence and impact at the strategy/design stage. It requires reliable and appropriate cost data and uses brainstorming workshops by a group of experts under the direction of a facilitator.

VM is similar to VE but in terms of projects is focused on overall objectives and is most appropriate at the option identification and selection stage where the scope for maximising value is greatest.

Brainstorming forums involving those who would naturally contribute to the project and/or those with a significant interest in the outcome are a fundamental component of both VE and VM. Participants should be free to put up ideas and as far as possible idea generation and analysis should be kept separate. It is the role of the chairman to ensure that this is the case and hence good facilitation skills and a measure of independence are essential characteristics of the role.

The process:

Value techniques are founded on three principal themes:

- Achievement of tasks through involvement and teamwork, based on the premise that a team will almost always perform better than an individual.
- Using subjective judgement, which mayor may not incorporate risk assessment.
- Value is a function of cost and utility in its broadest sense.

Key decisions in the application of value techniques are:

- When should the technique be utilised?
- Who should be involved?
- Who should perform the role of the facilitator?

A balance must be struck between early application before an adequate understanding of the problem and constraints has been achieved and late application when conclusions have been drawn and opinions hardened. Although feasibility (when identifying suitable options) and pre-construction (before design freeze) would in most cases be suitable, each project should be examined on its merits.

The facilitator's role is to gain commitment and motivate participants, drawout all views and ensure a fair hearing, select champions to take forward idea generated and keep to the agenda. To achieve these goals the facilitator must be independent, possess well-developed interpersonal and communication skills and be able to empathise with all participants. Although he/she must understand the nature of the project this need not be at a detailed level. Large, complex or otherwise difficult projects may warrant employment of an external specialist facilitator. The facilitator's role is crucial to the success of the exercise and care needs to be taken over selection.

The purpose and the agenda for the value forum should be determined by the project team. A value statement should also be produced giving a definition of value in relation to the particular project. For example, value may not be related solely to cost but may also encompass risk, environmental impact, occupational utility, etc. Although the significance of these factors will be project specific, the project team must ensure that this statement reflects corporate policy. The statement is not intended to be a constraint but is used as a benchmark throughout the forum to maintain focus.

Two to three days are usually required for each value forum. The project manager must ensure that all supporting information is available to the forum in summarised form and that expert advice is readily available. The project manager must therefore ensure that personnel with a detailed knowledge of the project participate in the forum.

Link to risk assessment:

Value techniques may be used in conjunction with risk assessment where there is a variety of means of managing risk and choices have to be made. The process is particularly valuable in identifying the optimum mitigation approach where risk management options impinge on a variety of project objectives.

In this case risk management objectives are determined, in open forum, alongside overall project objectives. Risk management options are then ranked against the full range of objectives to determine the best option overall.

Potential pitfalls:

- Cost (monetary and time) of value meetings can be high.

- At the feasibility/option identification stage aspects of the technique can conflict with the principles of the economic appraisal which seeks to identify an optimum solution by reference to an absolute measure of benefit as opposed to the subjective criteria used in value techniques, e.g. a standard of protection could not be specified as a value objective.

If benefits or costs could be assigned to all criteria, there would be no role for VM analysis at the feasibility stage although the facilitative and team-building aspects of the technique would still be useful.

- Where economic appraisal overrides VM, team-building benefits will be undermined.

- Client participation in the value process could prove to be detrimental in the event of dispute with a consultant/contractor. However, client participation is an integral part of the process, particularly at the feasibility stage, and must therefore be performed by experienced and knowledgeable staff aware of the contractual pitfalls.

Value techniques should be applied where there is a reasonable prospect of cost saving or substantial risk reduction or where consensus is necessary and difficult to achieve. Examples may include high value or complex projects impinging on a variety of interests and projects where environmental and/or intangible benefits are significant

but difficult to quantify. Value techniques may be used whenever there is a need to define objectives and find solutions.

An example of utilisation of VM at key stages in a construction project framework is shown in Figure 14 below.

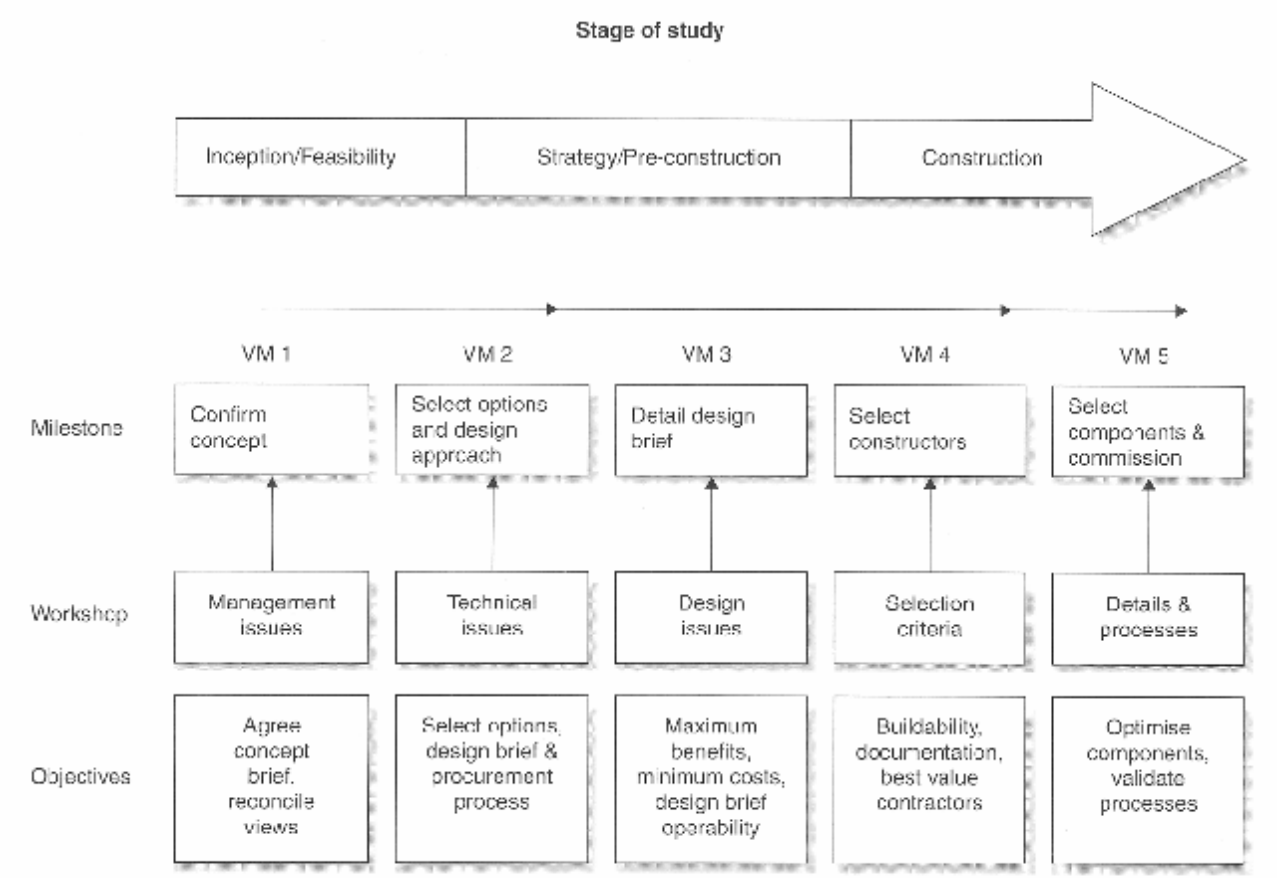


Figure 14 - Utilisation of value management

1.8.20 Risk management

Risk management is a critical part of project management from inception/initiation, through developing the brief, design, construction, commissioning and handover/operation stages.

Each project team is responsible for reviewing their project risk register at least monthly, at which interval it is reported both fully and in summary format to the appropriate Director (the D&MP director for projects over £500K), as part of the Director's Review monthly project management report. The Risk Register must have a major review at quarterly intervals, involving the project team, the director and stakeholders both internal and external to the Council.

The D&MP directorate has also found it useful to summarise the top ten project risks and monitor the movement in these risks over several months. Some risks will increase or decrease over time, whilst others will drop out entirely and new risks added. Risk is seen as being very dynamic which must be mirrored in their active management.

Project risks are actively reported up the management/decision making chain to the Project Boards, PPB, Directors' Group, Major Projects Overview and Scrutiny Panel, and The Executive/Executive Member. The effect project risks have on both the project itself and the corporate body are always considered of prime importance. The Director Major Projects can record 'significant' Major Projects' risks in the Corporate Risk Register in liaison with the Council's Risk Manager. CIS Risk & Opportunity website

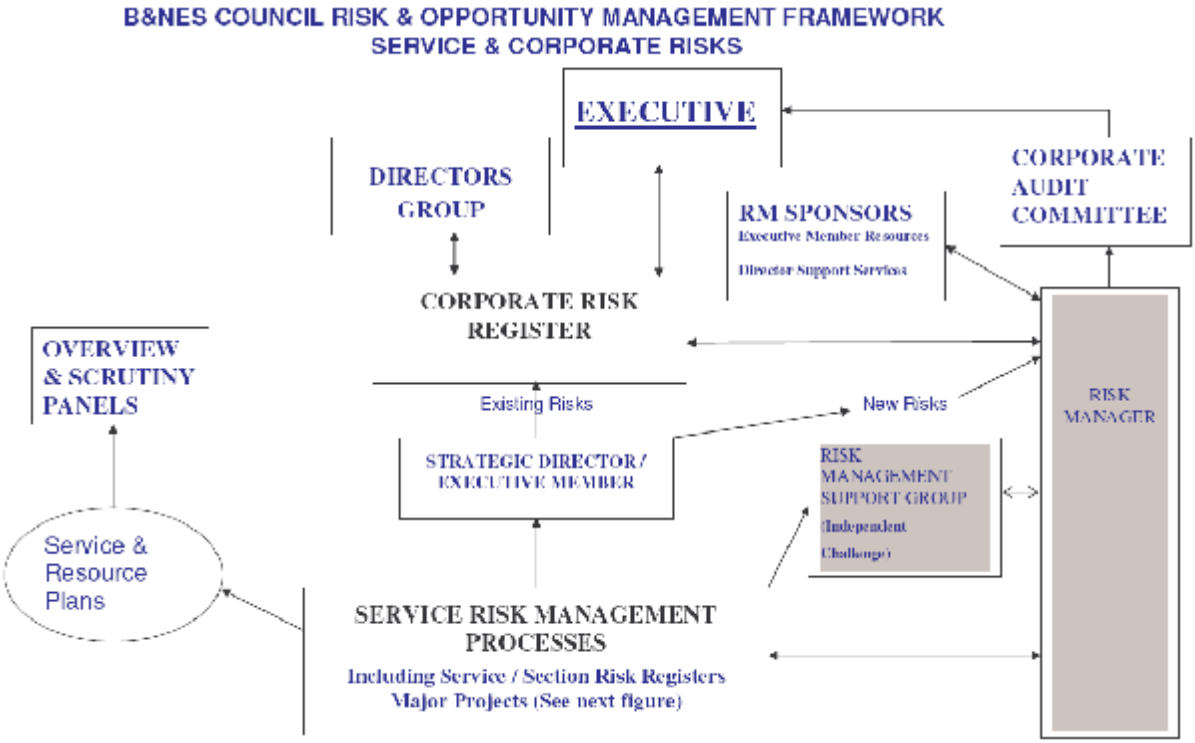


Figure 15 - Service and corporate risks

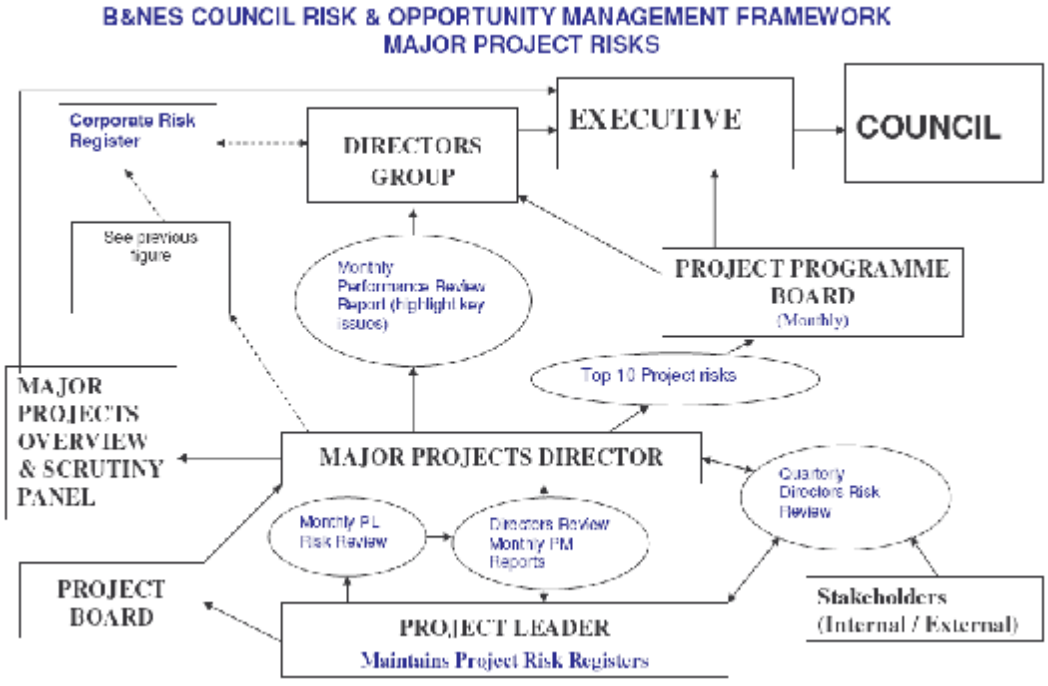


Figure 16 - Project risk management

Project risk assessment

Risk is inherent in almost all construction projects. Depending on the nature and potential consequences of the uncertainties, measures are taken to tackle them in various ways.

Risk management is a systematic approach to identifying, analysing, and controlling areas or events with a potential for causing unwanted change. It is through risk management that risks to the schedule and/or project are assessed and systematically managed to reduce risk to an acceptable level.

A process of risk assessment and management has to be implemented at an early enough stage to impact on decision making during the development of the project.

Small workshops should put together a list of events which could occur, that threaten the assumptions of the project. A typical list requiring different workshop forums might be:

- revenue
- planning consent
- schedule or time
- design
- procurement and construction
- maintenance and operation.

Assessments should be made on:

- probability of occurrence (%)
- impact on cost-time-function (£ - weeks - other)
- mitigation measures
- person responsible for managing risk
- delete point where risk will have passed (date)
- date for action by - transference - insurance - mitigation (date).

The mitigation measures need evaluating in terms of value for money. Transference should be to the party most capable of controlling it since they will commercially price it lowest. Lateral thinking might reduce or in rare cases eliminate risk. The risk register should be regularly reviewed and be part of all onward decision-making processes.

Risk register

The formal record for risk identification, assessment and control actions is the risk register.

The risk register may be divided into three parts as follows:

- Generic risks - risks that are inherent irrespective of the type or nature of the project.
- Specific risks - risks that are related to the particular project, which could be identified through a risk workshop involving the project team.
- Residual risks - this is a list of risks identified above that cannot be excluded or avoided and contingency has to be provided for their mitigation.

The financial effect of such residual risks must be evaluated to determine an appropriate contingency allowance. A time contingency should also be considered.

Often risks are external, arising from events one cannot influence. This particularly applies to markets and revenue projections. Some might even be 'show stoppers'. Value for money studies might throw up options of hedging or taking out special insurance. Obviously the risks of high probability and high impact are the ones on which to concentrate.

1.8.21 Quality management

It is the project manager's role to set up and implement an appropriate process to manage project quality. From the quality policy defined in the project brief, the development of a quality strategy should lead to a quality plan setting out the parameters for the designers and for the appointment of contractors. Quality control then becomes the responsibility of the contractor, subcontractors and suppliers operating within the agreed quality plan. The plan itself should establish the type and extent of independent quality auditing (particularly for off-site production of

components) and the timing of inspections and procedures for 'signing off' completed work.

It is the responsibility of the design team and other relevant consultants to specify the goods, materials and services to be incorporated in the project, using the relevant British Standards, codes of practice and Agrément Board criteria or other appropriate standards.

The achievement of these standards rests with the appointed main contractor. When interviewing contractors at pre-tender stage, the project manager will seek confirmation that each company has a positive policy towards the control of quality, a policy which will be reflected in all of its operations.

1.8.22 Health and safety

Health and safety performs an important part of any project plan and an understanding of the major issues involved from design through construction/implementation to operations and maintenance should an objective of all the project team including the client and consultants.

The statutory and regulatory requirements are complex and apply to all kinds of activities project and non-project alike and are not industry specific. Advice should be sought at an early stage from the corporate health & safety service.

(insert link to main page)

Some important links to Health and Safety matters on the Council's intranet are shown below.

http://cis/healthsafety/c.5.htm

http://cis/healthsafety/f03.htm

http://cis/healthsafety/hiringcontractors.htm

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5274/ContractorSafetyPolicyAssessmentForm.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5276/ContractorsampleHSQuestionnaire.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5277/ContractorScoringCriteriaforSampleHSQuestionnaire.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5267/CDMPreProjectchecklist.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5268/CDMProjectProgressSheet.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5269/CDMRiskAssessmentForm.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5262/AssessmentofContractorHSCompetence1.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5263/AsbestoscontractorChecksheet1.doc

Always check on the HSE website for the latest information.

(insert link to main page)

Health and safety in construction

- http://www.hse.gov.uk/construction/index.htm
- http://www.hse.gov.uk/new/index.htm

The fundamental Act governing health and safety in construction is the **Health and Safety at Work Act 1974.** This Act has some 62 separate Regulations and it is not possible to deal with such a large subject area here, however, the principal regulations of this act, which affect design and construction, are:

- Construction (Design and Management) Regulations 1994 [known as CDM Regulations]
- Construction (Health, Safety and Welfare) Regulations 1996

NB: Fundamental change to the health and safety legislation is due to come into effect during 2006/07; further information must be obtained from the corporate health and safety advisors and the HSE website.

1.9 Financial Management

1.9.1 Principles

An observation from Charles Dickens' *'David Copperfield'*:

Mr. Macawber was verbose, utterly incompetent to make a living and yet utterly self-confident. He was frequently put in debtors prison, but was always hopeful that "something would turn up" to feed his large family and his ego. Mrs. Macawber was the sensible and steady one in the home, completely in love and loyal to her husband and family, saying frequently to all who would listen that "she never would leave Mr Macawber" and decrying the failure of the civil and business establishment to see the superiority of Mr. Macawber's abilities. The Macawbers somehow, usually, narrowly escaped starvation.

Never hope, but be as certain as you can about the amount required, the sources and the rate of expenditure of your budget. An outline of the basic principles of financial management is given below:

- Research your budget thoroughly
- Is it enough to meets the project's objectives?
- Determine and confirm the sources of funds
- Determine the cost basis on which the budget is going to be made i.e. simple construction/implementation cost or life cycle cost.

- Review any conditions attached to the funding (e.g. spending deadlines, match funding and the like)

- What authorities are required to accept any external funding and confirm the internal Council funding.

- Ensure that any financial risks are identified, explored and entered into the risk register *(insert link)*

- ALWAYS agree the budget with the client and finalise it with the client sign-off *(insert link)*

- ALWAYS make it clear to the client the cost/time implications of ANY change

- Always allocate your funds to the activities (or group of activities) and cost centres within the project programme. This will produce the project cost plan and cash flow profile. *(insert link)*

- Always monitor the project expenditure against the agreed cash flow; this will, together with the timeline, give an accurate picture of the status of the project together with an accurate as possible forecast of the project outturn. Remember, PREDICTABILITY is a prime tenet of good project management!

- Change MUST be carried out AND agreed at the appropriate level through the PMS change order system. *(insert link)*

1.9.2 Financial regulations

These relate to the Council's financial regulations and are corporately enforced. The S151 officer plays an important role in ensuring financial probity and the project team must be aware of his/her role.

The S151 officer is involved in many of the monitoring and decision-making bodies, particularly in the larger more complex projects, which inevitably will have higher financial risk profiles than smaller simpler projects. *(insert links and flow/org charts)*

1.9.3 Budget and cost plan reports

The budget and cost plan reports are included within the PMS *(insert link)* and form part of the project manager's routine management duties. The cost plan can be built up using the PMS financial forms. The forms are designed so that the financial information is automatically summarised to form part of the monthly project managers report (The Director's Review), from which, information from each project can be readily consolidated to form an overall view of the status of all the projects

1.9.4 Delegated Authorities

Delegated authorities normally relate to decisions concerning :

- Financial matters

- Technical matters
- Resource/personnel matters

The Project Execution Plan (PEP) should fully describe and detail the levels of authority, to what and to whom they apply. *(insert link)* These must fully comply with the Council's corporate governance rules and regulations. *(insert link)*

1.10 Change management

1.10.1 Principles

Change in a construction project is any incident, event, decision or anything else that affects:

- The scope, objectives, requirements or brief of the project.
- The value (including project cost and whole-life cost) of the project.
- The time milestones (including design, construction, occupation).
- Risk allocation and mitigation.
- Working of the project team (internally or externally).
- Any project process at any project phase.

1.10.2 Control

Changes during the design development process:

The procedure outlined is used to control the development of the project design from the design brief to preparation of tender documents. It will include:

- addressing issues in the design brief
- variations from the design brief, including design team and client variations
- developing details consistent with the design brief
- approving key design development stages, namely scheme design approval and detailed design approval.

The procedure is based on a design development control sheet in conjunction with the change order form (*insert link to H - design and dev prog and R - change order form)* The approved design will comprise the design brief, the full set of approved change order forms with tracker and summary and completed design development control sheet.

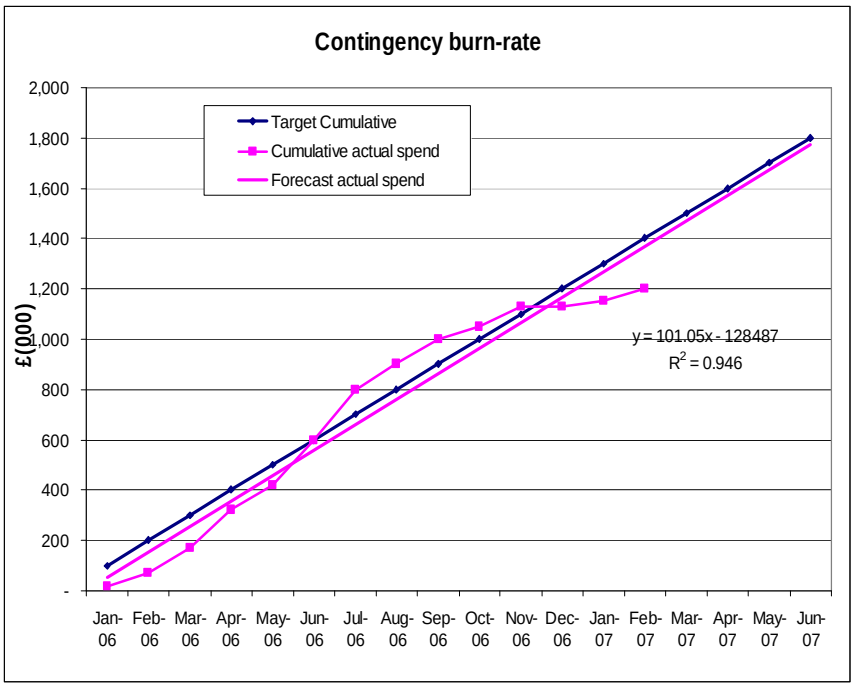
The procedure comprises the following stages:

- The appropriate member of the design team addresses each design issue in the development of the brief, co-ordinated by the design team leader.
- Proposals developed are discussed with the appropriate members of the project's core group through submission of detailed reports/meetings co-ordinated by the project manager. Reports should not repeat the design brief, but expand it, address an issue and prepare a change.
- The design team leader co-ordinates preparation of a design development control sheet, giving:
    - design brief section and page references
    - a statement of the issue
    - a statement of the options
    - the cost plan item, reference and current cost
    - the effect of the recommendation on the cost plan and the schedule
    - a statement as to whether the recommendation requires transfer of client contingency (i.e. a client variation to the brief) and if so the amount to be transferred.
- The design team report section of the control sheet is signed by:
    - the design team member responsible for recommendations
    - the quantity surveyor (for cost effect)
    - the design team leader (for co-ordination).
- The design team leader sends the design development control sheet to the project manager who obtains the client's approval signature and returns it to the design team leader.
- The quantity surveyor incorporates the effect of the approved recommendation into the cost plan.
- The project manager incorporates the effect of the approved recommendation into the master schedule.

Changes to construction/implementation process:

The change order form together with the change order tracker and contingency burn-rate monitor ensures that control of changes to the project is transparent, auditable and properly signed-off. It provides the monitoring and reporting tools that ensures

that the implication of any changes are fully understood and ensures that management and administrative actions are concomitant with those changes.



The burn-rate monitor, which consists of a graph indicating the current contingency burn-rate (CBR) against the baseline CBR, allows sign-off to be made at the appropriate level depending on the relationship between the two measured factors.

Figure 17 - Contingency Burn-rate graph

1.11 Project reporting

1.11.1 Introduction

Reports are one of the important tools in communicating project information. There are two major types of project report:

- Project management – technical – time, cost, quality, function and conflict
    - e.g. Director's Review uses the PMS reports,
    - PPB
    - Gateway
- Project governance - guidance and decision making
    - e.g. PB and Directors' Group – guidance and advice,
    - Executive Member, Executive and Council - decisions [at Gateways for example]).

The third type of reporting process that a project will need to be aware is the Overview and Scrutiny (O&S) Report. The O&S panels have wide investigative powers *(insert link)* and have an overarching role to play in project monitoring.

1.11.2 Reporting and decision levels

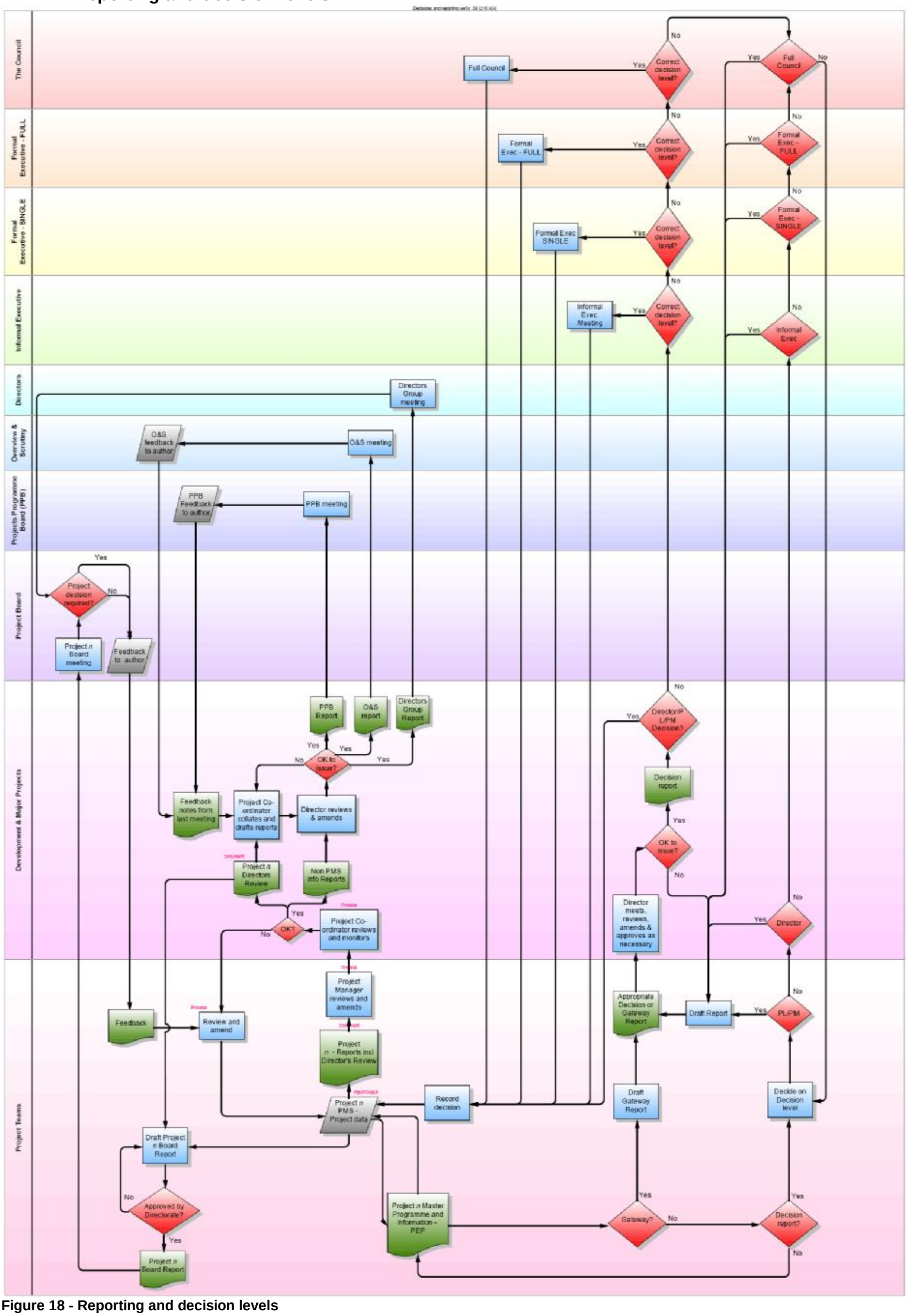


Figure 18 - Reporting and decision levels

1.11.3 Project Reports and Reporting cycles

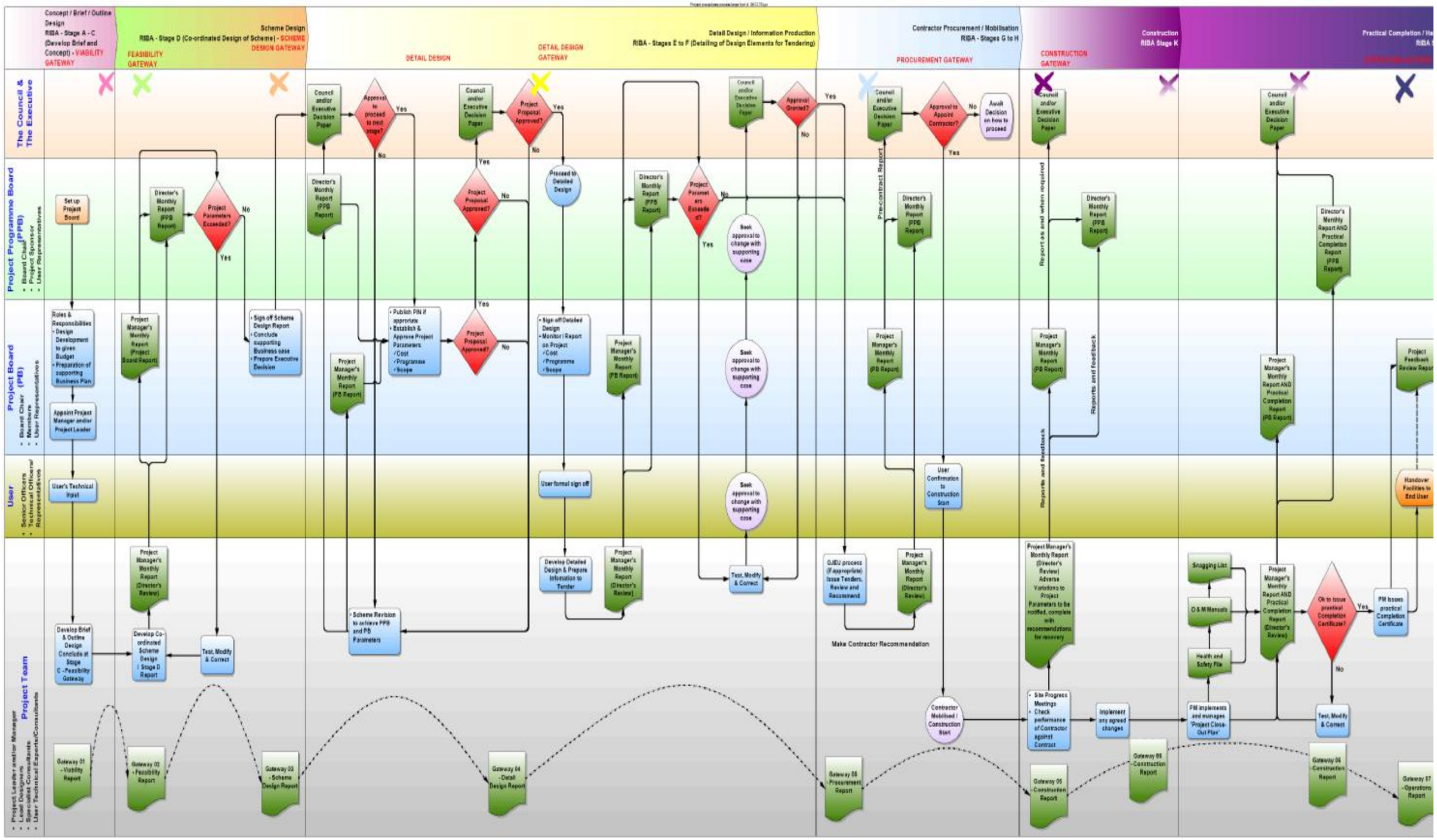


Figure 19 - Project reports and reporting cycles

1.11.4 Project Documentation

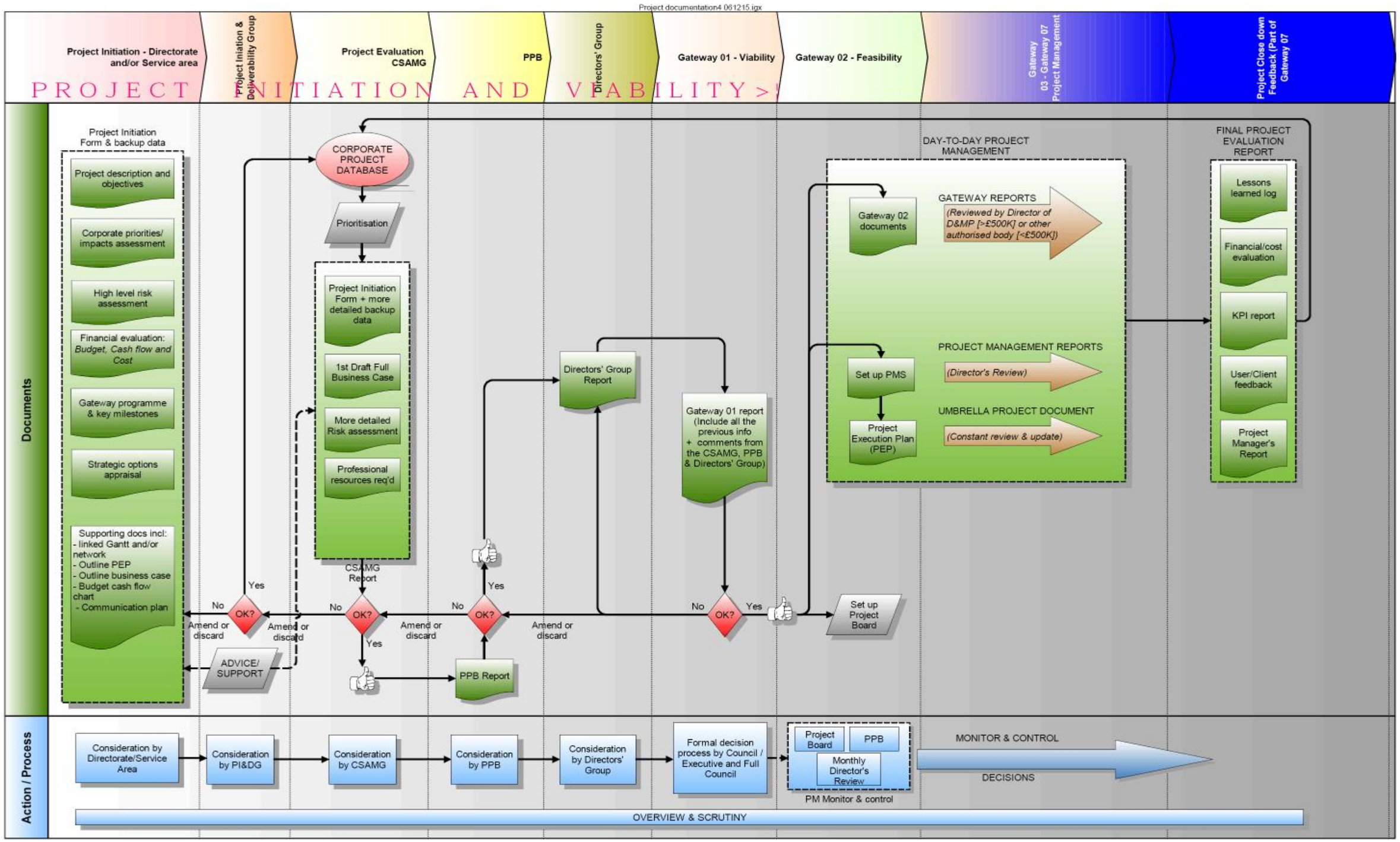


Figure 20 - Project documentation

1.11.5 Project Manager's Report (Director's Review)

This is the key project report and is the main output from the PMS *(insert link)* suite of tools and documents. The PMS is designed to make the reporting process as simple as possible, without the project manager needing to carry out a laborious special process once a month.

The forms that make up the PMS should be used on a daily basis for carrying out the normal project management activities. If this is carried out properly, then project reporting is little more than a simple matter of 'pressing the print button'. The PMS allows the project manager to devote his/her time to managing rather than report production.

The PMS is made up of the following main documents (mainly spreadsheets):

0 REV5 - PM Monthly Report Document Checklist

A - Key Event Schedule - Monthly Status Report

B - Monthly Cost Report

C1 - Risk Register

C2 - Impact Schedule

D - Consultant & Contractor Appts Tracking Schedule

E - Project Directory

F - Milestone Schedule

G - Marked-up Programme

H - Development & Design Programme

J - Regulatory Schedule

K - Schedule of Project Boards & Authority

L - Notices and Claims Schedule

M - Close out

N - Key Issues Schedule

Q - Project cash flow (actual vs predicted)

R - Template Change Orders + Register

S - CDM - Client responsibilities checklist

S - Health and Safety Summary Report

T - Review of Forthcoming Dates & Reports

U - Lessons learnt

V - Stakeholder Interest

W – Project Resources Schedule

1.11.6 Projects Programme Board

The terms of reference of the Projects Programme Board i(PPB) s to advise the Executive in relation to the impact of the Capital Programme on the Corporate Body; to act as Capital Control Group to monitor & control expenditure of the Capital Programme and to monitor and direct major project activities, exposure to risk and resource impacts. The PPB is a decision, advising and guidance body.

The PPB report is a consolidated view of the all the current major projects. *(The smaller projects that are amalgamated into programmes will usually report the programme status – under discussion as at May 2006.)* The PPB reports on a monthly basis. The Development and Major Projects Project Co-ordinator prepares the report based on the most recent Director's Review report. Projects that are being managed by Development and Major Projects will report through the directorate's project co-ordinator. Advice should be sought from the Development and Major Projects Project Co-ordinator on the detailed requirements, if your particular project is NOT being reported through the Development and Major Projects directorate. *(insert link to an example?)*

1.11.7 Project Board Report

The terms of reference of the Project Board (PB) is to provide guidance to the Project Sponsor on overall strategic direction and help to spread the strategic input and buy-in to a larger portion of the organisation. It is an advising and guidance body.

The PB receives reports in a standard format on a monthly basis. The report is prepared by the Project Leader/Manager. *(insert link)*

1.11.8 Gateway reports

The format of these reports is in the process of being determined, but a straightforward format is envisaged which can be utilised for all types of projects – simple, complex, small and large. The information required at each of the Gateways is defined within the Gateway documents. *(insert link)* The report will become the corporate standard and will include a summary, recommendations, rationale etc supported with detailed background papers as appendices. These appendices could be made up of PMS documents, consultant reports, project officers' assessments as appropriate, and must be relevant and support the recommendations proposed. The Director of D&MP will review the report and recommend approval to proceed to the next stage for all projects greater than £500K in value. The Gateway report must enable the Decision Maker(s) to make informed, clear decisions based on the facts laid before them.

1.11.9 Directors' Group

These reports can be verbal and/or written. The written reports should follow the normal template *(insert link)* unless otherwise indicated. Except for the project initiation process and the project feedback review report, the format is generally more relaxed, BUT reports must be concise, clear and have enough supporting facts without going into a mass of detail. The sponsoring Director will often

present the report and so it is usually advantageous to either provide a briefing document or a give a verbal briefing session as requested.

1.11.10 Overview & Scrutiny

There are seven O&S panels that deal with various aspects of the Council's responsibilities. The Major Projects and External Bodies panel is the important one as far as most major projects are concerned. It is an information and exception receiving body. The O&S panels have two key roles:

3. to develop new ideas about how services can be provided and performance improved.

4. to examine critically the decision making of the 'executive' and where necessary call decision makers to account. Panels have the power to require senior officers and Executive Councillors to appear before them to explain their actions.

The reports follow a set format *(insert link)* , but in addition the Project Officers are likely to be verbally scrutinised and should, therefore, be well prepared.

1.11.11 External reports (consultants)

The content and format of any reports from external consultants should be laid down in the consultants brief and if necessary incorporated into the contract terms and conditions. Any changes should be agreed by both parties and any implications of these changes clearly defined.

1.11.12 Client requests

Client requests should be dealt with in a timely manner and depending on the type of request be dealt with as a standalone matter, requiring a considered and appropriate response e.g. a request for information or managed through the project's change order process e.g. a request to make a change to a project parameter. Client's change requests during a project usually have time, cost, and/or quality implication(s) and **must** be logged through the PMS change order process. This process allows the full implications of any request to be analysed so that decisions can be made in an informed manner.

1.12Project completion

1.12.1 Close-out

- Planning of handover procedures
- Occupation procedures
- Final accounts
- Snagging/outstanding items

- Practical completion certificates
- Guarantees and Collateral Warranties
- Health & Safety files/manual
- User and maintenance training manuals

1.12.2 Handover

- Initial commissioning complete (In the case of many projects this will take place a considerable period (12 months) after the user/occupier has taken over/occupied/using the 'project outcome'.
- Log book complete– e.g. as built drawings and specifications; systems instructions and manuals; procedures and controls; health & safety matters.
- Training - user and maintenance carried out

1.12.3 Debrief

- Outcomes – on-time; on-budget; the project (e.g. new building, new road, IT system, management re-organisation etc) has the project met the objectives (see 'The Brief') of the Client. Comparisons with Project Objectives.
- The final project evaluation report should include:
    - an evaluation of the lessons learned log
    - a financial/cost evaluation
    - a KPI report
    - user/client feedback
    - the project manager's report that will include an evaluation summary of all project matters, including those mentioned above. *(insert link to project documentation flow chart – Fig. 19)*

Part 2 - Techniques, methods and processes (The Toolbox)

2.1 Project management techniques

Project management techniques include a wide variety depending on the required outcome, but the major tools and techniques include generic requirements, such as:

- Good communications – verbal, electronic and written
- Clear reporting and decision making mechanisms
- Planning and analytical tools
- Collaborative mechanisms.

Project management software can be designed to enable the above to be readily achieved to various levels of sophistication depending on the complexity of the project concerned. A very simple project that consists of mainly scheduling and the project does not require an analysis of the associated resources, may only require a simple time line based plan but most projects will require a proper linked activity/logic-based programme. *(insert link)*. The programme and planning guidance handbook gives a full description of how to plan and use project management software. A short explanation/guide of the terms used in project management planning and programming are given here.

It is very important at the planning and programming stage get help and/or training in understanding how a project is built up to model the reality of undertaking a project with all its requirements of control, monitoring, reporting, decision making, communicating, consulting and forecasting/predicting.

2.1.1 Project management software

As with all software the types and extent of features and capabilities vary with different packages. The preferred software used by Major Projects is Asta PowerProject and a standard template is available to users. Microplanner Xpert or Manager can also be used for more complex projects where planning and working in a network format is required. Some of the basic features usually found in project management software are:

- Front-end modelling, for planning and estimating the size, risk and overall architecture of the project.
- Time reporting capability, for analysing trends against base values and current plans.
- Work request system, for tracking and completing requested tasks within an acceptable time.

- Project accounting, for linking time reporting to specific projects to be charged for work, and for linking the project changes to the organisation's accounting system.

- Resource levelling, for efficiently reviewing work request records and comparing those data with other factors that change resource availabilities constantly.

- Integration, for co-ordinating the functions of various aspects of software, which is important because of the complex mix of projects and other activities occurring.

Utilities of project management software:

Project management software can be used for planning, scheduling, monitoring and controlling all aspects of the project. The concept of project management involves dividing the overall project into individual activities or work units. For each activity, the following information is then recorded:

- requirements for successful completion of the activity (project constraints)

- the earliest time the activity could begin (earliest start)

- the earliest time it could end (earliest finish)

- any 'slack time', or time that the activity could be delayed without delaying the entire project (float).

Information of this type is then used as a basis for managing the entire project.

Applications of project management software:

Some of the uses of project management software include:

- Determining resource requirements and assigning resource to tasks.

- Locating potential problems (e.g. conflicts) in the work schedule and recommending solutions.

- Maintaining accounting records of the project.

- Preparing management reports concerning the project.

Project management software can be used effectively for planning before the actual project begins. During the implementation of the project, the software is useful for displaying progress reports or for indicating changes that need to

be made. Most projects include some unexpected occurrences (variations/changes), and one the of the biggest advantages of project management software is the ease of making changes to the data to determine what effect any changes would have on the overall results or time schedule. The process of correctly deciding on an appropriate option is perhaps much better informed as several options can be tested and a good picture of the overall results of each choice can be obtained to facilitate decision making.

2.1.2 Tasks/activities

Tasks[5] are the basic components of a Precedence project model which signifies that something is going to happen. It is represented as a box which is connected to other tasks by links.

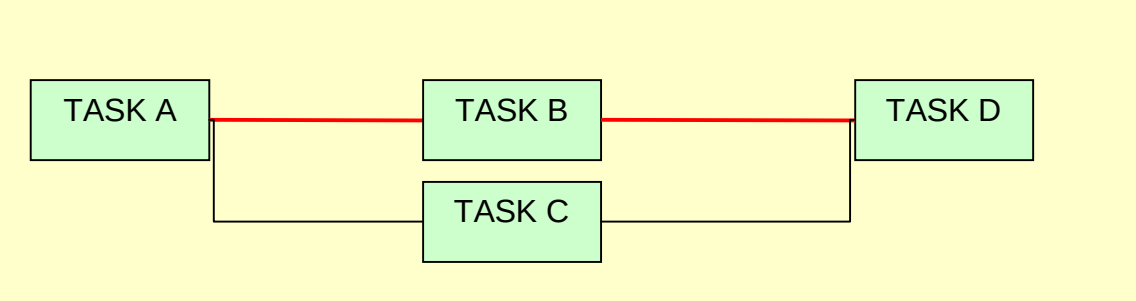


Figure 21 - Precedence model network

Activities are the basic components of an Arrow project model which signifies that something is going to happen. It is represented as a line where action commences at the left and ends at the right.

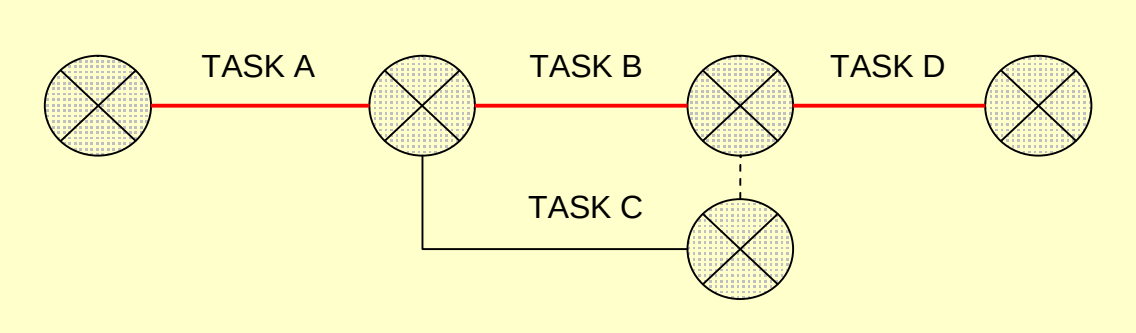


Figure 22 - Arrow model network

The best way to collect all the tasks in a project is to involve all the team and brainstorm a list of the tasks that make up the project.

[5] Some project management authorities will define activities as sub-sets of tasks i.e. a number of activities will make up a task. For the sake of simplicity in this Handbook tasks and activities can be considered interchangeable, but if a particular project (usually a complex one) requires a differentiation between the two, than this should be clearly stated in the PEP and the programme organised to to demonstrate this difference.

The tasks[6] can then be put into some sort of logical structure, like a Work Breakdown Structure (WBS). Also consider how detailed each task and breakdown should be; have a look at other projects to see how these have been structured and planned and there is a Major Projects template *(insert link)* to help to manage this part of the project planning and programming process. This template should be used wherever possible.

2.1.3 Work breakdown structure

The purpose of a work breakdown structure is to serve as a hierarchical framework for a project management control system. The Major Projects template does not show a WBS as this is very much a project by project decision, but its use can help in reporting and controlling large complex projects.

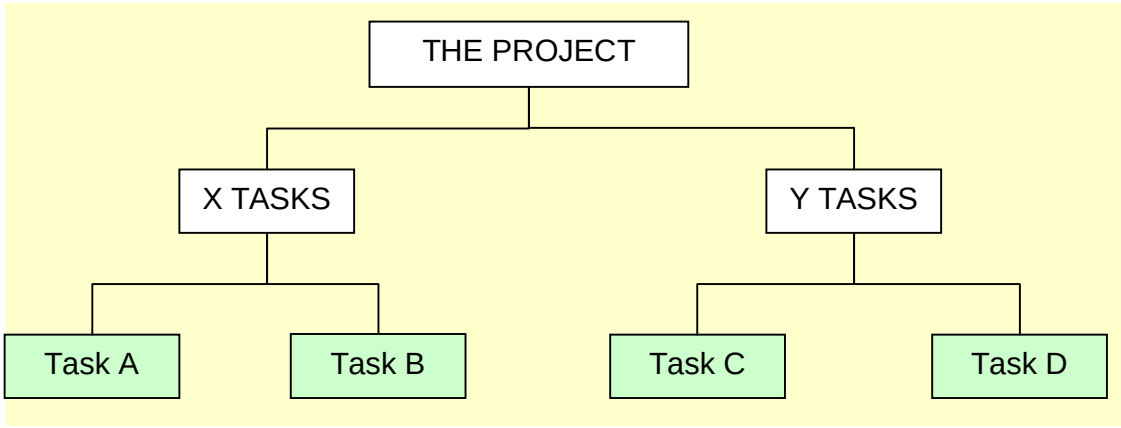


Figure 23 - Work breakdown structure

2.1.4 Logic, links and durations

Once there is a list of tasks for the project consider their links to other tasks and the sequence in which they are carried out, in other words 'the logic'. The logic should model the real world in how the project is to be carried out. The logic can be shown in several ways:

- Network diagrams
- Gantt charts

The logic shown in Figure 21, Figure 22 and Figure 24 is: -

"Tasks B and C cannot start until Task A has been completed. Task D cannot start until both Tasks B and C have been completed."

The links indicate the logic and dependency between tasks in the Precedence model network or in a linked Gantt chart (see 2.1.5 below), whilst the dependency in the Arrow model is linked by unique nodes at the beginning and ends of activities. The Major Projects programme template uses the Gantt chart format on which the tasks must be planned and linked as appropriate to show the logic of the project programme. There is also

[6] Ibid.

network-based software available for more complex projects where the project is planned using either the Precedence or Arrow methods directly.

Durations must also be considered and added for each task. Base the durations on experience, records of previous projects and the project team's judgements. If specialist tasks are being carried out then consider getting specialist advice.

2.1.5 Gantt charts, Networks and the Critical Path

Gantt charts, also known as bar charts, in which the project tasks are drawn as bars against a timescale will probably be the primary method of planning, programming, controlling, monitoring and reporting a project. It is ESSENTIAL that the tasks (bars) are linked in a logical manner, indicating the sequence in which the tasks are carried out.

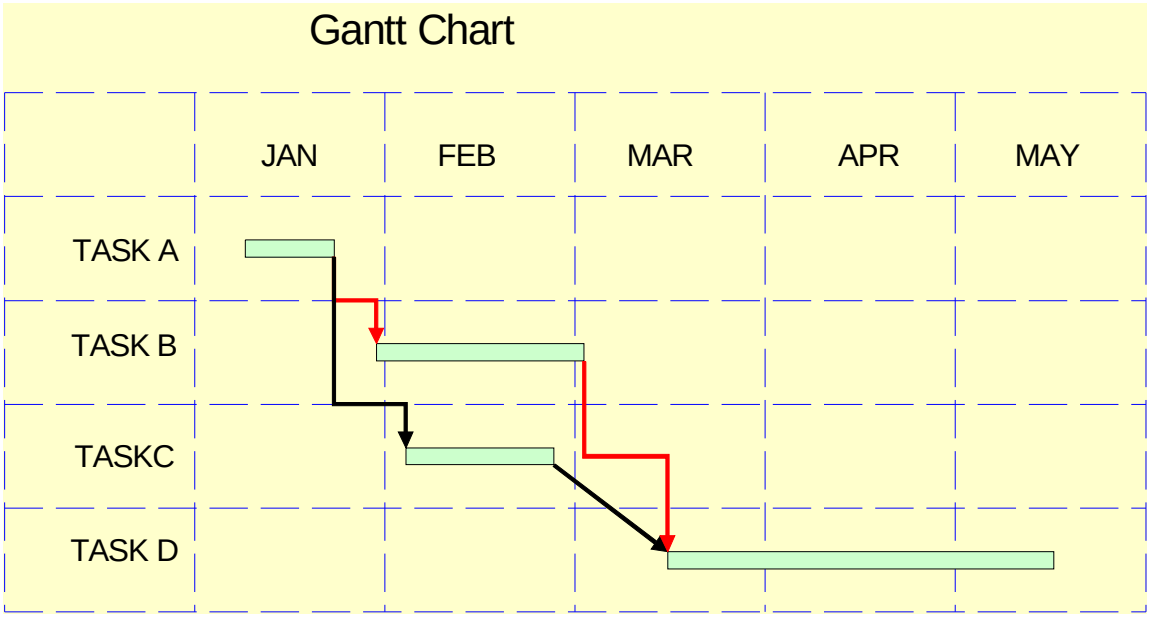


Figure 24 - Gantt chart

Examples of networks are shown in 2.1.2 above where again the logical sequence of tasks to be carried are clearly shown.

When the durations of the tasks are added, the Critical Path (CP) can then be determined. The CP consists of a series of tasks any of which, if delayed, will cause the project or a deadline to be delayed. This is the longest path through a network diagram and indicates the shortest time in which a project can be completed[7]. It can be seen, therefore, that knowing the CP is very important so that the tasks that make up this route are given the priority necessary. Be aware, the CP may vary well change throughout the lifetime of a project, so keeping the programme up to date is of **critical** importance to ensure that the project stays on track and reflects the **true** status of the project programme.

[7] The critical path is shown in red in the network and Gantt chart figures Figure 21, Figure 22 and Figure 24

2.1.6 Milestones

These are events that are of varying significance within a project. Some will be of a relatively minor nature and act as reminders to the project manager. Others will be critical for the project related to onward progress; these are known as **key milestones**.

Reports at project gateways will be key milestones, because the project cannot progress without agreement from the decision making/monitoring body. Other examples of key milestones could be related funding agreements, buying or selling land/property, submitting/gaining planning permissions, and statutory/regulatory process deadlines. The list can be extensive, but they form an important part of a project plan.

The milestones must be linked in to the tasks within a project programme, so that any changes to the programme are reflected in the dependent milestones. Milestone reports are a very effective way of quickly communicating the status of a project at any particular moment when compared with the base lined programme.[8]

2.1.7 Resources, cost planning and cost control

A resource is anything which is required for the completion of a task – people, money, machines, storage space and so on. The allocation of resources to a project is an important part of project management at the earliest possible stage. Money is probably the first resource to be considered. How much is available and how is going to be spent – on what, over what period? This will give a budget cost profile or cash flow.

The consideration of the major 'people' resources will need to be addressed at an early stage also, such as consultants and other advisors. 'Material' resources –construction/implementation - tend to considered at a later stage, when the project brief has been more fully defined, but not always.

Both Asta Power Project and Microplanner project management software are able to manage resources of all types to give a sophisticated system of resource allocation, planning and management. For complex projects it could be worthwhile to plan and manage resources in this manner so that a project is able to discriminate between time critical and resource critical tasks and gives the project manger options in the way the project can be best kept on track. Issues of resource levelling, overload, deadline criticality and resource criticality are probably best left until a real need is identified for a particular project. But it is hoped that as project management expertise is built up within the Council, then these terms and techniques will become better understood and used in many more projects.

[8] The project programme (plan), when finally agreed by ALL (especially the Client), is fixed as to time, tasks and resources. Progress is then compared with this original base lined programme or any other convenient baseline e.g. last month, 3 months ago.

Cost planning:

At an early stage an overall project budget study should be undertaken to determine the total costs of a project. A cost plan is prepared to include all construction costs, and all other items of project cost including professional fees and contingency. All costs included in the cost plan will also be included in the project budget in addition to any grants receivable and other extraneous items such as project insurance, surveys and any other specialist advisers' fees.

The objective of the cost plan is to allocate the budget to the main elements of the project to provide a basis for cost control. The terms *budget* and *cost plan* are often regarded as synonymous. However, the difference is that the *budget* is the limit of expenditure defined for the project, whereas the *cost plan* is the definition of what the money will be spent on and when. The cost plan should, therefore, include the best possible estimate of the cash flow for the project and should also set targets for the future running costs of the facility. The cost plan should cover all stages of the project and will be the essential reference against which the project costs are managed.

The method used to determine the budget will vary at different stages of the project, although the degree of certainty should increase as more project elements become better defined. The budget should be based on the client's business case and should change only if the business case changes. The aim of cost control is to produce the best possible outcome/product within the budget, whether it is a building, new service, major event, office move or new policy.

The cost plan provides the basis for a cash flow plan, based upon the master schedule, allocating expenditure and income to each period of the client's financial year. When required, the expenditures should be given at a stated base-date level and at out-turn levels based on a stated forecast of inflation. A cash flow histogram and cumulative expenditure graph are shown in Figure 25.

Operational cost targets should be established for the various categories of running costs associated with the facility or service as appropriate. This should accompany the capital cost plan and be included in the brief to consultants. Revenue, grants and VAT issues must also be taken into consideration.

When the cost plan is in place it serves as the reference point for the monitoring and control of costs throughout a project. The list which follows should be used as an aid in setting up detailed cost control procedures for all stages of a project.

Cost control:

The objective of cost control is to manage the delivery of the project within the approved budget. Regular cost reporting will facilitate, at all times, the best possible estimate of:

- established project cost to date

- anticipated final cost of the project
- future cash flow.

In addition cost reporting may include assessments of:

- ongoing risks to costs
- costs in the use of the completed facility
- potential savings.

Monitoring of expenditure to any particular date does not exert any control over future expenditure and, therefore, the final cost of the project. Effective cost control is achieved when the whole of the project team has the correct attitude to cost control, i.e. one which will enable fulfilment of the client's objectives.

Effective cost control will require the following actions to be taken:

- Establishing that all decisions taken during design and construction are based on a forecast of the cost implications of the alternatives being considered, and that no decisions are taken whose cost implications would cause the total budget to be exceeded.
- Encouraging the project team to design within the cost plan, at all stages, and adopt the variation/change and design development control procedures for the project. It is generally acknowledged that 80% of cost is determined by design and 20% by construction. It is important that the project team is aware that no member of the team has the authority to increase costs on its section or element of the work. Increased costs on one item must always be balanced by savings on another.
- Regularly updating and reissuing the cost plan and change requests (variation orders) causing any alterations to the brief.
- Adjusting the cash flow plan resulting from alterations in the target cost, the master schedule or the forecast of inflation.
- Developing the cost plan in liaison with the project team as design and construction progress. At all times it should comprise the best possible estimate of the final cost of the project and of the future cash flow. Adherence to design freezes will aid cost control. (Development also means adding detail as more information about the work is assembled, replacing cost forecasts with more accurate ones or actual costs whenever better information can be obtained.)
- As part of risk management, reviewing contingency and risk allowances at intervals and reporting the assessments are essential. Development of the cost plan should not involve increasing the total cost.

- Checking that the agreed change management process is strictly followed at all stages of the project is very important. The procedure should only be carried out retrospectively (then only during the construction phase of the project), when it can be shown that otherwise significant delay, cost or danger would have been incurred by awaiting responses.

- Arranging that the contractor is given the correct information at the correct time in order to minimise claims. Any anticipated or expected claims should be reported to the client and included in the regular cost reports.

- Contingency money based on a thorough evaluation of the risks is available to pay for events which are unforeseen and unforeseeable. It should not be used to cover changes in the specification or in the client's requirements or for variations resulting from errors or omissions. Should the consultants consider that there is no alternative but to exceed the budget, a written request to the client must be submitted and correct authorisation received. *(insert link)*

This must include the following:

  - details of variations leading to the request
  - confirmation that the variations are essential
  - confirmation that compensating savings are not possible without having an unacceptable effect on the quality or function of the completed project

- Submitting regular, up-to-date and accurate cost reports to keep the client well informed of the current budgetary and cost situation. *(insert link)*

- Establishing that all parties are clear about the meaning of each entry in the cost report. No data should be incorrectly entered into the budget report or any incorrect deductions made from it. *(insert link)*

- Ensuring that the project costs are always reported back against the original approved budget. Any subsequent variations to the budget must be clearly indicated in the cost reports. *(insert link)*

- Plotting actual expenditure against predicted to give an indication of the project's progress (see Figure 25). *(insert link)*

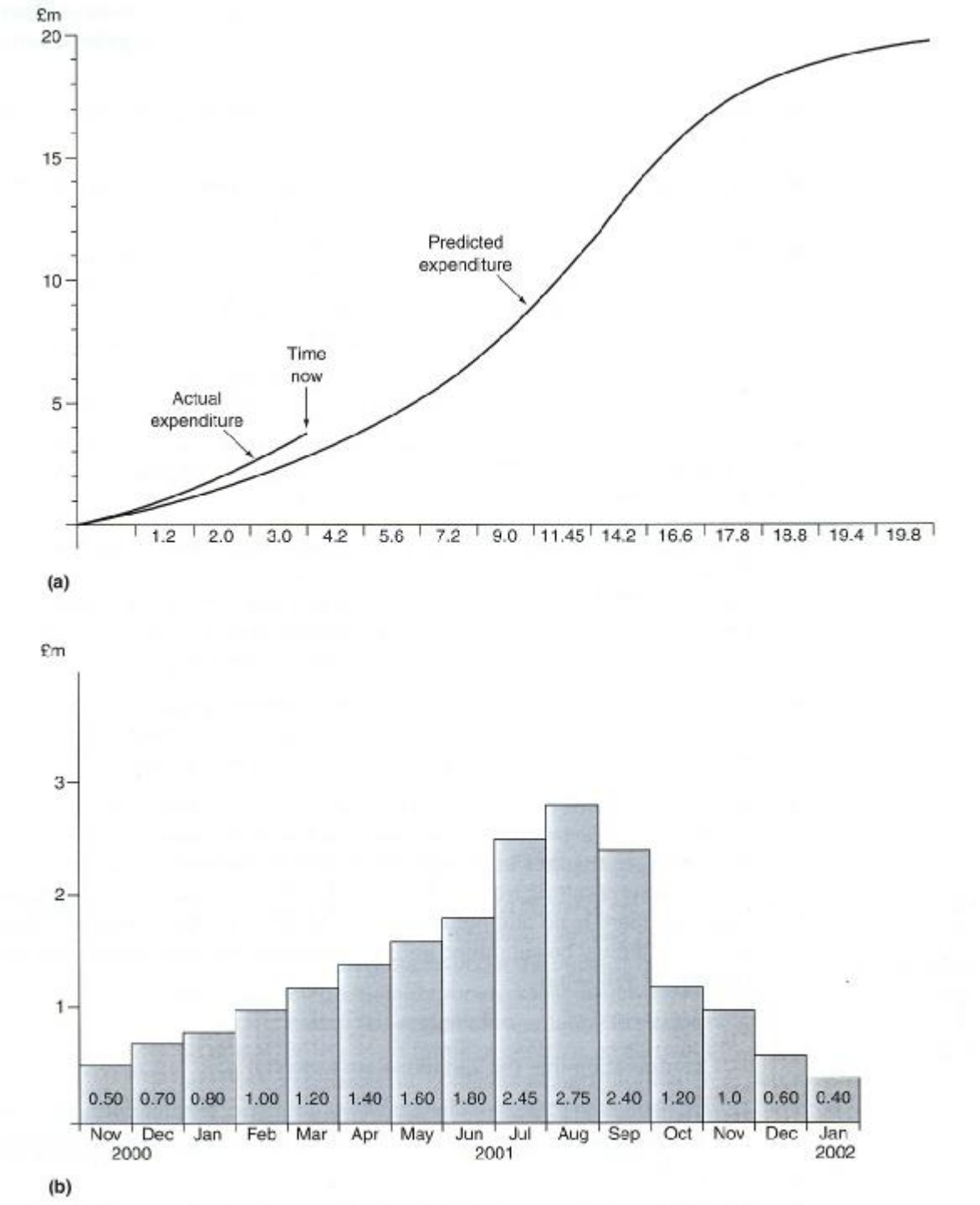


Figure 25 – Examples of: (a) construction expenditure graph; (b) cash flow histogram

2.1.8 Risk management

Risk management is a critical part of project management from inception/initiation, through developing the brief, design, construction, commissioning and handover/operation stages.

Each project team is responsible for reviewing their project risk register at least monthly, at which interval it is reported both fully and in summary format to the appropriate Director (the D&MP director for projects over £500K), as part of the Director's Review monthly project management report. The Risk Register must have a major review at quarterly intervals, involving the project team, the director and stakeholders both internal and external to the Council.

The D&MP directorate has also found it useful to summarise the top ten project risks and monitor the movement in these risks over several months. Some risks will increase or decrease over time, whilst others will drop out entirely and new risks added. Risk is seen as being very dynamic which must be mirrored in their active management.

Project risks are actively reported up the management/ decision making chain to the Project Boards, PPB, Directors' Group, Major Projects Overview and Scrutiny Panel, and The Executive/Executive Member. The effect project risks have on both the project itself and the corporate body are always considered of prime importance.

2.1.9 Project Issues

A project issue is anything that is currently happening that could have an effect on the project. For example, an issue might be a problem or query raised by someone connected with the project, or a request for something to be changed or carried out differently. Issues are very often the results of risks that were considered earlier, but have now occurred.

Keeping control of issues and ensuring they are quickly and appropriately dealt with is an important part of managing any project. Like risks, issue should not be ignored. Resolving issues involves:

- capturing all issues in an Issues Log from which key issues can be reported on a monthly basis *(insert link)*
- assessing how best to resolve each issue, including whether it needs escalating outside the project
- checking whether the issue, and the total set of unresolved issues, is putting the project in jeopardy
- putting in place the necessary actions and follow-up to resolve the issues and inform whoever raised it on the outcome.

2.1.10 Monitoring/tracking schedules

These schedules form an integral part of managing any project. They will cover all aspects of a project, including programme, events, risk, cost, cash flow, quality, statutory/regulatory matters, governance, change, procurement and administration/contacts matters. The PMS *(insert link)* includes documents to help the project manager capture, monitor, track and report on these things.

There maybe projects that have particular requirements and new tracking/monitoring schedules may need to be introduced. The PEP should help identify any requirements peculiar to the project, but the principle remains that, **"If it can move - monitor it; if it moves - track it."**

One of the most important tracking schedules is the Change Request Register *(insert link*). As the title suggests ANY changes to the original agreed project plan that has a cost implication whether a saving, an increase or a virement (transfer), MUST be justified and agreed through a change request system. The PMS supplies a template for both the change request form and the associated tracking register *(insert links*).

The principle of this system consists of a form that requires information relating to reasons, impacts and cost of the change, together with an indication of the source of funds and the authority level (agreed within the PEP) for signing off. The data from each form, with its status (pending, approved or rejected) is added to the project's change request register. The status and values of all the change requests for a project can be monitored and reported from this change request register. Together with the project's financial cost system *(insert link*), a close degree of control can be kept on the project's financial health especially in forecasting likely outcomes.

2.1.11 Document control

Document control normally covers two main issues, probably best demonstrated by asking the following questions:

- How do you know the drawing you are using is the correct one to use; is it the latest version?
- Who should view this document?

One issue relates to the quality of the document, the other to communication.

Quality:

A document should include the following:

- a clear title (and an explanatory sub-title if necessary)
- date(s), including its context e.g. issued date, reporting date, printed date etc.
- project reference number/code plus any other reference indicators that are deemed useful
- author(s)/owner(s)
- originator's organisation name e.g. Bath & North East Somerset Council or Acme Engineers Ltd
- filing details e.g. filename and file path

A document could also include these additional items depending on the type of document:

- originator's designation e.g. Project manger, Project director etc
- document purpose
- sign-off/quality control cover sheet
- version and/or status details e.g. revision numbers on drawings, draft/final version numbers on reports, confidentiality etc.

Communication:

The purpose of the document will often define who must see it and whether any actions need to be taken by the viewer(s). The PEP should be clear on its communication plan and this can be articulated within the 'Document map' and 'Structure and Organisation' elements.

Some elements of communication will be laid down by the project governance and decision making processes where adherence is strictly required. These processes must be woven in to the overall communication plan so that all involved are informed and where appropriate decisions are made quickly on good quality information that has all the relevant up-to-date facts.

The project manager must not forget the Client/user or the smallest stakeholder.

2.1.12 Information management

This is related to 'Document control' and forms part of the communication plan within the PEP. In addition reporting lines and deadlines must be fully understood and included within the PEP. Hence, it is important that the project manager knows and controls how information flows within a project to ensure that reports are completed on time with the right information, design information flows to the right people at the right time, contract information is dealt with in accordance with the contract etc, etc. See also 1.1.2, 1.2.4 and 1.8.2.

The PMS help the project manger to manage the complex flows of project information *(insert link)*.

2.1.13 Processes

- Regulatory and/or Statutory processes
- Council Standing Orders (insert link)
- Project initiation
- The project execution plan. Ref docs\PEP docs\PEP template.dot

- Authorities and 'Gateways'. Ref docs\Gateway docs
- Reporting. Ref docs\PMS\Dir Rev templates.zip
- Project management System (PMS)
- Procurement of construction related professional services through the NEC3 Framework contract

2.2 Standard project management forms

The project management system (PMS) consists of a set of templates that cover all the major aspects of project management. They have been used and tested within the Development and Major Projects Directorate for some time and have proved their worth in being able bring:

- common data collection and collation that
- enables consistent reporting that includes
- good historical facts but more importantly
- establishes clear trends that
- enable clear and accurate forecasts of probable outcomes that in turn
- enables clear and accurate decisions to be made.

All the templates are live documents that will be improved and changed as experience and expertise in their use is built up within the Council. Different types of projects may have different requirements, which may require some changes to the templates.

BUT

Any changes to the templates MUST be carried out ONLY by the Development and Major Projects (D&MP) project management team. Do NOT alter any formulae within ANY of the spreadsheets. If an error is found or a particular change is required, then inform the D&MP project management team who will help with your enquiry.

AND

Do NOT copy templates for a new project from a previous project; ALWAYS download fresh ones from the website. These will have any of the latest changes incorporated within them.

Those project management forms listed and described below with (DR) at the end of their title, indicate those forms that make up the monthly project management report known as the *'Director's Review'*.

The PMS is made up of the following main documents (mainly spreadsheets):

0 REV5 - PM Monthly Report Document Checklist

A - Key Event Schedule - Monthly Status Report

B - Monthly Cost Report

C1 - Risk Register

C2 - Impact Schedule

D - Consultant & Contractor Appts Tracking Schedule

E - Project Directory

F - Milestone Schedule

G - Marked-up Programme

H - Development & Design Programme

J - Regulatory Schedule

K - Schedule of Project Boards & Authority

L - Notices and Claims Schedule

M - Close out

N - Key Issues Schedule

Q - Project cash flow (actual vs predicted)

R - Template Change Orders + Register

S - CDM - Client responsibilities checklist

S - Health and Safety Summary Report

T - Review of Forthcoming Dates & Reports

U - Lessons learnt

V - Stakeholder Interest

W – Project Resources Schedule

2.2.1 Project Initiation Form

Purpose:

To establish the outline purpose, objectives, cost and business/financial case of a potential project to enable the Council to prioritise its capital spending into a properly resourced and managed capital programme.

Enable in a consistent and encompassing way the collection and collation of project data so that prioritisation of projects are undertaken in an informed manner so that they best meet the Council's strategic objectives.

To reduce the risk to the Council both financially and in fitness for purpose.

How to use:

The form is a spreadsheet template. A copy is automatically made on opening the template and should be saved into a new project folder. The form is designed to be completed electronically. The amount of information that is required will vary from project to project depending on the size and complexity of the proposed project. Advice should be sought from the Development and Major Projects team if you have any queries on the type and amount of information required.

The form should be used as the basis for collection, collation of information and underpin critical discussions, brain storming and workshops within your own Service Area

There are sections within the form for small series of projects that can be amalgamated into a block programme e.g. footway improvement works or pedestrian crossing implementation programme.

2.2.2 Project Start up sheet

Purpose:

To ensure that the Client fully understands the projects scope and objectives and has committed sufficient funds for the project to meet these objectives and be completed.

How to use:

A simple *Word* template that is completed by the project manager and Client and signed off by the Client.

2.2.3 Key Event Schedule - Monthly Status Report ("Radar chart") (DR)

Purpose:

To provide an 'at a glance' summary of the major elements of the project – time, cost, key risks and key issues measured against the original project plan.

How to use:

The other parts of the PMS system provides the information for this sheet. Do NOT attempt to automatically link to the data in other sheets of the PMS. It is very important that as the project manager you gain a good 'feel' for where the project is in relation to the project plan and inputting the data manually will help you review and check the data in a more meaningful way. Updating the sheet on a weekly basis will also help to get that 'feel' and do NOT leave updating it to the last minute before the Director's Review, it will show!

Some of the headings on the sheet can be changed to suit the particular project, but please check with the Development and Major Projects co-ordinator before making any other types of changes, major or minor.

2.2.4 Monthly Cost Report (DR)

Purpose:

To provide a system of cost monitoring and forecasting to enable the project manager to report on budget, contingency and cost issues.

How to use:

The summary and background sheets are designed to be used for the most complex to the simplest projects. The summary sheets are referenced back to the individual background sheets which, in turn, can be referenced back to more complex schedules if so desired e.g. schedules of ERI's and/or schedules of anticipated further costs.

It is important that the change order register matches the changes in the cost report whether they are virements and/or contingency expenditures.

It is important to have some instruction in its use if there is the slightest doubt on how to use the system. Most importantly do NOT change ANY formulae. The sheets should be used as and when ANY cost changes occur whether actual or anticipated. The anticipated further costs sections are particularly important for the project manager to consider and to complete as necessary.

2.2.5 Project cash flow (actual vs predicted) (DR)

Purpose:

To monitor the budgeted cost cash flow against the actual cost cash flow and estimate the forecast cash flow.

How to use:

The cost plan must be cash flowed across the lifetime of the project. This cost plan together with the programme must be fixed (baselined) by agreement with the client. The actual costs can then be entered and monitored against the baseline budget (cost plan) and a forecast cash flow estimated by evaluating the cost of the work still to be carried out.

2.2.6 Risk Register (DR)

Purpose:

To record, monitor and track the project risk, with the attendant mitigation measures. The risk register is the key project document in communicating and demonstrating both the status and scope of project risk and the associated mitigation measures.

How to use:

Risk assessments must be carried out regularly during the lifetime of a project; i.e. monthly by the internal project team and quarterly by the project team and stakeholders (internal and external). The risk assessments must explore, identify and evaluate project risks. The identified risks that may have an impact directly or indirectly on either the project or the corporate body i.e. the Council, can then be managed (by mitigation) and its effectiveness monitored.

A full risk register and a summary risk register are available for use. The summary risk register summarises the top ten project risks and the movement in these risks can be monitored over several months. Some risks will increase or decrease over time, whilst others will drop out entirely and new risks added. Risk is seen as being very dynamic which must be mirrored in their active management

2.2.7 Key Issues Schedule (DR)

Purpose:

To identify, evaluate and manage issues that may have an impact/effect on a project. Usually issues will have emerged from earlier identified risks that have now occurred.

How to use:

Identify and record each key issue together with its effect/impact, description of the action(s) required and who is responsible and by when the action(s) need to be carried out. This document must be review and updated regularly at least as regularly as the risk register.

2.2.8 Milestone Schedule (DR)

Purpose:

To identify those key dates within the project programme that has a major influence on the progress of the project and monitor their progress against the base position.

How to use:

The form is straightforward in its use and the detail required will depend on the complexity and scale of the project involved. It is usual that the milestones are integrated within the project programme so that any changes to the activities in the programme are reflected by the key milestones. This makes updating the schedule very much simpler and ensures that an accurate picture of the project's progress is maintained. It is very important that the base, forecast and actual dates are completed.

2.2.9 Marked-up Programme (DR)

Purpose:

To demonstrate the logical sequence of activities that make up the agreed baseline project plan with a critical path(s).

The primary purpose is to indicate actual progress against the baseline project plan so that it shows activities that are on schedule, ahead of schedule and behind schedule.

It also can be used to demonstrate the effect of any changes made to the project plan.

How to use:

The *Programming Procedure Manual & Guidance Notes* should be fully understood to enable the project plan to be fully reflect the activities, processes and scope of a project. It is essential that progress is monitored by marking-up individual activity progress against the agreed project baseline. This should be carried out at least monthly for reporting purposes and more frequently if events dictate e.g. major change to programme.

2.2.10 Development & Design Programme (DR)

Purpose:

To control and monitor the project development and design processes.

How to use:

This will usually be part of the overall project programme, but as this part of a project tends to be the most difficult to control, special attention needs to be paid to monitoring this part of a project. Indeed, some projects may only consist of development and design.

Fully understood outputs with clear target dates and briefs must be produced, so that all the team understands

2.2.11 Consultant & Contractor Appointments Tracking Schedule (DR)

Purpose:

To track the number and status of consultant and/or contractor appointments. It ensures that the project manager has an overall view of the project's appointments so enabling greater control over the procurement/appointment processes that may be required on a project. This tracker should be used in conjunction with the Council's contract standing orders and EU procurement regulations

How to use:

This a simple form to fill out by entering the dates under the appropriate headings. It is important to keep the two forms (one for consultants, the other for contractors) up-to-date.

2.2.12 Regulatory Schedule (DR)

Purpose:

To monitor and record the statutory/regulatory requirements and processes of a project. This could includes permissions/licences from the Planning Authority, Environment Agency, Highway Authority, British Waterways, the Avon Act, English Heritage, English Nature, the Utility Companies and the like.

How to use:

The relevant processes should be included within the project programme. This schedule provides more detail and enables the project team to readily identify and track progress on these critical activities, the processes of which are often outside direct control of the project manager.

2.2.13 Project Directory (DR)

Purpose:

To provide a central source of contact information.

How to use:

Fill in the relevant data and expand the sheet as required.

2.2.14 Schedule of Project Boards & Authority (DR)

Purpose:

To monitor and track the decision making processes within a project to ensure due consideration/planning has been given to gaining the required authority for those decisions at the appropriate level(s).

How to use:

When planning a project (creating the programme), carefully consider the likely authorities required and the decision processes that these may entail. List them in this form and include them in the project programme. Keep this form up-to-date (as well as the programme) as changes will certainly occur to the original programme.

2.2.15 Notices and Claims Schedule (DR)

Purpose:

To monitor and track contract notices and claims, especially those related to a construction/implementation contract. It helps provide an audit trail in the case of any dispute. The project manger is responsible for ensuring that the contract administrator completes these forms.

This form should help ensure that the notice and claims procedures and processes are carried in accordance with the contract(s).

How to use:

This is a straightforward form - complete the entries as necessary; review regularly and keep it up-to-date.

2.2.16 Change Requests

Purpose:

To monitor, report and authorise **all** changes made to a project plan

How to use:

Change requests are made, monitored and reported through a suite of Excel spreadsheets linked together by the design of a simple application. This application and the forms, database, summaries and graphs form one of the most important documents in the PMS and its use is absolute for all projects small to large, simple to complex. A short one-to-one training session will normally be required for first-time users. The D&MP directorate will arrange this.

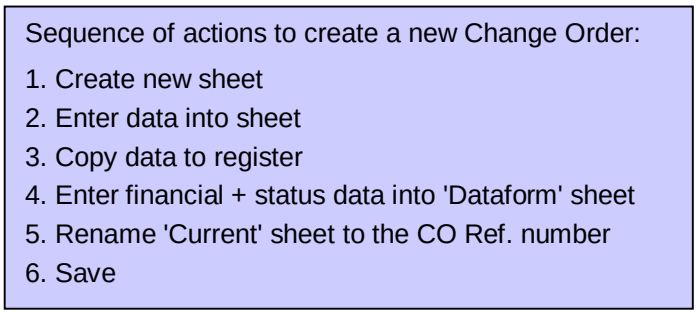


Figure 26 - Information box from the Microsoft Excel ® application

The elements that make up the change request process, data storage, summary report and contingency burn rate monitor and forecast are listed below:

2.2.16.i Change Form Template (Change Order)

Purpose:

To provide full information related to **any** change to the agreed project plan – financial, technical, quality, process or activity, so that a fully informed

decision as to the appropriateness and implications of the proposed change can be made.

How to use:

A copy is made from the template (this is named *'Current'* by default) into which all the relevant information is entered. A list of any supporting documentation is also made. The data from this form is transferred to the 'Dataform'. The *'Current'* form sheet name tab is renamed to the unique change order (CO) reference number (generated at the top of the form). This form, any supporting documentation, the *'Summary'* and the *' Contingency burn rate* monitor' must be put together to form a pack so that the change can then be authorised by the appropriate person(s). For major projects under D&MP control, this will be the Commercial Manager and the Assistant Director of Project Management or the Director of Development and Major Projects – (see 2.2.16.iv below for further details).

2.2.16.ii Change Request Register – Dataform (DR)

Purpose:

To collect, collate and monitor the data from all the individual Change Orders (CO) for the project.

How to use:

This form is a spreadsheet database and the financial data (if any) and the status of the CO will need to be entered under the appropriate headings. Any updates to the status of the CO, dates and the like are made in this database. Reports can be made from this database by use of the filter buttons on the column headings.

2.2.16.iii Summary (DR)

Purpose:

Summarises the current financial position of the project with respect to the client and construction/implementation contingencies and the project budget (excluding the contingency sums) against the change in sums should the CO be authorised.

How to use:

This form is automatically updated from the database. A copy of this form **must** accompany each CO request. The forecast position **must** match that on the summary sheet of the cost report *(insert link).*

2.2.16.iv Contingency Burn Rate (CBR) Monitor and Forecast (DR)

Purpose:

To monitor the actual and forecast burn rates of the project contingency against the baseline contingency burn rate. This will give early warning of the cumulative effects of the COs on the project contingency. This form, by its nature, only deals with financial COs.

How to use:

The baseline contingency burn rate is calculated at the start of the project by dividing the total contingency sum by the total duration of the project (i.e. the duration of the project over which the contingency sum is meant to cover). The actual CO values (pending and approved) are entered as they occur and a copy of the chart produced by each additional value **must** accompany each CO before it can be authorised. The authorised approval signatories will depend whether the forecast trend of the CBR is greater than (i.e. above) the baseline CBR or less than (i.e. below) the baseline CBR.

1) Project team workshops to be carried out at critical points of the project contingency spend; the first of which MUST occur at 25% of contingency spend.

2) Review the contingency if the trend rate of contingency spend ("burn") goes above the baseline burn rate.

3) Change Orders that increase or keep the trend contingency burn rate (CBR) above the baseline trend CBR, MUST be signed-off by the responsible Director.

4) Change Orders that do NOT increase the CBR above the baseline CBR can be signed-off by the Assistant Director - Project Management AND the Commercial Manager

Figure 27 - CBR monitor instructions

2.2.17 CDM – Client responsibilities checklist (DR)

Purpose:

To help ensure compliance with the clients' responsibilities.

How to use:

Check off the responsibilities as they are completed. Always check with the corporate website and the HSE website for any changes and for guidance on interpretation of the current regulations. *(insert link)*

2.2.18 Health and Safety Summary Report (DR)

Purpose:

To monitor, collate and report all the health and safety matters related to a project in a consistent manner. The use of industry standard statistical data enables performance comparisons to be made, which helps in managing safety performance.

Some links to supporting Health and Safety documents/templates are shown below

http://cis/healthsafety/c.5.htm

http://cis/healthsafety/f03.htm

http://cis/healthsafety/hiringcontractors.htm

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5274/ContractorSafetyPolicyAssessmentForm.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5276/ContractorsampleHSQuestionnaire.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5277/ContractorScoringCriteriaforSampleHSQuestionnaire.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5267/CDMPreProjectchecklist.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5268/CDMProjectProgressSheet.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5269/CDMRiskAssessmentForm.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5262/AssessmentofContractorHSCompetence1.doc

http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5263/AsbestoscontractorChecksheet1.doc

How to use:

A template is provided in which the health and safety summary should be reported together with any relevant documents from those shown above.

2.2.19 Close-out Tracking Schedule (DR)

Purpose:

To control and track the final critical stages of a project to help ensure a smooth transition from construction/implementation, through commissioning to handover.

How to use:

A series of critical activities related to handover, commissioning etc are listed together with their responsibilities, durations and key date(s). The progress of these activities is recorded to enable a clear detailed picture of project status to be determined. This will enable management actions to be more readily directed and focused on those areas that require attention.

It is important to ensure that the activity list is comprehensive and complete, covering **ALL** critical activities.

2.2.20 'Lessons Learned' Log (DR)

Purpose:

To provide a means of recording the best and worst events that have affected the management of a project as they happen, this will then allow an analysis to be made of the successes and failures of the project.

This will form part of the Gateway 07 – Operations process by being part of the Final Project Evaluation Report.

How to use:

The spreadsheet is tabbed with the Gateway numbers. Data is entered in the appropriate gateway sheet, using the items under the headings as aide-memoirs for categorising your lessons learnt. Issues should be added as and when they occur together with the 'lesson(s) learnt'. This is an important **LIVE** document and should be used as part of the normal day-to-day project management processes.

2.2.21 Stakeholder Interest (DR)

Purpose:

To provide a means of recording relevant stakeholder interest groups, their status, current issues, management strategy, action and programme.

How to use:

Some guidance stakeholder categories are given; others can be added as required. The stakeholder list must be reviewed regularly together with the any issues and actions.

2.2.22 Project Resources Schedule (DR)

Purpose:

To record a project personnel requirements, current commitments and monitor staff turnover and recruitment. It should aid the project manger in ensuring the project team resources fully match the requirements of the project and to identify personnel issues.

How to use:

Start to complete at the project planning stage (viability and/or feasibility) and keep up-to-date as the project proceeds. Analyse reasons for high staff turnover and ensure adequate training regimes are in place.

2.3 Useful References

- *Pocket Guide to Project Management* **PM Pocket Guide.doc**
- *Project Management Handbook for Local Authorities – Version: 3; Programme, Project and Change Management;* e-Capacity building programme, Office of the Deputy prime Minister and the London Borough of Lambeth
- *Code of Practice for Project Management for Construction and Development – Third Edition;* CIOB; Blackwell Publishing
- *The RIBA Plan of Work Stages*; RIBA **Ref docs\RIBA\The RIBA Plan of Work Stages 1999.doc**
- *Programming Procedure Manual & Guidance Notes* – Bath and North East Somerset Council; July 2006
- Health and Safety - (Council's intranet links)

  http://cis/healthsafety/c.5.htm

  http://cis/healthsafety/f03.htm

  http://cis/healthsafety/hiringcontractors.htm

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5274/ContractorSafetyPolicyAssessmentForm.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5276/ContractorsampleHSQuestionnaire.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5277/ContractorScoringCriteriaforSampleHSQuestionnaire.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5267/CDMPreProjectchecklist.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5268/CDMProjectProgressSheet.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5269/CDMRiskAssessmentForm.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5262/AssessmentofContractorHSCompetence1.doc

  http://cis/NR/rdonlyres/3091A9B3-1FF5-4279-8CD4-2AEA97AEB1EC/5263/AsbestoscontractorChecksheet1.doc

- Health & Safety (HSE links)

  http://www.hse.gov.uk/construction/index.htm

  http://www.hse.gov.uk/new/index.htm

- *Insert procurement links*