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Project Concept Masterplan & Development Framework Procedure



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Project Concept Masterplan & Development Framework Procedure

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1.0 PURPOSE

The purpose of this procedure is to help reduce project risks by outlining a 'process driven' approach for the preparation of a concept masterplan and development framework. The procedure recommends a highly interactive, consultative and multi-disciplinary Inquiry-By-Design (IBD) workshop, which allows for site specific (i.e. place-based) testing of concept masterplan options. Key stakeholders, both internal and external to the Entity are involved in the process from the onset. This enables cross-entity and cross-sector integration and a sound understanding of the project complexities and opportunities to be established.

This procedure applies to works performed under all Government construction projects executed throughout the Kingdom of Saudi Arabia.

2.0 SCOPE

The procedure applies to all projects that have successfully passed Stage 1 of the Expro Stage Gate Process, and forms a major component of the activities required to be undertaken in Stage 2: Initial Planning.

3.0 DEFINITIONS

Definitions	Description
5-Year Projects Portfolio Plan	A five-year schedule of Projects for an Entity, updated annually.
Approver	The Approver will be the person that has designated authority to have final sign-off on the document. The document cannot reach the status of "Issued for Use" until the Approver reviews and approves the documents as "Code A".
Benefits Cost Ratio (BCR)	The ratio of benefits to costs of an Investment, calculated using a Net Present Value approach.
Checker	The Checker should have a good understanding of the document being created. The Checker should be from the same department as the Originator with equal experience and understanding of the content matter.
Class 4 Estimate	Order of Magnitude Estimate
CMP&DF Process	Concept Masterplan & Development Framework
Concept Masterplan Options	Conceptual options / outcomes from the IBD workshop that are documented and further developed for testing & assessment
Decision	A conclusion or resolution reached after consideration.
Document	A piece of written, printed, or electronic matter, which is required to be controlled for the purposes of the organization and provides information or evidence during work execution.
Entity	A Saudi Government organization which is responsible for the delivery of government funded infrastructure construction projects.
Evidence Matrices	A tabulation of evidence to support the project, submitted by the Sponsor, for evaluation by the Reviewer.
Expro Projects White Book (MPWB)	The Expro document that describes the process for delivering projects and includes references to all required procedures, templates, and checklists.
Multi-disciplinary Options Assessment	Multi-disciplinary assessment of concept master plan options, in order to identify an option for recommendation to the Entity.
Options Assessment Framework	A structured method of comparing a Long List of options to arrive at the Short List.
Portfolio	All projects an Entity intends to deliver.
Procedure	Documents that provide information about how to perform interdepartmental activities and processes consistently. Procedures are used to manage and control activities such as tasks performed across different groups or functions such as Engineering, Procurement, Document Control etc.
Process	A sequential series of steps or actions that lead to a desired result or output. A set of related tasks that create a product or service that will satisfy a customer or group of customer's needs.
Review Periods	Serve as official control points within the process for formal Entity / Client review and feedback of the Concept Masterplan & Development Framework.



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Definitions	Description
Reviewer	The Reviewer will be more experienced than the Originator usually being a manager of the related department or a related discipline.

Abbreviations	Description
3D	Three Dimensional
BUA	Built Up Area
CGI	Computer Generated Image
EIA	Environmental Impact Assessment
ESR	Environmental Scoping Review
FAR	Total Floor to Site Area Ratio
GFA	Gross Floor Area
HSSE	Health, Safety, Security and Environment
HV	High Voltage
IBD	Inquiry-By-Design, a workshop based multi-disciplinary planning and design development process that enables options to be developed and tested in an integrated, multi-disciplinary manner
IEE	Initial Environmental Evaluation
LV	Low Voltage
MV	Medium Voltage
PDF	Portable Document Format.
PME	Presidency of Meteorology and Environment
RFI	Request for Information
SWOT	Strengths, Weaknesses, Opportunities and Threats analysis of a proposed project or project site
TIA	Traffic Impact Assessment
TSE	Treated Sanitary Effluent

4.0 REFERENCES

- ENT-S00-MN-000001 Entity 5-Year Projects Portfolio Planning Guide
- EPM-EQ0-PR-000001 Project Stage Gate Procedure
- EPM-S00-GL-000001 Project Registration Introduction
- EPM-S00-GL-000003 Project Initial Planning Introduction
- EPM-S00-PR-000009 Project Land Acquisition Strategy Procedure
- EPM-S00-PR-000001 Project Stakeholder Engagement Plan Procedure
- EPM-S00-TP-000003 Project IBD Workshop Briefing Agenda Template
- EPM-S00-TP-000004 Project Multi-Disciplinary Concept Options Assessment Template
- EPM-S00-PR-000003 Project Environmental Impact Assessment Procedure
- EPM-S00-PR-000004 Project Permitting Plan Procedure
- EPM-S00-PR-000006 Project Cost Estimate – (Class 4) Procedure
- EPM-S00-PR-000007 Project Outline Business Case Procedure
- EPM-S00-GL-000002 Project Delivery Strategy
- EPM-KS0-GL-000001 Project HSSE Introduction
- EPM-EQ0-GL-000001 Project Quality Introduction
- EPM-EM0-GL-000001 Introduction to Risk Management
- EPM-ID0-GL-000001 Introduction to Document Management Guideline
- EPM-KU0-GL-000001 Sustainability



5.0 RESPONSIBILITIES

The procedure will be undertaken by the project sponsoring Entity. As the procedure for preparing a concept masterplan and development framework needs to be highly consultative and multi-disciplinary, the approach pulls together a diverse team of both internal and external stakeholders, from across entities, sectors and disciplines, to participate in the process.

6.0 PROCESS

6.1 Introduction

The preparation of a Concept Master Plan & Development Framework (CMP & DF) should to be undertaken in a highly consultative, integrated, multi-disciplinary and site specific (i.e. place-based) manner. This is best achieved, via a 'process' driven approach (refer to Figure 1) which typically includes the following key phases:

- **Phase 1** - Project Inception, Stakeholder Consultation, Background Research, Review & Analysis;
- **Phase 2** - Generate Concept Master Plan Options;
- **Phase 3** - Prepare and Assess Concept Master Plan Options;
- **Phase 4** - Formal Entity & Key Stakeholder Review and Feedback Period A;
- **Phase 5** - Prepare DRAFT Concept Master Plan & Development Framework Documentation;
- **Phase 6** - Formal Entity & Key Stakeholder Review and Feedback Period B;
- **Phase 7** - Prepare FINAL Concept Master Plan & Development Framework.

Whilst not fully resolved from an engineering or design perspective, the Concept Master Plan & Development Framework will help deliver the following:

- Clear understanding of how the project vision and objectives could be delivered;
- Clear understanding on how the development brief could be achieved on the project site;
- Early discussions with key stakeholders, including approval authorities and service providers, thus reducing the risk of potential downstream delays or derailment;
- Early identification of specialist technical studies / services required, an outline of their scopes of work and timeframes, thus reducing the risk of potential downstream delays;
- Establishment of a Class 4, order of magnitude cost estimate and Level 1 schedule, to assist with ongoing project feasibility assessment;
- Establishment of initial 'marketing' type material to assist with improved inter-Entity liaison and potential early discussions with alternative funding bodies / investors, and
- Establishment of essential 'outputs' required for the project to proceed in an efficient /effective manner and to enable submission for review at Stage Gate 2.



6.2 Concept Masterplan and Development Framework Process

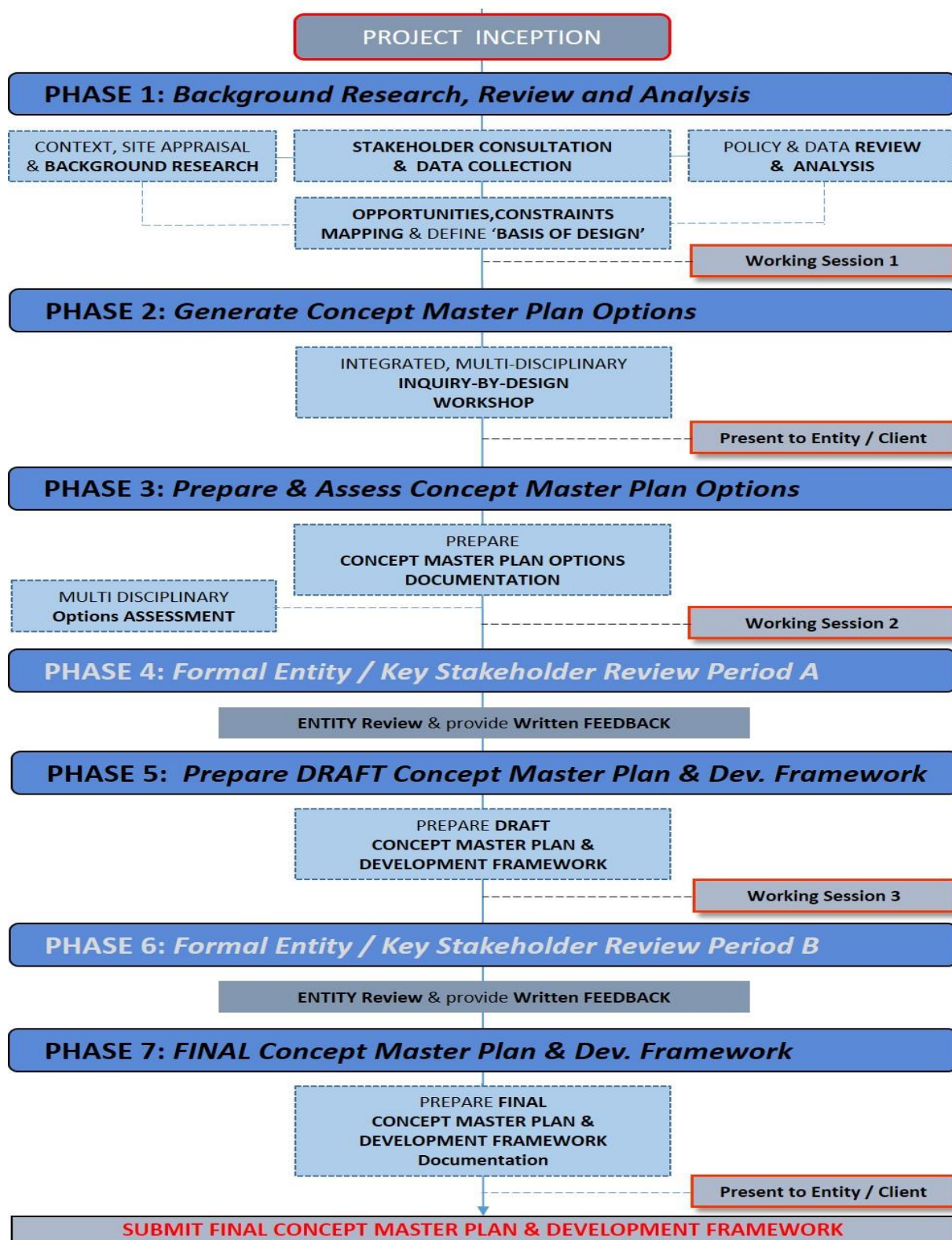


Figure 1: Illustrative Concept Master Plan and Development Framework Process



Each of the seven phases comprises a series of interrelated steps and tasks. This is illustrated in the diagram above and are briefly described below. A series of interactive project working sessions and one key integrated, multi-disciplinary Inquiry-By-Design (IBD) Workshop would be held with the Entity (Client Body) and key stakeholders at strategic points within the programme. This is in order to confirm the project vision, objectives and brief, prepare conceptual site development options, present and review draft outputs and reach required decisions.

6.3 Phase 1 - Background Research, Review and Analysis

This phase aims to set a solid foundation for the project by confirming the vision, agreeing project management procedures, phase deliverables and timelines, assessing the site and available mapping / data and establishing an initial 'Basis of Design'.

6.3.1 Step 1: Project Inception Meeting

Following receipt and review of the Entity's initial project documentation (i.e. Entity vision statement, project objectives, key stakeholder and contacts list and available base mapping / data list), by the project team, the project would formally commence with a 'team' inception meeting (this includes key members from the Entity / Client Body and core members of the project team). The meeting would discuss and address the following key elements:

- Confirm the Entity's strategic objectives and project vision;
- Re-confirm the project brief and clarify any potential outstanding issues;
- Review and confirm the Entity's outline project budget;
- Review a 1st draft stakeholder engagement plan (prepared in advance by the project team) and agree all stakeholders to be consulted;
- Re-confirm all available data and identify any potential outstanding information required (from others), in order to undertake this initial planning stage of the project;
- Agree the Phase 2 Inquiry-By-Design Workshop logistics (i.e. date, venue, catering, etc.) as well as who attends and who presents;
- Confirm dates and logistics for Entity (Client) working sessions;
- Confirm the project team, all lines of communication and project management procedures, and establish a responsibility matrix, and
- Re-confirm the project program / project deliverables and key dates.

Please Note: all available Entity mapping and data is to be provided to the project team by the Entity, their representatives or specialist consultants, at the inception meeting.

Key outcomes of this meeting would form an initial Basis of Design Document and establish any early project Requests for Information (RFI's).

6.3.2 Step 2: Site Visit, Stakeholder Consultation and Data Collection

After project inception and agreement on existing available data (to be reviewed) and parties to be consulted, the project core team including members from the Entity / Client Body are to undertake a joint visit of the proposed project site and surrounding local context. This should be a structured, agenda driven visit, aimed at helping inform analysis of the site. The initial basis of design document and available site mapping will act as a guide for the visit and help identify known physical elements such as the site extent, existing zoning, legal boundary alignments, etc. Core team members would typically include (but not be limited to) the following:

- Project Manager;
- Urban Designer / Master Planner;
- Economist;
- Urban / Social Planner;
- Transportation Planner / Engineer;



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- Environmental and Sustainability Consultant/s;
- Infrastructure / Utilities Engineer (including drainage);
- Architect & Landscape Architect, and
- Quantity Surveyor / Cost Consultant.

A consultation process with agreed stakeholders (i.e. this should include key service providers) would be undertaken. Initial data to be collected (per discipline) should include all existing available records or information held by stakeholders or their representatives. Missing or additional data deemed necessary for the project should be identified.

Outcomes of the site visit and stakeholder consultation meetings would be an update of the Basis of Design Document and establishment of any additional Project RFI's.

6.3.3 Step 3: Background Research, Technical Review and Analysis Process

A comprehensive review and analysis of available data collected, relating to the site and its local surrounding environs should be undertaken, per discipline. The review is to be based on the data received and collected, and supplemented by observations from the site visit. Data to be reviewed would typically include (but not be limited to) the following available:

- Base information including high resolution Aerial or Satellite Photography;
- KSA Urban Planning Standards, Data, Considerations and Regulations;
- Economic and Socio-Economic data;
- Traffic data including volumes, circulation, access and transport considerations;
- Infrastructure and Utilities Data (including existing utility alignments and levels of provision);
- Topographic, Cadastral and Site Surveys;
- Geological & Geotechnical information, and
- Environmental and Social Opportunities and Constraints, and Requirements.

An Initial Environmental Evaluation (IEE), should be undertaken by a qualified environmental consultant at this stage. The purpose would be to identify high-level environmental planning considerations using existing documentation, a review of the regulatory requirements and a visit to the project site and surrounding areas.

The IEE would provide an overview of the environmental and socio-economic context in which the project is set. It would be carried out with a view to identifying and describing opportunities and constraints associated with the project location, that should be considered in the generation of concept master plan options and that may require more detailed consideration in later stages of environmental assessment. The evaluation would aim to identify the key social, economic and environmental factors that have the potential to put the project at risk. For each receptor (i.e. marine water quality, air quality, noise, coastal processes, ecology, soils and geology, groundwater, etc.), the evaluation should outline the following:

- The nature of the project;
- The current existing conditions (based on desk-based information);
- Methodology and criteria for assessment;
- A list of any additional categories applicable to the proposed project;
- Further surveys or information required to adequately quantify the impacts and complete the level of assessment required for the receptor category, and
- Information on major socio-economic considerations, permitting agencies, stakeholders etc. for the project site.

The evaluation would also set out the legal and regulatory environmental framework relevant to the project in the context of which the environmental permitting and ongoing assessment processes should be conducted. By carrying out an IEE at this early stage, opportunities to 'design out' significant impacts and to 'design-in' potential benefits can be maximized.



Please Note: No detailed site surveys or intrusive site investigations are deemed necessary at this stage.

The outcomes from the above research, review and analysis process would enable the identification of opportunities and constraints (per discipline) for use at the IBD Workshop and in the generation of concept master plan options.

6.3.4 Step 4: Opportunities and Constraints Briefing Documentation

The review and analysis (i.e. this could include a Strengths, Weaknesses, Opportunities and Threats / SWOT analysis - per discipline) of all data received or collected, would enable each discipline to prepare a concise 'technical' summary document (with supporting plans, graphics and annotations). This documentation which should be prepared in color A4 landscape format, would form the basis for Phase 2, Step 2 briefings on day 1 of the IBD Workshop (refer to Section 6.4.2). The summaries will define the planning context and site development requirements and establish potential development opportunities and constraints (per discipline). Measures to overcome or mitigate any constraints/ issues identified, should also be provided.

All technical briefing summaries should be consolidated into a Draft Briefing document, for early review at project team working session No.1.

6.3.5 Step 5: Project Team Working Session No. 1

An interactive (pre IBD Workshop) project team working session (this includes the Entity) should be held to address the following:

- Re-confirm the Entity's strategic objectives and project vision;
- Review Draft technical briefing documentation and updated the Basis of Design (development brief) documentation;
- Identify and discuss sustainability based master planning approaches and urban design principles (i.e. Compact vs Sprawl urban form), to be employed during the IBD options generation workshop;
- Discuss and agree on the key planning / design standards to be used (i.e. population growth projections, parking provision rates etc.) and the levels of service to be provided, and
- Identify and confirm initial Entity / stakeholder assessment criteria (and their weighting levels), for use during concept master plan options assessment.

This working session will briefly review all information prepared to date and agree on information to be taken forward into Phase 2.

6.4 Phase 2 - Generate Concept Masterplan Options

To ensure that site concept master planning is undertaken in a highly interactive, integrated and multi-disciplinary manner, the use of an IBD process is recommended. This process ensures a high degree of Entity and stakeholder participation, inter disciplinary debate and informed, 'place-based' (i.e. site specific) design testing, which enables the following benefits:

- Production of well-coordinated concept master plan options;
- Outcomes with increased levels of interdisciplinary consensus;
- A sound understanding of the project complexities and opportunities, and
- A reduction in project risks.

6.4.1 Step 1: Pre-IBD Workshop Preparation

The project team would undertake the following tasks prior to the IBD workshop:

- Preparation of briefing information for those undertaking presentations (on day 1 of the IBD workshop), both on the format and length of their contributions;



- Preparation of a workshop briefing agenda (with timings) for day 1 of the workshop.
Please Note: A Project IBD Workshop Briefing Agenda Template EPM-S00-TP-000003 is provided in Section 7.0 Attachments;
- Preparation of base maps and reference imagery (at pre-agreed / appropriate scales) for use during the IBD workshop;
- Procurement of workshop materials / stationary for use at the workshop, and
- Set up of the IBD Workshop venue and break away areas.

6.4.2 Step 2: The Inquiry-By-Design (IBD) Workshop

Workshops will vary in duration from between 3-5 days, dependant on the scale and complexity of the project at hand. Provided below is an indicative outline of an indicative 3-day workshop.

- **Day 1**
 - Workshop registration;
 - Workshop introduction, outline of briefing session and days ahead;
 - Undertake workshop briefing session (per discipline);
 - Identify and confirm key Entity options assessment criteria and agree criteria weighting, and
 - Commence design inquiry (per discipline) at broad site wide scale, testing outline development approaches / strategies.
- **Day 2**
 - Continue design inquiry at broad site wide scale;
 - Internal review of approaches tested - analysis and early feedback;
 - Commence design inquiry at site and precinct levels;
 - Internal review of site & precinct scale designs tested - analysis and feedback,
 - Commence integrated design inquiry.
- **Day 3**
 - Internal review session of integrated design testing - analysis and feedback;
 - Continue integrated design inquiry;
 - Conclude design inquiry;
 - Prepare for Entity / Client and key stakeholder workshop outcomes presentation;
 - Present workshop outcomes to the Entity and key stakeholders - for early review and feedback, and
 - Project team wrap up session - to agree on next steps.

The draft outcomes / options developed at the workshop will, in conjunction with the early Entity feedback obtained at the workshop summary presentation, form the basis for ongoing conceptual planning and design development in Phase 3.

Phase 3 - Prepare and Assess Concept Masterplan Options

The key aims of this phase are, to progress the conceptual design development of workshop options identified (in an integrated, multi-disciplinary manner), to undertake an informed multi-disciplinary assessment of the options and to identify an option for recommendation to the Entity.

6.4.3 Step 1: Preparation of Concept Options Documentation

Following IBD Workshop feedback received from the Entity and key stakeholders, the project team is to progress the conceptual design development of up to three (maximum) concept master plan options. These are to be presented in a full colour, A3 Concept Masterplan Options Report. The options will include at least the following outputs per discipline.



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Urban / Social Planning

- **Site Context Plan:** covering both the project study area and adjacent built and natural context, this plan should help set the context within which all options develop, are to be can be reviewed;
- **Indicative Land Use Plans:** covering the overall project area and illustrating how the development brief is envisaged to be delivered. The plan/s should identify the location of all proposed land uses (both built and open space) and show the relationship between any existing (to be retained) and proposed development components.

Urban Design / Master Planning

- **Illustrative Concept Master Plan Options** (up to 3 max): covering the overall project area and identifying the indicative location of all anticipated built and landscaped components.

Transport Planning

- **Indicative Movement Network and Parking Plan/s:** covering access / egress to and from the site as well as through the project area. These plans should illustrate the vehicular and pedestrian movement network hierarchy, key site access locations, indicative road cross-sections, pedestrian only links and parking locations and types (i.e. basement, semi basement or sleeved within above grade structures).

Pre-Concept Architecture

- **Three Dimensional (3D) Massing and Visual Characteristics:** 'outline' (revit or sketchup) computer generated 3D massing models and freehand illustrative color perspectives (2 per option max.) should be developed. These perspectives should illustrate the overall envisaged development massing, visual character for each of the options.
Please note: Computer Generated Images (CGIs) are not required or recommended at this concept master planning stage of the project.

Landscape Architecture

- **Indicative Open Space Network Plans:** covering the overall project area. These plans should illustrate the overall open space network and envisaged open space types.

Utilities Engineering

- **Indicative Utilities / Infrastructure Plans:** covering the overall project area these 'line diagram' plans should illustrate the indicative infrastructure alignments (including but not limited to streets alignments, power, and water and telecommunications supply and sewerage removal). The plans are to be accompanied by supply and demand calculations.

Environment and Sustainability

- **Sustainability Principles:** to be applied within the development should set out. These would include per capita energy and water consumption rates, water and energy supply (including renewable energy strategy), a balanced high-level water budget, the application of a waste mitigation strategy, public and or non-motorized transport options and any mitigation/offsetting measures to compensate for potential unavoidable environmental and or social impacts, associated with the project. Materials should be considered in terms of durability, local context (i.e. climate and visual identity), availability and culture. 'Future proof' planning, given technology trends and innovation over the coming decades should be considered as to how the Concept Master Plan (CMP) could take these aspects into account over time.



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Development Economics

- **Proposed Area Matrix Summary:** identifying total development footprint, Gross Floor Area (GFA) and Built Up Area (BUA). The summary will also compare the outcome delivered to that of the development brief;
- **Indicative Phasing Plans:** These plans will illustrate how envisaged construction phases would occur.

Cost Consulting

- **Class5 – Order of Magnitude Cost Estimate:** preparation of an order of magnitude cost estimate for each of the conceptual options is required to assist in the selection of a recommended option (cost per m² rates should be used for buildings / structures and order of magnitude costs for utilities / infrastructure).

6.4.4 Step 2: Undertake Multi-Disciplinary Concept Options Assessment

Based on the overall project vision and objectives and the key assessment criteria and their envisaged weightings (previously discussed and agreed with the Entity), an assessment per discipline of the concept master plan options developed (i.e. including cost estimates), should be undertaken.

Please note: to assist, a Project Multi-Disciplinary Concept Options Assessment Template EPM-S00-TP-000004, is provided in Section 7.0 Attachments.

The aim of this assessment would for the core team members to identify and confirm a 'preferred' option for recommendation to the Entity / Client Body and key stakeholders.

6.4.5 Step 3: Project Team Working Session No. 2 - Present and Submit Concept Masterplan Options & Outcome of Options Assessment

The outputs identified within Phase 3, Steps 1 and 2, will be presented (in PowerPoint data show format) to the Entity at project working session No. 2, for early review and feedback.

The recommended option identified during the options assessment process is to be put forward to the Entity for consideration.

A full color, A3 Concept Masterplan Options Report is to be submitted to the Entity / key stakeholders for formal review and feedback.

6.5 Phase 4 - Formal Entity / Client Review and Feedback Period A

A formal Entity and key stakeholder review and feedback period should to be allowed for within the CMP & DF program. After working session No. 2 and formal review by the Entity / key stakeholders of the outcomes submitted through the Concept Masterplan Options Report, the Entity is to provide the following in writing:

1. Confirmation of the Entity's preferred option;
2. Identification of any potential issues requiring address in the forthcoming stage,
3. Confirmation of uses, areas, costs and phasing, and
4. Formal approval to proceed to Stage 5.

6.6 Phase 5 - Prepare Draft Concept Masterplan and Development Framework Documentation

With the Entity having confirmed its preferred Concept Master Plan Option, the aim of this phase is to review and incorporate written feedback received, to further develop and refine the Concept Master Plan and to prepare a comprehensive Draft Development Framework that defines the proposed development rationale.



6.6.1 Step 1: Generate Draft Documentation

After receipt of formal written feedback, clarity on the Entity's preferred concept master plan option, identification of the issues to be addressed and approval to proceed, the project team would further progress the Concept Master Plan and develop the Draft Development Framework. The Draft documentation would include (as a minimum) the following key deliverables:

Urban / Social Planning

- **Introduction:** a brief description of the background to the project, an outline of the project vision, elaboration on the master planning / design approach and a description of the overall site development rationale.
- **Site Context Plan:** illustrating how the proposed development would be integrated within the existing surrounding local context (built and natural).
- **Outline Site Planning Informants:** this would include constraints and analysis graphics illustrating the primary site planning informants including topography, flora & fauna, hydrology, natural drainage alignments and site accessibility and circulation.
- **Indicative Land Use Mix Plan:** this plan would provide an outline illustration of the overall land use mix, identifying the location of proposed land uses (both built and open space), built form footprints and development alignments.

Urban Design / Master Planning

- **Key Concept Structuring Elements:** a plan illustrating the overall preferred Development Concept with an explanation of the key structuring elements (i.e. site access / egress locations, movement network, open space network and key development / character areas).
- **An Illustrative Concept Master Plan (THE VISION):** an illustrative plan covering the project area and showing integration with adjacent existing / future developments and infrastructure. This plan would illustrate the overall anticipated development form showing layout configuration, development intensity, open space alignments and vehicular and pedestrian routes.

Transport Planning

- **Indicative Movement Network and Parking Plans:** these would provide a description of the overall transport / movement strategy (both vehicular and pedestrian). They would be supported by an overall road network (hierarchy) plan, with main site entrances / exits identified, indicative street cross sections and outline traffic generation volumes and parking calculations. An initial transportation context assessment of the proposed development should also be undertaken to identify potential issues to be addressed at later stages.

Please note: this would not be a full Traffic Impact Assessment (TIA) - which may be required during later stages.

Pre-Concept Architecture

- **Pre-Concept Architectural Design Documentation:** the focus would be to present an overall design direction for the project. Based on the vision for the project, key character areas within the concept master plan and the proposed development theme, the architectural team should prepare indicative 'pre-concept' architectural imagery for all key selected character areas and / or buildings. These in conjunction with design parameters for precincts and plots would help illustrate the intended quality of the built environment and associated urban spaces. Indicative floor plates, cross sections and a 'front' elevation for key buildings should be provided. These could be further supported by precedent imagery - from relevant existing national or international examples.



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- **Massing and 3-Dimensional Imagery:** a range of 3D computer generated images (CGI's) should be prepared to help illustrate the overall urban and architectural flavor. These would include an overall bird's eye view / perspective of the Draft concept master plan and a range of perspectives to illustrate the key character areas / buildings.
- **Indicative Plot Layout Guidelines** - per precinct, use or type - showing permissible development areas/percentages including Plot Area, Building Footprint, Built Up Area, Floor Area Ratio, Gross Floor Area and Setbacks.

Landscape Architecture

- **Indicative Open Space & Landscape Network Plans:** The plans would identify the overall open space network and should complement and support the draft concept master plan. They should clearly illustrate the conceptual design intent for the different (hard and soft) landscape areas. Key issues to be addressed would typically include (but not be limited to):
 - General design strategy and issues;
 - Environmental issues;
 - Design standards and specifications;
 - Water supply and irrigation, and
 - Plant species and supply.

The landscape proposals should provide outline irrigation principles and recommendations for design and technical strategies to be addressed during future stages of the project.

Environment and Sustainability

- **Environmental Scoping Review (ESR):** An ESR, to be undertaken the IEE consultant, would identify if an Environmental Impact Assessment (EIA) is necessary for the proposed project and the corresponding category, as per Presidency of Meteorology and Environment's (PME) General Environmental Regulations and Rules for Implementation (Appendix 2). The categories are defined as follows:
 - First Category: Projects with Limited Environmental Impacts;
 - Second Category: Projects with Significant Environmental Impacts, and
 - Third Category: Projects with Serious Environmental Impacts.

The ESR would provide the corresponding level of detail for the EIA category, outlining what Environmental Assessments are required for the project per the PME General Environmental Regulation and Rules for Implementation Appendix 2 and IFC Environmental and Social Performance Standards.

This is a preliminary step in conducting an EIA, to ensure that the scope of the EIA is appropriate for the project and location. The review would be carried out with a view to identify environmental impacts, both positive and negative, that should be considered in the EIA. Baseline data collection for the EIA could be undertaken in conjunction with the scoping review, however may be subject to change pending comments / feedback on the ESR by the reviewing agency.

Listed below, are some of the key considerations identified within the IFC Performance Standards. These should be addressed in the ESR and subsequent EIA.

- Risk Management;
- Labor and Working Conditions;
- Resource Efficiency and Pollution Prevention;
- Community Health, Safety, and Security;
- Land Acquisition and Involuntary Resettlement;
- Biodiversity Conservation and Sustainable Management, and
- Cultural Heritage.



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- **Preliminary Environmental Aspects and Impacts Table:** The review would identify the key environmental factors that are relevant to the evaluation process by developing a preliminary Environmental Aspects and Impacts table (please refer to the Expro Projects White Book: Volume 11 - Environmental Section). Potential environmental aspects could include, but are not limited to the following:
 - Air Quality, existing and future sources of air emissions and weather conditions;
 - Climate Change considerations such as resilience to extreme events, sea level rise;
 - Vulnerability to Geological Hazards including earthquakes, landslides and tsunamis;
 - Noise and Vibration;
 - Sediment and Soil Quality;
 - Water Quality of surface and groundwater and existing water pollution discharges / sources;
 - Terrestrial, marine and freshwater ecology and biodiversity, species of conservation value (threatened, rare, or endangered) and protected areas;
 - Wildlife Migration pathways and seasonality;
 - Road Traffic and transportation;
 - Archeological and cultural resources;
 - Visual Landscape;
 - Industrial, agricultural and domestic water use (quantity, quality and source);
 - Land Use and acquisition and the potential for involuntary resettlement;
 - Socio-economics;
 - Urbanization and projects planned or in development, that could affect the project;
 - Public Health and safety;
 - Indigenous people and traditional lifestyles, and
 - Type/s of power proposed.

- **Stakeholder Engagement:** As a member of the broader project team, the environmental consultant should identify the stakeholders that would need to be consulted with in order to identify potential social, environmental and economic impacts of the project. The environmental consultant would also assist in helping develop a plan, schedule and sequence to conduct the appropriate level of stakeholder engagement and consultation.

Please Note: Further information on Stakeholder Engagement can be found in the following Expro Projects White Book, EPM-S00-PR-000001- Project Stakeholder Engagement Plan Procedure and EPM-KU0-GL-000001- Sustainability.

- **Identification of Additional Assessments:** In addition to identifying the aspects and impacts associated with the proposed project, the ESR should identify any additional studies that may be required for the completion of a successful EIA.
- **Draft Environmental Scoping Report:** The Draft Environmental Scoping Report should be developed to include (but not limited to) the following key sections:
 - Introduction
 - Describe the project including project objectives, goals, the need for the project, etc.;
 - Determine the project category and criteria for the selection made (refer to PME General Environmental Regulations & Rules for Implementation Appendix 2);
 - Describe the environmental and social characteristics of the project area;
 - Describe the scope of the EIA in terms of geographic extent (potential zones of impact for different categories of impact), and
 - Describe the policies, legal and administrative framework applicable to the project.
 - Terms of Reference
 - Outline how the EIA will be conducted, the disciplines and expertise (including qualifications) to be involved and the schedule for the EIA and stakeholder engagement, and
 - Describe the scope and requirements for the collection of baseline data and other relevant information.



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- Scope of the EIA
 - Identify the range of issues to be addressed, including the issues raised by stakeholders;
 - Identify anticipated or potential significant impacts that may require detailed study and the reasons therefor, and
 - Identify the relevance of integration of climate change vulnerability assessment, adaptation and mitigation actions.
- Socio-Economic Considerations
 - Identify permitting requirements that would be necessary for the project;
 - Confirm the strategy that would be employed in the Stakeholder Engagement Plan, and
 - Identify any additional major socio-economic consideration to be studied during the EIA process and reasons therefor.
- Conclusion
 - Identify potential opportunities to combine EIA baseline studies with preliminary engineering and construction studies (e.g., survey, geotechnical investigations), to reduce costs and increase interaction with the design.

Utilities Engineering

- **Draft Utilities / Infrastructure Plans:** a description of each of the utility services including their envisaged supply strategy, overall distribution network and anticipated order of magnitude requirements should be confirmed. Conceptual layout plans for the delivery of site-wide infrastructure and services should cover the following:
 - On-site roads and drainage;
 - Electricity;
 - Communications;
 - Portable water and firefighting system;
 - Wastewater;
 - Irrigation, and
 - Solid waste disposal.

The design parameters for all infrastructure should be defined. The outline proposals should include written and illustrative material sufficient to ensure that the overall intent and purpose of each engineering service is established. The following concept design services should be provided:

- Roads and Drainage
 - Site access arrangements (permanent and construction);
 - Review of road layouts and cross sections;
 - Horizontal and vertical alignments;
 - Concept junction analysis, and
 - Concept general arrangement of drainage.
- Electricity
 - Concept design of the High Voltage (HV), Medium Voltage (MV) and Low Voltage (LV) electrical distribution system within the site;
 - Indicative total load estimate;
 - Basis of design statement, and
 - Initial discussions / coordination with local authority.
- Communications
 - Schematic design of the communications and Extra Low Voltage (ELV) systems;
 - Basis of Design statement;
 - Potable Water and Fire System;
 - Schematic design of potable and fire water system within the project boundary;
 - Initial loading calculations;
 - Discussions with relevant local supply authority, and
 - Concept Design statement.



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- Wastewater
 - Concept schematic for wastewater drainage system including treatment plant for onsite reuse potential, storage system or off-site treatment;
 - Initial loading figures, and
 - Concept Design statement.
- Irrigation
 - Schematic design of Treated Sewage Effluent (TSE) distribution from the treatment plant (or storage tank or off-site sources);
 - Indicative total flow requirement;
 - Liaison with local authority, and
 - Concept Design statement.
- Solid Waste Disposal System
 - Assessment of options with benefits and disadvantages when compared to alternative system, and
 - Cost/benefit analysis of system.

Development Economics

- **Proposed Land Use Mix Summary:** A detailed summary of the proposed land use mix is to be prepared;
- **Indicative Phasing Plan:** Covering the overall project area. This plan will illustrate how envisaged construction phases would occur and help enable a clear understanding of infrastructure requirements and costings to be achieved.

Cost Consulting

- **Class4 - Order of Magnitude Cost Estimate:** A 'progressed' order of magnitude cost estimate of the Final Concept Master Plan is to be prepared.

Multi-Disciplinary Team

- **Specialist Technical Studies / Surveys List:** A summary list of ALL specialist technical studies (i.e. TIA or EIA) or surveys (i.e. Geotechnical, Bathymetric), deemed necessary to enable the project to progress through Stage 3 (Tender for Design) and Stage 4 (Design) is to be prepared.

6.6.2 Step 2: Project Working Session No. 3 - Present and Submit Draft Concept Masterplan & Development Frame Documentation

The outputs identified above will be prepared and presented (in electronic PowerPoint data show format) to the Entity / Client team at project working session No. 3.

A full colour, A3 Draft Concept Master Plan and Development Framework report, containing (as a minimum) all information identified above, is to be prepared and submitted to the Entity / Client (in both electronic Portable Document Format (PDF) and hard copy formats) for formal review.

6.7 Phase 6 - Formal Entity / Client Review and Feedback Period B

It is assumed that after working session No. 3 and review by the client body of the draft documentation submitted, the Entity will provide formal written feedback identifying any final issues requiring address as well as formal approval to proceed to Phase 7.



6.8 Phase 7 - Prepare ALL Final Concept Masterplan and Development Framework Documentation

6.8.1 Step 1: Prepare All Final Documentation

Following receipt of all final Entity / Client written feedback (on all draft documentation reviewed) and written approval to proceed, the following final key tasks would be undertaken:

- A single iteration of Entity required amendments, revisions (if / where necessary) to documentation previously prepared and submitted;
- Preparation of a Final (A3 / full color) Concept Master Plan & Development Framework Report (i.e. this would include a Final Environmental Scoping Report, etc.);
- A scope of work for all Entity confirmed Specialist Technical Studies / Surveys and Assessments - to be undertaken in either Stage 3 (Tender for Design) or Stage 4 (Design);
- Preparation of a Final Concept Master Plan and Development Framework Presentation;
- Preparation of up to x4 (A1, full color) 'theme boards' illustrating the envisaged built form outcomes (i.e. illustrations / graphics of key views, vistas, development character areas, buildings, etc.), and
- Preparation (at size / scale to be confirmed) of a Final Illustrative Concept Master Plan image (with annotations and legend).

6.8.2 Step 2: Present & Submit All Final Documentation

- All final documentation would be presented and submitted to the Entity / Client body.
- All Final documentation is to be provided to the Entity in both hard and pdf / electronic formats.

7.0 ATTACHMENTS

1. EPM-S00-TP-000003 - Project IBD Workshop Briefing Agenda Template
2. EPM-S00-TP-000004 - Project Multi-Disciplinary Concept Options Assessment Template



Attachment 1 - EPM-S00-TP-000003 - Project IBD Workshop Briefing Agenda Template

Inquiry-By-Design (IBD) Workshop Workshop Briefing Agenda

Date : XX:XX:XXXX
Time : 8:00 AM - 15:00 PM
Venue : XXXXXXXXXXXX

A 3-day Inquiry-by-Design Workshop is scheduled to be held from XX XXX XXXX - XX XXX XXXX.

The first day will commence with a briefing session by previously agreed parties. This would include presentations from relevant project team members as well as potential presentations from:

- Entity Representatives
- EPMO Representatives or their nominated specialist consultants / sub-consultants
- Local Authority Members, and or
- Representatives from the different Services providers.

Purpose of the Briefing Session

The purpose of the briefing session is to help the team, and stakeholders gain a sound understanding of all current planning / infrastructure / environmental and social parameters and potential issues and opportunities (for the project study area), that could affect and inform:

1. The generation of multi-disciplinary Conceptual Site Development options
2. The assessment and identification of a Conceptual Site Development option for recommendation (by the project team) to the Entity and key stakeholders
3. The establishment and confirmation of an Entity preferred Conceptual Site Development option
4. The formal Stage Gate 2 Review, and
5. The downstream implementation, of the proposed project.

The briefing session will commence at 8:45 AM and is expected to be concluded by 15:00 PM, after which formal design, inquiry will commence. Briefings should be kept short and concise (approximately 15 - 20 minutes) and limited to issues of specific relevance to the presenters' field of expertise. Presentations should be in PowerPoint A4 landscape format and A4 color hard copy handouts be made available (for workshop reference purposes).

Indicative Agenda

TIME	ACTION / SUBJECT	PRESENTER	ORGANIZATION
08:00 - 08:45	Arrival & Registration		
08:45 - 09:00	Introduction to Workshop	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
09:00 - 09:20	Subject No. 1	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
09:20 - 09:40	Subject No. 2	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
09:40 - 10:00	Subject No. 3	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
10:00 - 10:40	Tea Break		
10:40 - 11:00	Subject No. 4	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
11:00 - 11:20	Subject No. 5	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
11:20 - 11:40	Subject No. 6	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
11:40 - 12:00	Subject No. 7	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
12:00 - 12:20	Subject No. 8	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
12:20 - 13:20	Lunch Break		
13:20 - 14:00	Subject No. 9	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
14:00 - 14:20	Subject No. 10	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
14:20 - 14:40	Wrap Up Session	XXXX XXXXXX	XXXXXXXXXXXXXXXXXXXXXXX
14:40 - 15:00	Tea Break		
15:00 -	Way Forward - Project Core Team to Commence Design Enquiry		



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Attachment 2 - EPM-S00-TP-000004 - Project Multi-Disciplinary Concept Options Assessment Template

		Project Name:						
		Preparer:		Date				
		Reviewer:		Date				
		Approver:		Date				
		Title:						
		Document No:		XXXXXXXXXX-XXX-XXX-XX-XXXXXX				
		Revision:		xxx		Date		
A	B	C	D	E	F	G	H	
Key (Agreed) Assessment Criteria <i>To be inserted below</i>	Option 1 Score (1-3) <i>To be inserted below</i>	Option 2 Score (1-3) <i>To be inserted below</i>	Option 3 Score (1-3) <i>To be inserted below</i>	Assessment Criteria Weighting (1-5) <i>To Be Inserted Below</i>	Option 1 (Weighted) Score	Option 2 (Weighted) Score	Option 3 (Weighted) Score	
1 Criteria A - To be Inserted	0	0	0	0	0	0	0	
2 Criteria A - To be Inserted	0	0	0	0	0	0	0	
3 Criteria C - To be Inserted	0	0	0	0	0	0	0	
4 Criteria D - To be Inserted	0	0	0	0	0	0	0	
5 Criteria E - To be Inserted	0	0	0	0	0	0	0	
6 Criteria F - To be Inserted	0	0	0	0	0	0	0	
7 Criteria G - To be Inserted	0	0	0	0	0	0	0	
8 Criteria H - To be Inserted	0	0	0	0	0	0	0	
9 Criteria I - To be Inserted	0	0	0	0	0	0	0	
10 Criteria J - To be Inserted	0	0	0	0	0	0	0	
Total Option Scores - EXCLUSIVE of Weighting	0	0	0	Total Option Scores INCLUSIVE of Weighting	0	0	0	

USER GUIDE NOTES:

Insert the **Key Assessment Criteria**, Identified and Agreed with the Entity within **Column A** (max 10)

Insert the **Agreed Weighting** per criteria within **Column E** (these should be relative to each other and range from 1-5 - with 5 being the most important / highest ranking)

Within **Columns B,C and D** - Provide a comparative **Options Assessment Score** against each of the criteria (these should range from 1 - 3, with 3 being the highest / best ranking).