

# STANDARD INDUSTRI PEMBINAAN

(CONSTRUCTION INDUSTRY STANDARD)

## CIS 29:2021

### CONTRACTOR'S QUALITY MANAGEMENT SYSTEM (CQMS)

Description: Contractor Management System, Quality Requirements, Certification Criteria

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CONSTRUCTION INDUSTRY DEVELOPMENT BOARD



**Construction Industry  
Development Board Malaysia**

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# CONTRACTOR'S QUALITY MANAGEMENT SYSTEM (CQMS)

CIS 29: 2021 Contractor's Quality Management System (CQMS)

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## **COMMITTEE REPRESENTATION**

The Construction Industry Standard (CIS) was developed and reviewed by the Construction Industry Development Board Malaysia with the assistance of the Technical Committee on Contractor's Quality Management System (CQMS) for construction works which comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia (ACEM)

Construction Industry Development Board (CIDB)

Construction Research Institute of Malaysia (CREAM)

Dewan Bandaraya Kuala Lumpur (DBKL)

Jabatan Kerja Raya Malaysia (JKR)

Jabatan Perumahan Negara (JPN)

Master Builders Association Malaysia (MBAM)

Persatuan Kontraktor Bumiputera Malaysia (PKBM)

Real Estate & Housing Developers' Association (REHDA)

SIRIM Berhad

Suruhanjaya Perkhidmatan Air Negara (SPAN)

Telekom Malaysia Berhad (TM)

Universiti Teknologi Malaysia (UTM)

## **PREFACE**

The Contractor's Quality Management System (CQMS) offers a structured framework by establishing a clear and cohesive principles of requirements, supported with guidelines in annexes for ease of reference and use. The scope of this standard explain two main categories of requirements (general and construction management requirements) for ease of understanding and implementation. In managing construction works, the management requirements are crucial to ensure quality delivery of a project.

CQMS sets structured quality requirements for contractor in dealing with tendering, construction planning, procurement, construction works and post-construction processes that enables continuous improvement and delivery of quality project on time.

The quality management processes typically start with:

1. Policies & Objectives
2. Documents including method statements in order to conform to the policy and achieving the objectives
3. Evidence of result to prove the existence of conformance to requirements

Quality in construction means that the project or its components are completed in conformance as defined in the Scope of Work that reflect the owner's expectations, specifications conformance and full acceptance of the project. The development of this standard was carried out by a Technical Committee established by CIDB Malaysia and represented by construction industry stakeholders.

It should be noted that the use of this standard is voluntary and compliance with this Construction Industry Standard does not of itself confer immunity from legal obligations.

# **CONTRACTOR'S QUALITY MANAGEMENT SYSTEM**

## **SECTION 1: INTRODUCTION**

### **1.1 Contractor's Quality Management System**

Contractor's Quality Management System (CQMS) is an independent system to evaluate the implementation of quality management system for contractor based on the requirements of this standard.

### **1.2 Objectives of Contractor's Quality Management System**

Contractor's Quality Management System (CQMS) is designed and developed to enable contractor to achieve the following objectives:

- a) To identify criteria in evaluating the contractors' implementation based on Quality Management System.
- b) To determine the tools in assessing the effectiveness of the contractors' quality management system.
- c) To establish framework of the standard quality management system in delivering construction services to the industry.
- d) To provide third-party certification based on requirements of this standard.

### **1.3 Scope of Contractor's Quality Management System.**

This standard sets out the CQMS requirements that consist of the following:

#### **1.3.1 General Management Requirement**

Organisation's general requirements that shape the practice on managing the entire construction work. The elements of this category are:

- a) Leadership and Commitment.
- b) Documented Information.
- c) Communication.
- d) Analysis and Performance Evaluation.
- e) Internal Audit.
- f) Management Review & Quality Decision.
- g) Nonconformity & Corrective Actions.
- h) Client's Requirements Fulfilment.
- i) Continual Improvement.



### 1.3.2 Construction Management Requirement

Essential construction processes that a contractor shall comply for an effective CQMS are as follows:

- a) Tendering
  - i) Tender management
  - ii) Tender pricing scheme
  - iii) Tender negotiation
  
- b) Construction planning
  - i) Assignment of project identification
  - ii) Appointment of project leaders and team members
  - iii) Compliance with legal and other requirements
  - iv) Decision on construction methodology
  - v) Establishment of Work program
  - vi) Drawing-up site layout plan
  - vii) Planning for QA/QC method and OSH and Environment requirements
  
- c) Procurement
  - i) Purchase of materials
  - ii) Machinery requirement
  - iii) Manpower planning
  - iv) Project financing
  
- d) Construction work
  - i) Mobilisation to site
  - ii) Incoming materials inspection & testing.
  - iii) Materials, machinery, and equipment handling
  - iv) Construction activities
  - v) Progress monitoring
  - vi) Joint inspection and progress claim
  - vii) Housekeeping
  - viii) Project Handover and obtaining CCC/ CPC
  
- e) Post-construction
  - i) Rectification work during Defects Liability Period (DLP)
  - ii) Certificate of Making Good Defects (CMGD)
  - iii) Project closeout and final claim

### 1.3.3 Benefits of Management Requirement to Contractors:

- a) Fulfilling the fundamental principle of CQMS through a practical framework.
- b) Provide assurance that meets client requirements.
- c) Focused on client's needs by meeting their requirements.

The CQMS Implementation and certification guidelines for General Management requirement and Construction Management requirements are provided in **Annex A and Annex B**, respectively.

## **1.4 Use of Contractor's Quality Management System**

- a) CQMS intends to improve overall quality delivery with good workmanship complying to the project's specifications and other best practices.
- b) This standard is applicable for the contractor to improve their quality management system practice. This document is not applicable for contractors who have been certified to ISO 9001.
- c) It shall be the responsibility of the contractor to ensure that the quality requirements of the construction work conform to the client's requirement as specified in the contract.

## **1.5 Normative Reference**

The following normative reference is indispensable for the application of this construction industry standard. The latest edition of the normative reference (including any amendments) shall apply:

- a) Construction Industry Development Board Act 1994 (revised 2011) and its regulations
- b) Occupational Safety and Health Act 1994 and its regulations
- c) MS ISO 9001:2015, Quality Management System (QMS)

## **1.6 Terms and Definitions**

For the purpose of this standard, the following definitions apply.

- a) Evidence of Result

Evidence that generally consists of records, statements of fact or other information which are relevant to the criteria or requirement and verifiable. It is the information that shows or proves the existence of conformance. In the context of this standard, evidence of result could be as suggested or any other alternative means to conformance of requirements.

- b) Documented Information

Refers to all of the important information within an entity that must be kept organized and controlled to provide evidence of result. It is basically a combination of documents and records, that could exist in hardcopy or softcopy format.

## **SECTION 2: GENERAL MANAGEMENT REQUIREMENT (GMR)**

### **2.1 Leadership and Commitment**

Top management shall demonstrate leadership and commitment towards the implementation of CQMS by:

- a) Providing guidance for the effectiveness of CQMS;
- b) Introducing quality policy and quality objectives for the CQMS and compatible with the context and strategic direction of the contractor;
- c) Ensuring the integration of the quality management system requirements into the contractor's business processes;
- d) Ensuring that the resources needed for the quality management system are available;

- e) Communicating the importance of effective quality management and of conforming to the quality management system requirements;
- f) Ensuring that the quality management system achieves its intended objectives;
- g) Supporting and suggesting to the employees on the improvement of CQMS and its effectiveness;
- h) Supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

## **2.2 Documented Information**

### **a) Document Control**

The contractor shall evaluate the performance and the effectiveness of the quality management system and shall retain and maintain appropriate documented information as evidence of the result.

The contractor's quality management system shall include:

- i) Documented information required by this CQMS.
- ii) Other documented information determined by the contractor as being necessary for the effectiveness of the quality management system.

When creating and updating documented information, the contractor shall ensure appropriate:

- iii) Identification and description (e.g., title, date, author, or reference number);
- iv) Format (e.g., language, software version, graphics) and media (e.g. paper, electronic);
- v) Review and approval for suitability and adequacy.

### **b) Control of Documented Information**

Documented information required by contractor's quality management system shall be controlled to ensure:

- i) It is available and suitable for use, where and when it is needed;
- ii) It is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity).

For the control of documented information, the contractor shall address the following activities, as applicable:

- iii) Distribution, access, retrieval, and use;
- iv) Preservation, including content update and preservation of legibility;
- v) Control of changes (e.g. version control);
- vi) Retention and disposition;
- vii) Storage for ease of retrieval (e.g. filing system).

## **2.3 Communication**

The contractor shall determine to agree on the communication channel relevant to the project that includes:

- a) Hierarchy of submission and approval of material, method, work, and document including its follow up time frame.

- b) Confirmation of Engineer's Instruction (EI), Architect's Instruction (AI) and/ or Superintendent Officer (SO)/ Project Director (PD) Instruction with a proper limit of authority and relevant document prior to the commencement of work. This includes Variation Order (VO) Instruction and extension of time (EOT).
- c) Time response to Request for Information (RFI) crucial to project decision.
- d) Effective project information dissemination to all relevant parties that may include drawing amendment, variation order and authority approval status.

## **2.4 Analysis and Performance Evaluation**

The contractor shall analyse and evaluate appropriate data and information arising from monitoring and measurement.

The results of analysis shall be used to evaluate:

- a) Conformity of construction work;
- b) The degree of client's acceptance of work;
- c) The performance and effectiveness of the CQMS;
- d) Effectiveness of planning and action taken to delivering project on time;
- e) The performance of external providers;
- f) The need for improvements to the CQMS.

## **2.5 Internal Audit**

The contractor shall conduct an internal audit at planned intervals to provide information on whether the CQMS:

- a) Conforms to the requirements of this standard based on the contractor's own quality management system;
- b) Is effectively implemented and maintained.

Contractor shall plan, establish, implement, and maintain an audit programme including the frequency, methods, responsibilities, planning requirements and reporting, which shall take in to consideration the importance of the processes concerned, changes affecting the contractor, and the results of previous audits.

In planning for audit the contractor shall:

- a) Define the internal audit objective, scope, and criteria for each audit;
- b) Select auditor/s and conduct audit to ensure objectivity and the impartiality of the audit process;
- c) Ensure that the results of the audits are reported to responsible management;
- d) Take appropriate correction and corrective actions without undue delay;
- e) Retain documented information as evidence of the audit programme implementation and the audit result;
- f) For the effectiveness of Internal Audit, the audit shall be conducted by auditor who has successfully attended CQMS or ISO 9001 related training and shall have at least 3 years of working experience in construction industry.

## **2.6 Management Review and Quality Decision**

The management review shall be planned and carried out annually taking into consideration:

- a) The status of actions from previous management reviews;
- b) Information on the performance and effectiveness of the quality management system, including trends in:
  - i) Client's requirement's feedback;
  - ii) The extent to which quality objectives have been met;
  - iii) Process performance and conformity of work;
  - iv) Nonconformities and corrective actions status;
  - v) Work monitoring and measurement results;
  - vi) Audit results;
  - vii) The performance of external providers;
- c) The adequacy of resources;
- d) Opportunities for improvement.

The outputs of the management review shall include decisions and actions related to opportunities for improvement and resource needs.

Retain documented information of management reviews as evidence of the results.

## **2.7 Nonconformity and Corrective Action**

### **2.7.1 Arising Nonconformity Complaints**

When a nonconformity occurs, including any arising from complaints, the contractor shall:

- a) React to the nonconformity and, as applicable:
  - i) take action to control and correct it;
  - ii) deal with the consequences;
- b) Evaluate the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:
  - i) reviewing and analysing the nonconformity;
  - ii) determining the causes of the nonconformity;
  - iii) determining if similar nonconformities exist, or could potentially occur;
- c) Implement any action needed;
- d) Review the effectiveness of any corrective action taken;
- e) Update risks and opportunities determined during planning, as necessary;
- f) Make changes to the quality management system, as necessary.

### **2.7.2 Corrective Action of the Nonconformities**

Corrective actions shall be appropriate to the effects of the nonconformities encountered. The organization shall retain documented information as evidence of:

- a) The nature of the nonconformities and any subsequent actions taken;
- b) The results of any corrective action.

### **2.7.3 Control Nonconformity Report at Site (NCR)**

- a) Nonconformity report is a system to document and addresses issues where there has been a deviation from the project specification or where work fails to meet agreed quality standards in construction.
- b) The contractor shall ensure that work or material that does not conform to their requirements are identified and controlled to prevent their unintended use or delivery.
- c) The contractor shall take appropriate action based on the nature of the nonconformity and its effect on material and work.

### **2.7.4 Nonconforming Outputs**

The contractor shall deal with nonconforming outputs in one or more of the following ways:

- a) Correction;
- b) Segregation, containment, return or suspension of provision of material and work (e.g. stop order work);
- c) Informing the client on the situation, as applicable;
- d) Obtaining authorization for acceptance under concession. Conformity to the requirements shall be verified when nonconforming outputs are corrected.

### **2.7.5 Contractor Documented Information**

The contractor shall retain documented information that:

- a) Describes the nonconformity;
- b) Describes the actions taken;
- c) Describes any concessions obtained;
- d) Identifies the authority deciding the action and decision in respect to the nonconformity

## **2.8 Client's Requirements Fulfilment**

During project progress meeting, at the suitable interval, contractor shall obtain feedbacks of performance on Client's Requirement Fulfilment, through evaluation on at least 3 criteria, but not limited to, the performance of;

- a) Work progress
- b) Occupational Safety and Health (OSH) and Environment
- c) Quality of work

## **2.9 Continual Improvement**

The contractor shall determine and select opportunities for improvement and implement any necessary actions to meet project requirements and enhance client's satisfaction.

These shall include:

- a) Improving quality of work to meet requirements as well as to address future needs and expectations;
- b) Correcting, preventing, or reducing undesired effects;
- c) Improving the performance, competency, and effectiveness of the quality management system continually.

## **SECTION 3: CONSTRUCTION MANAGEMENT REQUIREMENT**

### **3.1 Tendering**

When sourcing for project, the contractor shall establish a method of determining the requirements for the project, the contractor shall ensure that the requirements are defined including any applicable statutory and regulatory requirements which are necessary for the organization.

The contractor shall ensure that it has the ability to meet the requirements for project by conducting a review before committing to participate. This shall include offering the best competitive price. Contractor to retain documented information on the results of the review, requirements, and decision for the project.

Changes to requirements for project and its relevant documented information is updated, amended, and the relevant parties are made aware of the changed requirements.

### **3.2 Construction Planning**

The contractor shall plan, implement, and control the construction processes needed to meet the requirements for the provision of project by:

- a) Determining the requirements for the project including legal and other requirements;
- b) Appointing necessary competence personnel on managing and executing the project;
- c) Confirming criteria for the processes and the method of acceptance of products and work including QA/QC method and Hazard Identification, Risk Assessment and Risk Control (HIRARC);
- d) Determining the resources needed including manpower and machinery required;
- e) Implementing control of the processes by establishing the construction methodology and criteria through method statement;
- f) Planning for on time project completion;
- g) Determine, maintain, and retain documented information to demonstrate the conformity of products and work to their requirements.

The contractor shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

### **3.3 Procurement**

The contractor shall establish procurement strategy for all resources that needed for project completion. This shall include the procurement of construction material, machinery, manpower, budget, and method. Purchasing document requirements are reviewed to adequacy prior to communication with the supplier and subcontractor that should include:

- a) The processes, material, and services to be provided including the approval process;
- b) Competence, including any required qualification of persons;
- c) Control and monitoring of the supplier and subcontractor performance to be applied by the contractor;

The contractor shall determine the verification and acceptance, or other activities, necessary to ensure that the externally provided processes, materials and services meet the agreed requirements.

### **3.4 Construction Work**

#### **3.4.1 The contractor shall plan and implement project activities under controlled conditions that include:**

- a) Kick-off meeting on taking over of construction site;
- b) Use of updated documented information that defines the criteria and specification of the project (e.g.: verified and /or approved “For Construction Drawing”, relevant specifications)
- c) Mobilisation to the site including equipment handling;
- d) Conduct internal and joint inspection and testing (materials, in process and final) as per scope of works in the contract.
- e) Establish and implement method statements when carrying out construction works.
- f) Ensuring all monitoring and measuring equipment are calibrated before being used.
- g) Compliance to OHS and environment regulation and other requirements;
- h) Hiring competent personnel as required by CIDB, DOSH and other related agencies, as applicable;
- i) Work supervision and acceptance on quality of work
- j) Work progress report and reporting.
- k) Progress claim.

The contractor shall plan and implement the housekeeping measures at all time during construction phase in ensuring safety and health issues are prevented. Communication and control methods shall be implemented, as necessary.

#### **3.4.2 The contractor shall prepare and implement by necessary instruction through agreed method for handing over process until Certificate of Completion (CPC) is granted. The activities should include:**

- a) Testing and commissioning ensuring up-to-date testing and commissioning data and provide all necessary construction certificates, inspection and approval of the As-Built documentation, Operations and Maintenance Manuals, as applicable.
- b) Defect management should include inspection and reporting of defects for remedial work.
- c) Project handover upon confirmation that the work defined in the contract is complete.

### **3.5 Post Construction**

The contractor shall monitor any needs for remedial work on defect only if it has the contractual right to rectify defects. The contractor shall maintain documented information of receiving complaint, inspecting, reporting, and rectifying the defects shall be established during Defect Liability Period (DLP).

Upon satisfactory of the rectification work, the contractor shall request or remind the Superintendent Officer (SO) for the Certificate of Making Good Defect (CMGD). The contractor shall prepare Final Project Report, as applicable for final claim before submission to the client.



**GUIDELINE FOR IMPLEMENTATION AND CERTIFICATION-  
GENERAL MANAGEMENT REQUIREMENT**

ITEM	GENERAL MANAGEMENT REQUIREMENT	EVIDENCE OF RESULT
2.1	Leadership and Commitment	<ul style="list-style-type: none"> <li>▪ Verified quality policy and objectives</li> <li>▪ Verified organisation chart</li> <li>▪ Record of training or briefing and participation related to quality management system</li> <li>▪ Established Recognition award for Employee</li> <li>▪ Verified Minutes of Meeting on management review with an approved action</li> </ul>
2.2	Documented Information	<ul style="list-style-type: none"> <li>▪ Established Document Master List</li> <li>▪ Established Distribution List of documents for hard copy format</li> <li>▪ Review and approval of management system document for use</li> <li>▪ Changes and Amendment List of Documents</li> </ul>
2.3	Communication	<ul style="list-style-type: none"> <li>▪ Communication records such as email, letter, website content, photograph, minutes of meeting.</li> <li>▪ Engineer's Instruction</li> <li>▪ Architect's Instruction</li> <li>▪ Variation Order and Omission</li> </ul>
2.4	Analysis and Performance Evaluation	<ul style="list-style-type: none"> <li>▪ Data and Performance Achievement Report</li> </ul>
2.5	Internal Audit	<ul style="list-style-type: none"> <li>▪ Established Internal Audit Program</li> <li>▪ Internal Audit Plan</li> <li>▪ Internal Audit Report including the Nonconformance Report and Observation including its status.</li> </ul>
2.6	Management review and Quality Decision	<ul style="list-style-type: none"> <li>▪ Management review plan</li> <li>▪ Management review agenda</li> <li>▪ Management review report</li> <li>▪ Minutes of Meeting including action plan</li> </ul>
2.7	Nonconformity and Corrective Action	<ul style="list-style-type: none"> <li>▪ Nonconformance Report and its Corrective Action taken including its current status</li> </ul>
2.8	Client's Requirements Fulfilment	<ul style="list-style-type: none"> <li>▪ Client's Requirements Survey and Analysis</li> </ul>
2.9	Continual Improvement	<ul style="list-style-type: none"> <li>▪ Established Register of Improvement Initiative including its progress</li> </ul>

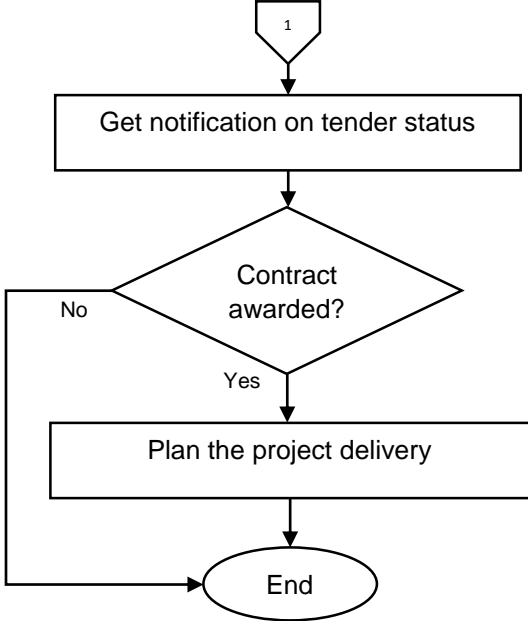
**GUIDELINE FOR IMPLEMENTATION AND CERTIFICATION - CONSTRUCTION MANAGEMENT REQUIREMENT**

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
<b>3.1</b>	<b>TENDERING</b>			
3.1.1	Tender Management			
	<pre> graph TD     Start([Start]) --&gt; Forecast[Forecast the opportunity]     Forecast --&gt; Clarification[Clarification &amp; complete the planning]     Clarification --&gt; Verified{Verified?}     Verified -- No --&gt; Forecast     Verified -- Yes --&gt; Prep[Preparation to submit tender]     Prep --&gt; Eval[Evaluate the response]     Eval --&gt; End{{1}}         </pre>			<ul style="list-style-type: none"> <li data-bbox="1478 539 2045 662">▪ Tendering Qualification &amp; Contract Opportunity Plan</li> <li data-bbox="1478 662 2045 821">▪ Copy of Tender Document</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

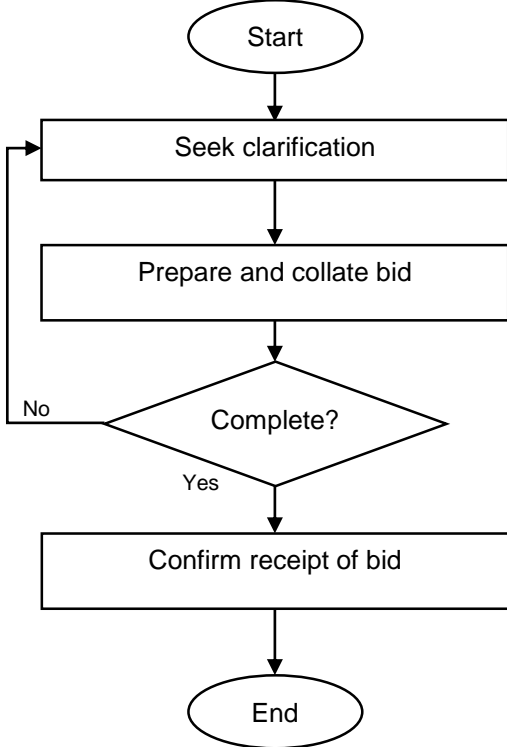
\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
	 <pre> graph TD     Start([1]) --&gt; A[Get notification on tender status]     A --&gt; B{Contract awarded?}     B -- No --&gt; End([End])     B -- Yes --&gt; C[Plan the project delivery]     C --&gt; End           </pre>			<ul style="list-style-type: none"> <li>▪ Tender Notification</li> </ul>
				<ul style="list-style-type: none"> <li>▪ Letter of Award</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

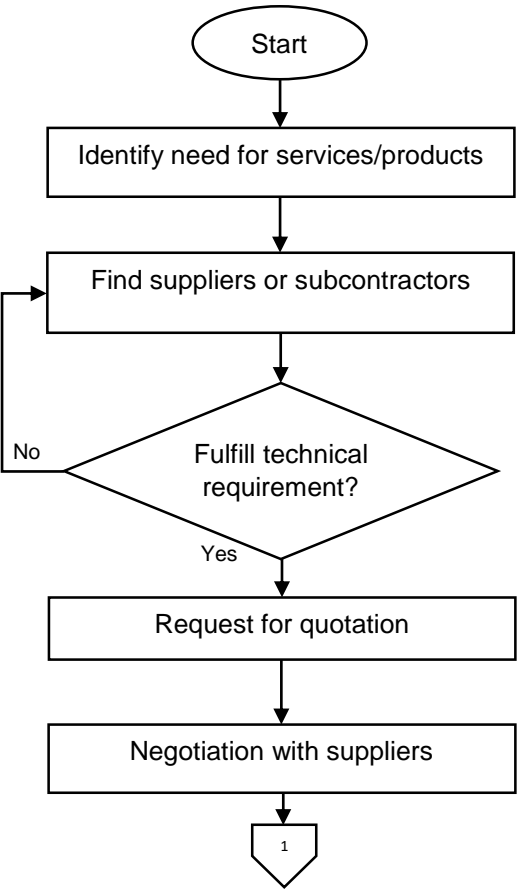
\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.1.2	Tender Pricing Scheme			
	 <pre> graph TD     Start([Start]) --&gt; A[Seek clarification]     A --&gt; B[Prepare and collate bid]     B --&gt; C{Complete?}     C -- No --&gt; A     C -- Yes --&gt; D[Confirm receipt of bid]     D --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1467 478 2045 598">▪ Material confirmation document, verified suppliers' Purchase Order</li> <li data-bbox="1467 598 2045 742">▪ Project costing &amp; approval</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.1.3	<p><b>Tender Negotiation</b></p>  <pre> graph TD     Start([Start]) --&gt; Identify[Identify need for services/products]     Identify --&gt; Find[Find suppliers or subcontractors]     Find --&gt; Fulfill{Fulfill technical requirement?}     Fulfill -- No --&gt; Find     Fulfill -- Yes --&gt; RfQ[Request for quotation]     RfQ --&gt; Negotiation[Negotiation with suppliers]     Negotiation --&gt; End[/1/]           </pre>			<ul style="list-style-type: none"> <li data-bbox="1462 491 2045 619">▪ Approved Supplier/ Subcontractor List/ Consultant</li> <li data-bbox="1462 834 2045 962">▪ Quotes from Suppliers/ Subcontractors/ Consultant</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
	<pre> graph TD     Start([1]) --&gt; Step1[Select basing on at least 2 quotations for comparison]     Step1 --&gt; Step2[Arrange contract or Purchase Order]     Step2 --&gt; Step3[Receive service or products]     Step3 --&gt; Step4[Arrange payment]     Step4 --&gt; End([End])           </pre>			<ul style="list-style-type: none"> <li data-bbox="1462 225 2045 475">▪ Contract Agreement and pricing document</li> <li data-bbox="1462 475 2045 598">▪ Purchase Order information</li> <li data-bbox="1462 598 2045 721">▪ Delivery Order</li> <li data-bbox="1462 721 2045 844">▪ Invoice</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
<b>3.2</b>	<b>CONSTRUCTION PLANNING</b>			
<b>3.2.1</b>	<b>Assignment of Project Identification</b>			
	<pre> graph TD     Start([Start]) --&gt; Compile[Compile construction document]     Compile --&gt; Complete{Complete}     Complete -- No --&gt; Compile     Complete -- Yes --&gt; Create[Create project identification number and file]     Create --&gt; Inform[Inform project team]     Inform --&gt; End([End])           </pre>			<ul style="list-style-type: none"> <li>▪ Project Letter of Award</li> <li>▪ A copy of Contract document</li> </ul>
				<ul style="list-style-type: none"> <li>▪ Establish Project Identification register</li> </ul>
				<ul style="list-style-type: none"> <li>▪ Appointment letter for project's personnel</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.2.2	<b>Appointment of Project Leaders and Team Members</b>			
	<pre> graph TD     Start([Start]) --&gt; A[Define scope &amp; deliverables of project]     A --&gt; B[Identify technical requirement and competency of personnel required]     B --&gt; C{Internal Sourcing?}     C -- No --&gt; D[Advertise position requirement]     C -- Yes --&gt; E[Appoint and assign task to project leaders &amp; team members]     D --&gt; E     E --&gt; F[Establish organization chart for construction site]     F --&gt; G[Carry out roles and responsibilities]     G --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1458 352 2045 459">▪ Appointment Letter for project leaders and team members</li> <li data-bbox="1458 459 2045 600">▪ Certificates of qualification for project leaders and team members</li> <li data-bbox="1458 963 2045 995">▪ Organization chart (construction site)</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above





ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.2.4	<b>Decision on Construction Methodology</b>			
	<pre> graph TD     Start([Start]) --&gt; Step1[To identify &amp; analyse requirement to strategize work]     Step1 --&gt; Step2[Prepare construction methodology]     Step2 --&gt; Step3[Submit methodology for management decision]     Step3 --&gt; Decision{Approved?}     Decision -- No --&gt; Step2     Decision -- Yes --&gt; Step4[Implement construction methodology]     Step4 --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1480 368 2045 512">▪ Verified Construction Strategy</li> <li data-bbox="1480 512 2045 655">▪ Draft Construction Methodology</li> <li data-bbox="1480 655 2045 799">▪ Draft Construction Methodology</li> <li data-bbox="1480 799 2045 986">▪ Verified Construction Methodology</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.2.5	<b>Establishment of Work Programme</b>			
	<pre> graph TD     Start([Start]) --&gt; Step1[Confirm construction schedule, deadline, and rates of planning]     Step1 --&gt; Step2[Plan and prepare Work Programme and submit to client or representative]     Step2 --&gt; Decision{Approve?}     Decision -- No --&gt; Step1     Decision -- Yes --&gt; Step3[Finalised Work Programme]     Step3 --&gt; Step4[Distribute approved Work Program to relevant project personnel]     Step4 --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1480 384 2045 448">▪ Schedule</li> <li data-bbox="1480 448 2045 536">▪ Rates of Construction Work</li> <li data-bbox="1480 536 2045 692">▪ Draft Work Programme</li> <li data-bbox="1480 911 2045 943">▪ Verified Work Programme</li> <li data-bbox="1480 1038 2045 1070">▪ Verified Work Programme</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.2.7	<b>Planning for QA/ QC Method and OSH and Environment Requirements</b>			
	<pre> graph TD     Start([Start]) --&gt; Review[Review and collect the requirements for compliance]     Review --&gt; Prepare[Prepare policy, procedures, and programs to achieve compliance]     Prepare --&gt; Approve{Approve?}     Approve -- No --&gt; Review     Approve -- Yes --&gt; Implement[Implementation to comply with QAQC &amp; OSH requirement]     Implement --&gt; Review2{Compliance review}     Review2 -- Not comply --&gt; Improve[Make improvement]     Improve --&gt; Implement     Review2 -- Comply --&gt; Retain[Retain evidence of compliance]     Retain --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li>▪ Inspection Test Plan</li> <li>▪ Calibration Program</li> <li>▪ Request for Inspection and Approval of Work System</li> <li>▪ Rectification Work Inspection</li> </ul> <ul style="list-style-type: none"> <li>▪ Inspection Test Plan</li> <li>▪ Calibration Program</li> <li>▪ Request for Inspection and Approval of Work System</li> <li>▪ Rectification Work Inspection</li> </ul> <ul style="list-style-type: none"> <li>▪ OHS Manual, Procedures, Program</li> <li>▪ HIRARC Report</li> <li>▪ Audit Report</li> <li>▪ Inspection Report</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
<b>3.3</b>	<b>PROCUREMENT</b>			
<b>3.3.1</b>	<b>Purchase of Material</b>			
	<pre> graph TD     Start([Start]) --&gt; Step1[Identify material listing. Establish Purchasing Plan if required]     Step1 --&gt; Step2[Obtain approval]     Step2 --&gt; Step3[Do at least 2 price comparisons for the purchase]     Step3 --&gt; Step4[Issue Purchase Order]     Step4 --&gt; Step5[Verification on receive and store]     Step5 --&gt; Step6[Retain evidence of purchase]     Step6 --&gt; End([End])           </pre>			<ul style="list-style-type: none"> <li>▪ Established SOP for Procurement of Construction Material, Manpower, and Machinery, as applicable</li> <li>▪ Approved Material Listing</li> <li>▪ Method Statement planning – requirement for supplier</li> <li>▪ Purchasing Plan (as per verified Bill of Quantities)</li> <li>▪ Purchase Order</li> <li>▪ Delivery Order</li> <li>▪ Material Received Note</li> </ul>

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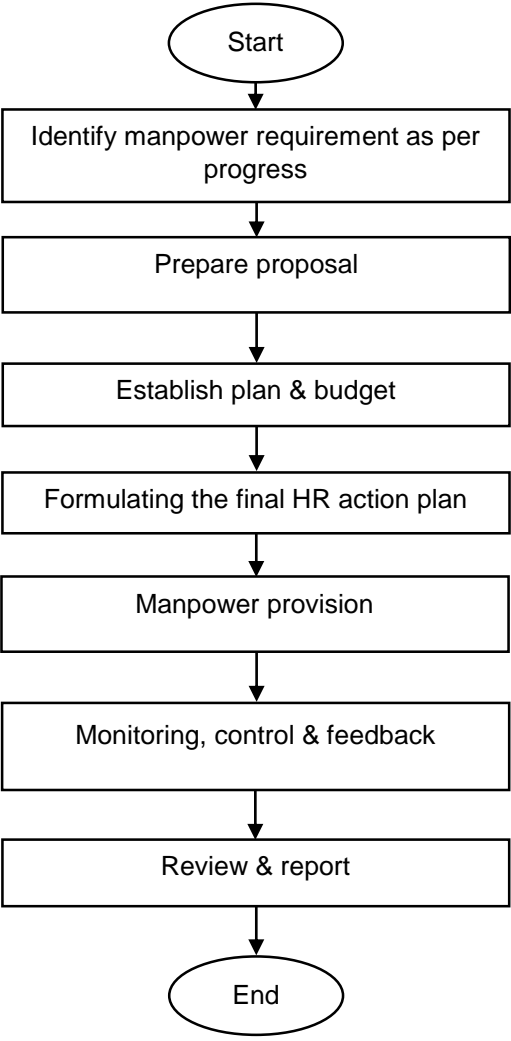
\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.3.2	<b>Machinery Requirement</b>			
	<pre> graph TD     Start([Start]) --&gt; A[Identify machinery requirement]     A --&gt; B[Consider types of Machinery]     B --&gt; C[Identify supplier or subcontractor]     C --&gt; D[Agreement of supply, rental or leasing contract]     D --&gt; E[Receive machinery or services]     E --&gt; F[Make payment]     F --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1480 352 2045 443">▪ Machinery Utilisation Plan (as per Method Statement)</li> <li data-bbox="1480 443 2045 475">▪ Rental &amp; Leasing Contract</li>   <li data-bbox="1480 687 2045 719">▪ Rental &amp; Leasing Agreement</li>   <li data-bbox="1480 927 2045 959">▪ Invoice</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

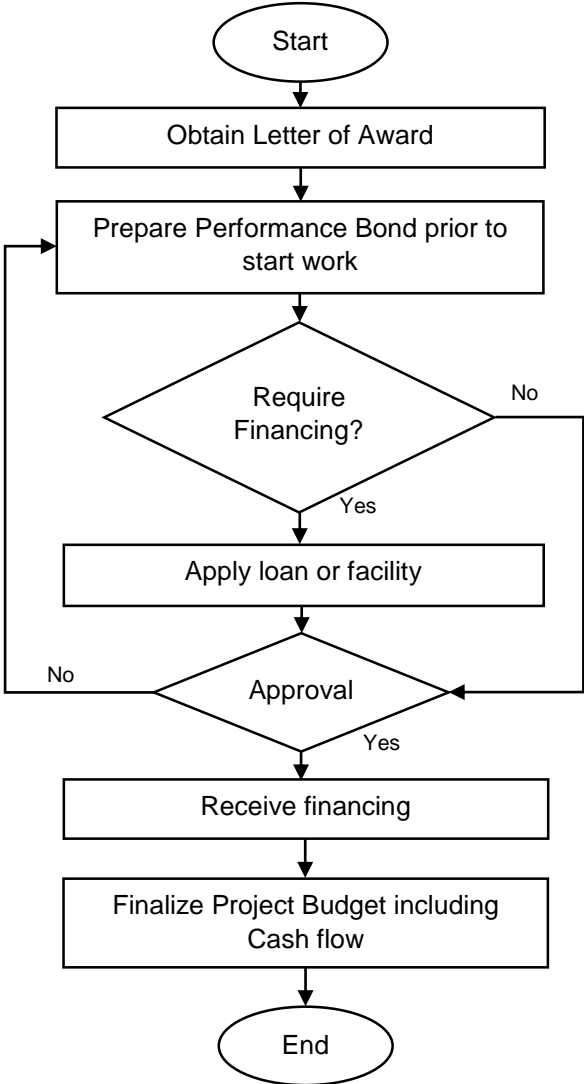
ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.3.3	<b>Manpower Planning</b>			
	 <pre> graph TD     Start([Start]) --&gt; A[Identify manpower requirement as per progress]     A --&gt; B[Prepare proposal]     B --&gt; C[Establish plan &amp; budget]     C --&gt; D[Formulating the final HR action plan]     D --&gt; E[Manpower provision]     E --&gt; F[Monitoring, control &amp; feedback]     F --&gt; G[Review &amp; report]     G --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1469 352 2045 475">▪ Manpower Planning (as per Work Program progress)</li> <li data-bbox="1469 600 2045 722">▪ Manpower Budget</li> <li data-bbox="1469 1082 2045 1204">▪ Manpower Review Report</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above



ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.3.4	Project Financing			
	 <pre> graph TD     Start([Start]) --&gt; Obtain[Obtain Letter of Award]     Obtain --&gt; Prepare[Prepare Performance Bond prior to start work]     Prepare --&gt; Require{Require Financing?}     Require -- No --&gt; Approval{Approval}     Require -- Yes --&gt; Apply[Apply loan or facility]     Apply --&gt; Approval     Approval -- No --&gt; Prepare     Approval -- Yes --&gt; Receive[Receive financing]     Receive --&gt; Finalize[Finalize Project Budget including Cash flow]     Finalize --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1503 352 1715 379">▪ Letter of Award</li> <li data-bbox="1503 448 2024 507">▪ Copy of Performance Bond, as applicable</li> <li data-bbox="1503 480 1868 507">▪ Project Budget and cashflow</li> <li data-bbox="1503 1166 1944 1193">▪ Project Budget including Cash flow</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
<b>3.4</b>	<b>CONSTRUCTION WORK</b>			
<b>3.4.1</b>	<b>Mobilisation to Site</b>			
	<pre> graph TD     Start([Start]) --&gt; Plan[Plan for site mobilisation and inform client on date of intention]     Plan --&gt; Receive[Receive Site Possession Confirmation Letter]     Receive --&gt; Obtain[Obtain necessary permit of occupation and licensing]     Obtain --&gt; Mobilize[Mobilize to site]     Mobilize --&gt; Meeting[Conduct Kick-off meeting at site with client and representative]     Meeting --&gt; End([End])           </pre>			
				<ul style="list-style-type: none"> <li>Site mobilisation correspondence</li> <li>Permit and Licensing from relevant authority</li> </ul>
				<ul style="list-style-type: none"> <li>Site Possession Confirmation letter</li> </ul>
				<ul style="list-style-type: none"> <li>Permit of occupation</li> <li>Licensing</li> </ul>
				<ul style="list-style-type: none"> <li>Minutes of first Kick-Off Meeting at site</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.2	<b>Incoming Materials Inspection &amp; Testing</b>			
	<pre> graph TD     Start([Start]) --&gt; MP[Material purchase confirmation]     MP --&gt; RT{Require Testing or Trial Run?}     RT -- No --&gt; RIM[Receive incoming material at site]     RT -- Yes --&gt; CTR[Conduct testing and trial run]     CTR --&gt; P{Pass?}     P -- No --&gt; CTR     P -- Yes --&gt; RIM     RIM --&gt; End([End])   </pre>			<ul style="list-style-type: none"> <li data-bbox="1487 379 2045 507">▪ Trial Design Approval</li> <li data-bbox="1487 507 2045 754">▪ Testing Result</li> <li data-bbox="1487 1026 2045 1185">▪ Incoming Inspection of Material Report</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.3	<p><b>Materials, Machinery, Equipment Handling</b></p> <pre> graph TD     Start([Start]) --&gt; Receive[Receive materials, machinery, and equipment at site]     Receive --&gt; Inspection[Incoming inspection against purchase document]     Inspection --&gt; Decision{Testing report required?}     Decision -- No --&gt; Update[Update inventory]     Decision -- Yes --&gt; Verify[Verify testing report and result]     Verify --&gt; Update     Update --&gt; Storage[Material, machinery and equipment storage]     Storage --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li>▪ Purchase Order</li> <li>▪ Delivery Order</li> <li>▪ Mill Certificate</li>   <li>▪ Factory Testing Report</li>   <li>▪ License &amp; Permit for Machinery</li> <li>▪ Inventory record</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.4	<b>Construction Activities</b>			
	<pre> graph TD     Start([Start]) --&gt; Review[Review all required document for project execution such as Work Program, drawings, schematics, QA/QC Plan, and method statement]     Review --&gt; Briefing[Briefing of construction activities of planned progress to construction team]     Briefing --&gt; CarryOut[Carry out construction activities]     CarryOut --&gt; VO{VO}     VO -- No --&gt; CarryOut     VO -- Yes --&gt; Receive[Receive written EI, AI or Variation Order Instruction from SO/PD]     Receive --&gt; Addition[Addition VO]     Receive --&gt; Omission[Omission VO]     Addition --&gt; Two{2}     Omission --&gt; Continue[Continue with the remaining works]     Two --&gt; CarryOut     </pre>			<ul style="list-style-type: none"> <li>▪ Work Programme</li> <li>▪ Project drawings &amp; schematic</li> <li>▪ Method statement</li> </ul> <ul style="list-style-type: none"> <li>▪ Inspection Test Plan</li> <li>▪ Minutes of progress briefing /briefing notes with attendance list.</li> </ul> <ul style="list-style-type: none"> <li>▪ Variation Order (VO)</li> </ul> <ul style="list-style-type: none"> <li>▪ Documentation of EI or AI or Variation Order Instruction</li> </ul> <ul style="list-style-type: none"> <li>▪ Contractor to confirm on scope of work, pricing and quantity for VO works.</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

	<pre> graph TD     Start([2]) --&gt; Request[Request for inspection/and approval of construction activities by progress]     Request --&gt; Approved1{Approved?}     Approved1 -- Yes --&gt; Retain[Retain evidence of conformance]     Approved1 -- No --&gt; Rectify[Rectification/ remedial action]     Rectify --&gt; Approved2{Approved?}     Approved2 -- No --&gt; Rectify     Approved2 -- Yes --&gt; Retain     Retain --&gt; End([End])           </pre>			<ul style="list-style-type: none"> <li>▪ Request for Inspection and Approval system</li>           <li>▪ Retain evidence of conformance</li> </ul>
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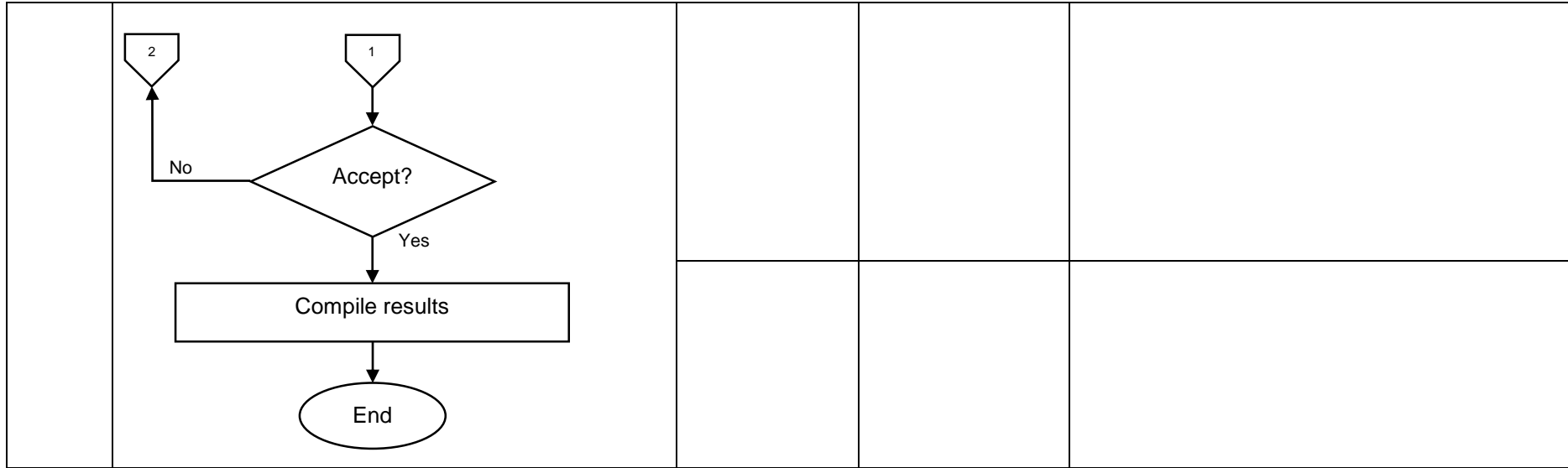
*\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart*  
*\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart*  
*\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above*

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.5	<b>Request for Inspection (RFI) System</b>			
	<pre> graph TD     Start([Start]) --&gt; Prep[Prepare for joint inspection for acceptance of work by: ▪ Reviewing Inspection Test Plan for next activity ▪ Confirm progress of work to be inspected ▪ Request for Inspection time and location at least 12 hours prior to activity ▪ Prepare all required document and drawing]     Prep --&gt; Time{Time agreed?}     Time -- Yes --&gt; Ins[Conduct joint inspection and report result in inspection forms. Verified by all witness parties]     Time -- No --&gt; Loop((2))     Loop --&gt; Prep     Ins --&gt; End((1)) </pre>			<ul style="list-style-type: none"> <li>▪ Inspection Test Plan</li> <li>▪ RFI System</li> <li>▪ Inspection forms</li> <li>▪ Approved drawings</li> </ul> <ul style="list-style-type: none"> <li>▪ RFI System</li> </ul> <ul style="list-style-type: none"> <li>▪ Inspection forms</li> <li>▪ Drawings</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above



*\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart*

*\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart*

*\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above*

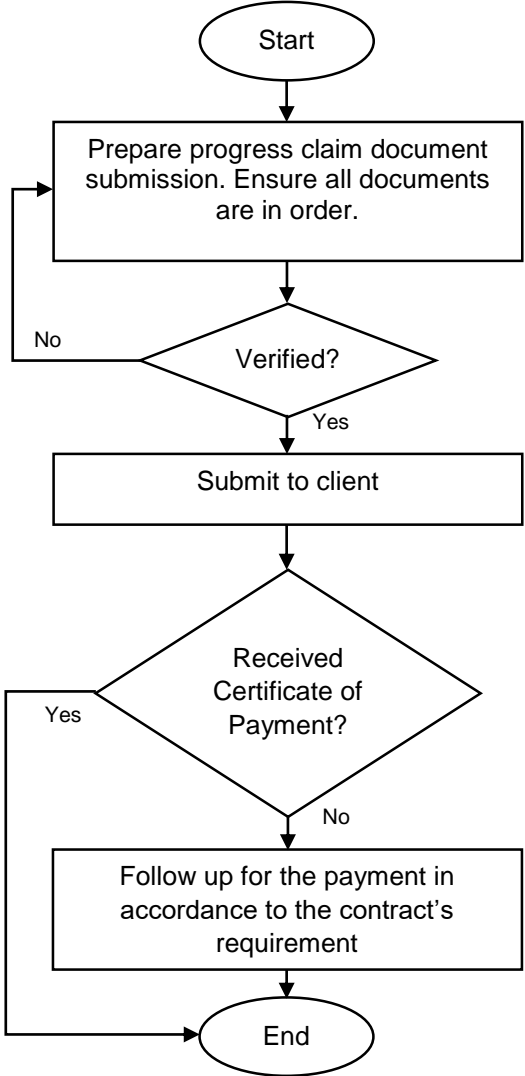


ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
<b>3.4.6</b>	<p><b>Progress Monitoring</b></p> <pre> graph TD   Start([Start]) --&gt; Measure[On defined basis, measure progress with reference to Work Program, identifying project progress through activities acceptance]   Measure --&gt; Analyze[Analyze progress and prepare report]   Analyze --&gt; Meeting[Conduct project progress meeting]   Meeting --&gt; Decision{Ahead or on time?}   Decision -- No --&gt; Rectification[Rectification/remedial action]   Rectification --&gt; Measure   Decision -- Yes --&gt; Compile[Compile report for safekeeping]   Compile --&gt; End([End])         </pre>			<ul style="list-style-type: none"> <li>▪ Progress report</li> <li>▪ Work Program</li>   <li>▪ Progress report</li> <li>▪ Work Program</li> </ul>

*\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart*

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.7	Progress Claim			
	 <pre> graph TD     Start([Start]) --&gt; Prepare[Prepare progress claim document submission. Ensure all documents are in order.]     Prepare --&gt; Verified{Verified?}     Verified -- No --&gt; Prepare     Verified -- Yes --&gt; Submit[Submit to client]     Submit --&gt; Received{Received Certificate of Payment?}     Received -- Yes --&gt; End([End])     Received -- No --&gt; FollowUp[Follow up for the payment in accordance to the contract's requirement]     FollowUp --&gt; End           </pre>			<ul style="list-style-type: none"> <li data-bbox="1480 379 2045 564">▪ Progress claim submission ▪ Joint inspection result</li> <li data-bbox="1480 564 2045 719">▪ Progress claim submission</li> <li data-bbox="1480 719 2045 834">▪ Progress claim submission</li> <li data-bbox="1480 1123 2045 1273">▪ Notice or letter of demand</li> </ul>

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ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.8	Housekeeping			
	<pre> graph TD     Start([Start]) --&gt; A[Prepare housekeeping plan and instruction]     A --&gt; B[Brief workers on housekeeping activities]     B --&gt; C[Conduct inspection on site]     C --&gt; D{Satisfactory?}     D -- No --&gt; C     D -- Yes --&gt; E[Prepare housekeeping report]     E --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1482 395 2045 555">▪ Housekeeping plan &amp; instruction</li> <li data-bbox="1482 703 2045 831">▪ Housekeeping report</li> <li data-bbox="1482 986 2045 1114">▪ Housekeeping report</li> </ul>

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\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.4.9	<p><b>Project Handover and Obtaining CCC/ CPC</b></p> <pre> graph TD     Start([Start]) --&gt; Prep[Prepare handover and CPC/CCC documents]     Prep --&gt; Test[Do testing and commissioning]     Test --&gt; Inspect[Conduct Joint inspection]     Inspect --&gt; Defect{Defect List?}     Defect -- Yes --&gt; Remedial[Remedial action inspection]     Remedial --&gt; Defect     Defect -- No --&gt; Accepted{Joint inspection Result Accepted?}     Accepted -- No --&gt; Remedial     Accepted -- Yes --&gt; Handover[Handover project and receive CCC/ CPC]     Handover --&gt; End([End]) </pre>			<ul style="list-style-type: none"> <li>▪ Handover documents</li> <li>▪ Testing &amp; Commissioning result</li> <li>▪ Joint Inspection report</li> <li>▪ Defect List and Rectification report</li> <li>▪ Project handing over letter</li> <li>▪ Certificate of Completion and Compliance (CCC)</li> <li>▪ Certificate of Practical Completion (CPC)</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
<b>3.5</b>	<b>POST-CONSTRUCTION</b>			
<b>3.5.1</b>	<b>Rectification Work during Defects Liability Period (DLP)</b>			
	<pre> graph TD     Start([Start]) --&gt; A[Receive complaint on defect]     A --&gt; B[Verify against contractual status]     B --&gt; C[Arrange rectification work]     C --&gt; D{Work accepted?}     D -- No --&gt; C     D -- Yes --&gt; E[Receive acceptance notification]     E --&gt; End([End]) </pre>			
				▪ Defect Rectification Request
				▪ Defect List & Rectification confirmation

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.5.2	<b>Obtain Certificate of Making Good Defects (CMGD)</b>			
	<pre> graph TD     Start([Start]) --&gt; A[Joint inspection during DLP]     A --&gt; B[Prepare Defect List and do rectification]     B --&gt; C[Conduct joint inspection]     C --&gt; D{Rectified and Accepted}     D -- No --&gt; E[Carry out rectification works.]     E --&gt; C     D -- Yes --&gt; F[Follow up for the issuance of Certificate of Making Good Defect (CMGD)]     F --&gt; G([End]) </pre>			<ul style="list-style-type: none"> <li data-bbox="1496 363 2045 427">▪ Joint Inspection report</li> <li data-bbox="1496 491 2045 555">▪ Defect List</li> <li data-bbox="1496 651 2045 715">▪ Joint Inspection report</li> <li data-bbox="1496 651 2045 715">▪ Defect List</li> <li data-bbox="1496 1066 2045 1129">▪ Certificate of Making Good Defect (CMGD)</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

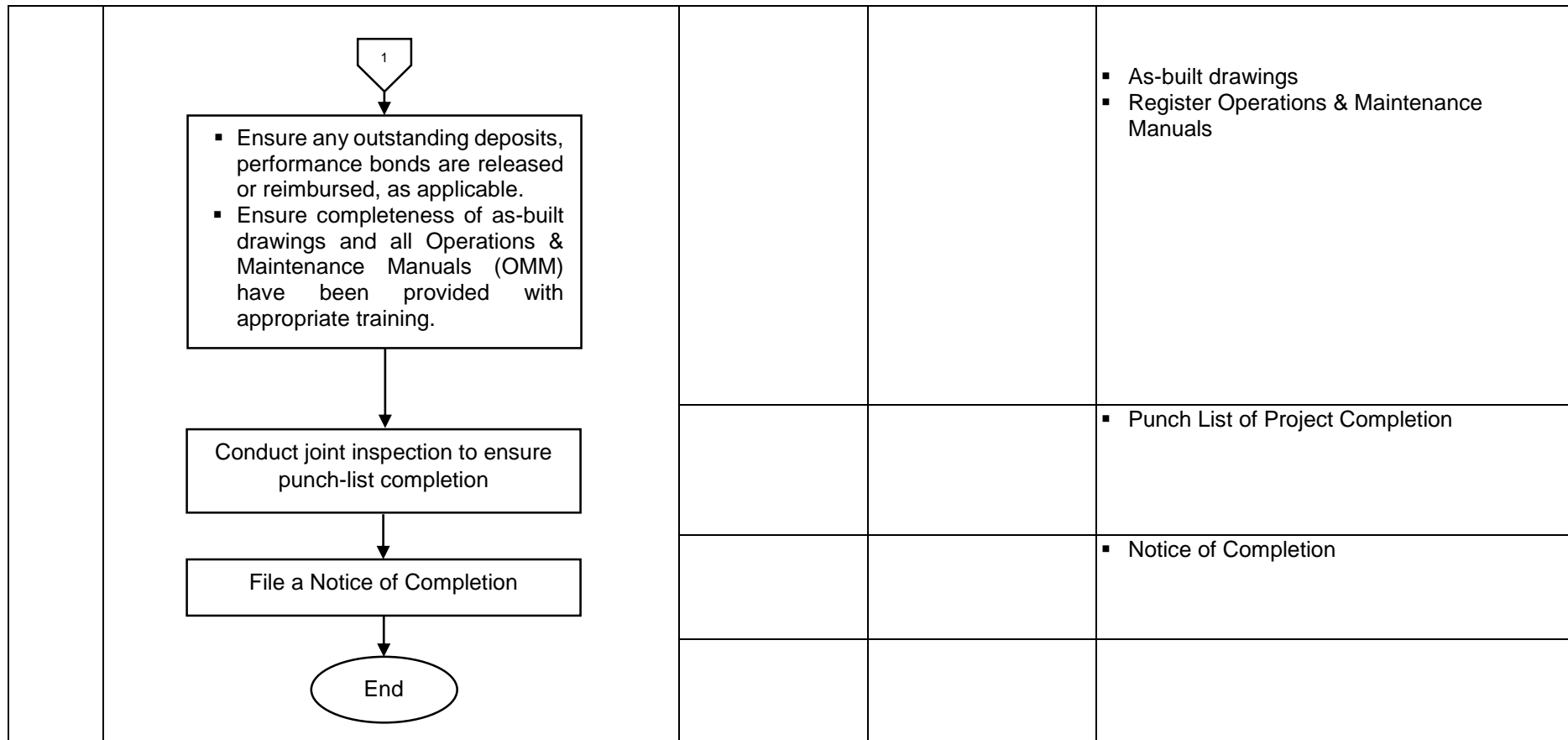
\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above

ITEM	CONSTRUCTION MANAGEMENT REQUIREMENTS	DURATION*	RESPONSIBILITY**	EVIDENCE OF RESULT***
3.5.3	Project Closeout and Final Claim			
	<pre> graph TD     Start([Start]) --&gt; Process1[Preparation for onsite project closeout include: ▪ Demobilize all temporary facilities and equipment ▪ Organize surplus material ▪ Ensure that permanent utilities are installed, tested, and working ▪ Ensure the site is completely clean and ready for occupancy ▪ Ensure all owner's training of systems has been completed.]     Process1 --&gt; Process2[Preparation for administrative task and documents on project closeout include: ▪ Review all contractual requirements and ensure that all terms have been met. ▪ Review all variation orders to ensure all have been accounted for and either voided, rejected, or completed]     Process2 --&gt; End{{1}}           </pre>			<ul style="list-style-type: none"> <li>▪ Demobilize Plan</li>   <li>▪ Variation Order</li> </ul>

\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above



\*Duration - Contractor shall determine reasonable and practical duration for the processes shown in the flow chart

\*\*Responsibility - Contractor shall assign suitable person i.e. project director/ contract manager/ project manager/ engineer/ safety officer/ supervisor/ clerk for the processes shown in the flow chart

\*\*\*Evidence of Result – Contractor may add evidence of result(s) where applicable for the processes identified above



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