THE NATIONAL COUNCIL FOR TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING



OCCUPATION: ARCHITECTURAL ENGINEER

LEVEL: NTA LEVEL 8

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TABLE OF CONTENT

ABBR	EVIATIONS	ii
GLOSS	SARY OF TERMSi	ii
1.0.	INTRODUCTION	1
3.0. ARCH	THE SCOPE AND OVERVIEW OF THE OCCUPATION STANDARDS FOR ITECTURAL ENGINEERS	2
4.0.	VALIDITY PERIOD	3
5.0.	OCCUPATIONAL STANDARDS	4
5.1	OCCUPATIONAL STANDARDS FOR ARCHITECTURAL ENGINEER - NTA LEVEL 8.	4
APPEN	NDIX: DACUM CHARTS FOR ARCHITECTURAL ENGINEER - NTA LEVEL 8	8

ABBREVIATIONS

BIM	Building Information Modelling
CAD	Computer-Aided Design
СРМ	Critical Path Method
CBET	Competency Based Education and Training
ISO 9001	Quality Management System Standard
NACTVET	National Council for Technical and Vocational Education and Training
NOS	National Occupational Standards
OS	Occupational Standards
ТЕТ	Technical Education and Training
TVET	Technical and Vocational Education and Training

GLOSSARY OF TERMS

Circumstantial Knowledge:	Detailed knowledge, which allows the decision-making in regard to different circumstances and cross cutting issues.
Competence:	The ability to use knowledge, understanding, practical, and thinking skills to perform effectively to the workplace standards required in employment.
Competency:	A description of the ability one possesses when able to perform a given occupational task effectively and efficiently.
Competency-based Education:	An instructional programme that derives its content from validated tasks and bases assessment on the learner's performance.
Curriculum:	A description or composite of statements about "what is to be learned" by the trainee/student in a particular instructional programme; a product that states the "intended learning outcomes".
Educational/Training Programme:	The complete curriculum and instruction (what and how) that is designed to prepare a person for employment in a job or other particular performance situation.
Occupation:	A specific position requiring the performance of specific tasks – essentially the same tasks are performed by all employees having the same title. (Example: baker)
Occupational Area:	This is a broad grouping of related jobs. (Example: food service)
Occupational Competence:	The application of knowledge and skills that consistently meet the standards required by the work context.
Occupational Standards:	Specific requirements of competences people are expected to demonstrate in a particular occupational area, including knowledge and relevant attitudes. They also act as a performance tool of assessment of the prescribed outcomes.
Occupational/Job Analysis:	A process used to identify the tasks that are important to employees in any given occupation.
Performance Criteria:	Indicate expected end results or outcomes in the form of evaluative statements.
Skills:	The ability to perform occupational tasks with a high degree of proficiency within a given occupation. Skill is conceived of as a composite of three completely interdependent components: cognitive, affective, and psychomotor.

Standards:	A set of statements, which if proved true under working conditions, means that an individual is meeting an expected level and type of performance.
Task Analysis:	The process of analysing each task to determine the steps, circumstantial knowledge, attitudes, performance standards, tools and materials needed, as well as safety concerns required for the employees performing it.
Task:	A work activity that has a definite beginning and ending, is observable or measurable, and consists of two or more definite steps that leads to a product, service, or decision.
Underpinning Knowledge:	Crucial knowledge that an individual must acquire in order to demonstrate competences that are associated in performing a given task.
Verification Process:	The process of having experts review and confirm the importance of the task (competency) statements identified through occupational analysis. Other questions, such as the degree of task learning difficulty are also frequently asked. This process is also sometimes referred to as validation.

1.0. INTRODUCTION

Technical Education and Training (TET) is one of the most important education sub-sectors in Tanzania, responsible for developing a skilled workforce to support the country's industrialization economic agenda. Tanzania's *Development Vision 2025* intends to raise the country's economy to a middle-income status, with a high level of human development. This requires a skilled workforce that is aligned with the needs of the public and private sectors of the economy. The National Council for Technical and Vocational Education and Training (NACTVET) has begun the job of drafting Occupational Standards (OS) that will eventually be adopted as National Occupational Standards (NOS) for use in the delivery of TET that meets the needs of the labour market and the country's economic agenda.

Occupational Standards (OS) are performance criteria that are matched with labour market demands. Each of them describes the functions, performance standards, and understanding or knowledge underpinning a given occupation. They combine skills, knowledge, and attitudes to describe best practice. They are useful tools for establishing job roles, personnel recruitment, supervision, and appraisal, as well as TET Standards. They are also helpful for benchmarking and harmonizing job qualifications on a national and international level. Standards, in general, provide a solid framework for high-quality TET that is labour market-relevant, current, and consistent in application across all public and private institutions.

However, it must be noted that Occupational Standards are different from Training /Education Standards. Occupational standards are defined in terms of activities performed by a person in a selected occupation (e.g., an electrical engineer designs electrical circuits, performs troubleshooting in electrical circuits, etc.), and are usually defined by Employers following procedures as agreed upon by all the stakeholders. On the other hand, Training and Education Standards are developed from the activities defined in the occupational standards, and they specify learning objectives to ensure that the necessary skills and knowledge are developed by a person to enable him/her to function at an agreed level in an occupation. Training and Education Standards are used to define curricula in training institutions. It is critical, however, to establish a direct link between the occupational standards for both of them to respond collaboratively to the demands of the labour market.

For the purpose of TET delivery, Tanzania has adopted the Competence Based Education and Training (CBET) approach. The CBET approach focuses on providing learners with the skills and knowledge required to meet the occupational standards. Occupational standards are thus the starting point for developing competency-based training (CBET) programmes. Therefore, it is quite pertinent

for TET institutions to use the relevant occupational standards as a benchmark for formulating their curricula.

Occupational Standards are developed based on a given occupation's current and future demands. As a result, they serve as a means of bridging the gap between the worlds of employment and technical education and training.

The document explains how the occupational standards were developed, as well as the scope, the occupational profile in the form of DACUM charts, and the Occupational Standards.

2.0. OCCUPATIONAL STANDARD DEVELOPMENT PROCESS

The process of developing these Occupational Standards involved both local and international expertise. The process began with an examination of major documents that guide Tanzanian skills development including the *10-year National Skills Development Strategy (2016-2026)*. NACTVET labour market reports were also used in the literature review to determine the skills demand in the Tanzanian labour market as a whole.

After the literature review, a team of experts in consultation with practitioners developed draft occupational standards. The draft document was used to develop an occupational profile for each occupation (DACUM Chart), which is attached as an **Appendix** to every Occupational Standard.

The occupational standards were validated during the stakeholders' forum held on 22nd and 23rd February 2024 at Morogoro. The information from the stakeholders' forum provides insight from the workplace, professional bodies, regulatory bodies and sector ministries regarding trends and changes in the profession, including how well graduates are prepared for working in the occupation.

3.0. THE SCOPE AND OVERVIEW OF THE OCCUPATION STANDARDS FOR ARCHITECTURAL ENGINEERS

These standards cover a broad range of duties and tasks that can be performed by an Architectural Engineer. However, the occupational standards are not meant to replace individual job descriptions. Instead, they are to be used for guidance in defining skill levels and knowledge for the technician in specific settings or positions. Architectural Engineers may perform tasks in a number of key areas of the occupational standards, but not necessarily in all areas. For example, in large operations, other individuals may be employed or designated to perform specific tasks.

The Architectural Engineer shall conduct construction organization and planning, construction technology management, construction quality control, construction progress control, construction cost control, safety and environmental management, data information management, and project resource management on the construction site.

Generally, the Architectural Engineer performs the following responsibilities:

- a) Analysis of architectural design schemes
- b) Assistance in engineering surveying
- c) Preparation of construction drawings and construction schemes
- d) Supervision of construction quality and schedule on the construction site
- e) Coordination of various types of work during the construction process
- f) Inspection of the quality and qualification certificates of construction materials
- g) Resolution of technical problems and difficulties at the construction site
- h) Detection and assessment of safety risks on the construction site
- i) Ensuring that the construction site complies with relevant laws, regulations, and safety standards
- j) Quality acceptance and rectification on the construction site
- k) Assistance in preparing work safety management plans for the construction project
- 1) Cost control and budget management on the construction site
- m) Detection and monitoring of environmental factors on the construction site
- n) Coordination of the communication and collaboration with stakeholders such as the owner and the supervisor
- o) Participation in technical disclosure and training for the construction project
- p) Preparation of completion files and acceptance reports for the construction project

The Occupational Standards have been clustered into NTA qualification levels, i.e. NTA Levels 7 and 8.

4.0. VALIDITY PERIOD

Due to the rapid development of technology, the validity period of occupational standards is 3-5 years. The review will proceed in the same manner as the one before it, with new occupational standards being developed based on current trends of the labour market.

5.0. OCCUPATIONAL STANDARDS

5.1 OCCUPATIONAL STANDARDS FOR ARCHITECTURAL ENGINEER - NTA LEVEL 8

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	PLAN A CONSTRUCTIO	AND ON	ORGANISE	DUTY NO.	801
TASK TITLE	PREPARE CONSTRUCTIO	D DN O	ESIGN FOR RGANIZATION	TASK NO.	8011
PERFORMANCE CRITERIA	The person performing this task must be able to assist the project manager and technical leader in formulating and adjusting the construction schedule, and prepare operational schedules.				
RANGE STATEMENT	The task can be chief architectur The tools and ea 1 Engineerin	The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include:			
	 Engineering design documents: architectural structural design drawings, architectural layout drawings, bill of quantities, etc.; Construction equipment and tools: appropriate construction equipment and tools selected according to the requirements of construction organization design, such as lifting machinery, construction machines and tools, and safety equipment. 			n ar design s, etc.; n equipment construction on machines	
EVIDENCE REQUIREMENT					
		r –	•		
PRACTICAL PER	RFORMANCE		UNDERPINNI	NG KNOWLEDG	E
PRACTICAL PER The person performines able to do the following the foll	RFORMANCE ng this task must	Deta	UNDERPINNI ailed knowledge abor	NG KNOWLEDG ut:	E
PRACTICAL PER The person performin be able to do the follo 1. Analyse the con- drawings and teo	RFORMANCE ng this task must owing: struction chnical	Deta 1.0 The how	UNDERPINNI ailed knowledge about Methods person performing the to:	NG KNOWLEDG ut: his task must be able	E e to explain
 PRACTICAL PER The person performing be able to do the following the construction of the following and text documents; Determine the construction of the schemes; 	RFORMANCE ng this task must owing: struction chnical	Deta 1.0 The how 1.1	UNDERPINNI ailed knowledge about Methods person performing the to: Study construction de technical requirement requirements and con	NG KNOWLEDG ut: his task must be able rawings, design doct nts to understand nstraints;	E e to explain uments, and engineering
 PRACTICAL PER The person performine be able to do the follow 1. Analyse the considerawings and text documents; 2. Determine the consideration of the schemes; 3. Determine the consideration of the schedule; 4. Coordinate resonance of the schedule; 	RFORMANCE ng this task must owing: struction chnical onstruction onstruction	Deta 1.0 The how 1.1 1.2	UNDERPINNI ailed knowledge about Methods person performing the to: Study construction detechnical requirements requirements and cond Develop a detailed of engineering required drawings includi	NG KNOWLEDG ut: his task must be able rawings, design doct nts to understand nstraints; construction scheme rements and construction are	E e to explain uments, and engineering e in view of construction rangements
 PRACTICAL PER The person performine be able to do the follow 1. Analyse the considerawings and tead documents; 2. Determine the consideration of the schemes; 3. Determine the consideration of the schedule; 4. Coordinate resonant manpower; 	RFORMANCE ng this task must owing: struction chnical onstruction onstruction urces and	Deta 1.0 The how 1.1 1.2	UNDERPINNI ailed knowledge about Methods person performing the to: Study construction de technical requirement requirements and cost Develop a detailed of engineering requi drawings, includi construction process	NG KNOWLEDG ut: his task must be able rawings, design doct nts to understand nstraints; construction scheme rements and cong process arr es, and resource req	E e to explain uments, and engineering e in view of construction rangements, juirements;
 PRACTICAL PER The person performine be able to do the follown of the follown of the follown of the constraints of the constraints of the constraints of the constraint of the	RFORMANCE ng this task must owing: struction chnical onstruction onstruction arces and truction cuments; occupational and afety rules and	Deta 1.0 The how 1.1 1.2	UNDERPINNI ailed knowledge abor Methods person performing the to: Study construction de technical requirements requirements and con Develop a detailed construction process Develop a reasonable the sequence of const and ensure that the time;	NG KNOWLEDG ut: his task must be able rawings, design docu nts to understand nstraints; construction scheme rements and cong process arri- es, and resource reque construction sched truction processes arri- construction is co	E e to explain uments, and engineering e in view of construction rangements, juirements; fule, arrange nd activities, ompleted on

	1.5 Prepare construction organization documents, including construction schemes, schedules, and resource plans, to guide actual construction operations.
	2.0 Principles
	The person performing this task must be able to explain
	the following principles:
	2.1 Principles of compliance with laws and regulations;
	2.2 Principle of safe and environment-friendly construction.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 The principles and methods of engineering construction management;
	3.2 Construction process theories;
	3.3 Construction processes;
	3.4 Construction methods and technologies;
	3.5 Principles and specifications for construction organization;
	3.6 Resource management for construction.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Communication skills;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END	A comprehensive construction organization design is
FRODUCT / SERVICE	regulations
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Safety and quality control;
	2. Relevant laws and regulations.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	PLAN A CONSTRUCTIO	AND DN	ORGANISE	DUTY NO.	801
TASK TITLE	PREPARE CONSTRUCTIO	DN S	DEDICATED CHEMES	TASK NO.	8012
PERFORMANCE CRITERIA	The person performing this task must be able to assist the project manager and technical heads in preparing dedicated construction schemes, and organize and coordinate work on the construction site.				
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers The tools and equipment to be used include: 1. Construction scheme formwork: the standard formwork for preparing a dedicated construction scheme, including project background, construction objectives, construction steps, and safety measures; 2. Engineering data: relevant design documents, bill of quantities, construction drawings, etc. used as references and basis for preparing a construction scheme; 3. Professional software and computing tools: a dedicated construction scheme shall be formulated and optimized by using computer-aided design (CAD) software, project management software and other tools. 				
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
 The person performin be able to do the follo 1. Analyse the re- engineering proje 2. Develop the scheme; 3. Prepare the const 4. Determine the method; 5. Assign tasks. 	g this task must wing: equirements of ects; construction ruction plan; construction	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The	ailed knowledge above Methods person performing the to: Carefully study the sengineering projects schedule requirement Develop a detailed accordance with pr construction processs resource allocation; Develop a compre clarify the schedule a Select appropriate processes in view requirements of the efficiency and qualit Turn the construction assign them reasona contractors. Principles person performing the	ut: is task must be able requirements and ob , including construct ts, and resource con- ed construction se roject requirements es, process arrange hensive construction and key nodes; construction me of the character project to ensure c y; n scheme into specificably to relevant per- his task must be able	e to explain ojectives of etion scope, estraints; scheme in , including ements, and on plan to thods and ristics and construction ic tasks and resonnel and

	2.1 Principles of compliance with laws and regulations;
	2.2 Quality control principles;
	2.3 Principles of safety management.
	3.0 Theories
	The person performing this task must be able to explain
	the following:
	3.1 Construction project management theories;
	3.2 Construction technology theories;
	3.3 Resource management theories;
	3.4 Risk management theories;
	3.5 Construction process theories.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Communication skills;
	4.4 Problem solving skills;
	4.5 Attention to detail.
DESCRIPTION OF THE END PRODUCT / SERVICE	A comprehensive and detailed construction plan is developed with detailed dedicated construction schemes.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Project scheduling;
	2. Architectural laws and regulations;
	3. Environmental sustainability;
	4. Safety management;
	5. Cost estimation.

OCCUPATION	ARCHITECTU	RAL ENGINEER	OCCUPATION CODE	
DUTY TITLE	PLAN A CONSTRUCTIO	AND ORGANISE ON	DUTY NO.	801
TASK TITLE	DEVELOP MA	NAGEMENT SYSTEMS	TASK NO.	8013
PERFORMANCE CRITERIA	The person per development of	rforming this task must practical and feasible ma	be able to participagement systems.	pate in the
RANGE STATEMENT	The task can be chief architectur	performed on the construe ral engineers.	ction site under the su	pervision of
	 Manageme construction including of other conter Project math drawings, manageme Communic talkies, communicial 	quipment to be used inclu ent system formwork: the on organization plannin organizational structure, d ent; terials: contract document etc. used as the referencent systems; cation equipment and offic omputers, printers, etc.	de: standard formwork fo g and managemen ivision of duties, wo s, design documents, o nces and basis for ce tools: mobile pho used for communi	or preparing nt systems, rkflow, and construction formulating nes, walkie iccation and
	document j	processing with project te	ams and supervisory	personnel
PRACTICAL PER	FORMANCE	LINCE REQUIREMENT	ING KNOWLEDG	F.
The newson newforms				
 able to do the follo Analyse demand Formulate strategies; Develop documents; Coordinate the ir Carry out regul improvement. 	g this task must wing: s; management management nplementation; ar reviews and	 Detailed knowledge ab 1.0 Methods The person performing how to: 1.1 Carefully evaluated requirements of the systems, including information manage information management manuwork guidelines; 1.4 Collaborate with stakeholders to ena and execution of m 1.5 Regularly review t systems and mak updates. 	out: this task must be able the management project; sive management str workflow, duty allo ement; nagement document als, rules and regul various departm sure the smooth imp anagement systems; he effectiveness of n e necessary improv	e to explain needs and rategies and ocation, and s, such as lations, and nents and lementation nanagement rement and
 The person performing be able to do the folloo Analyse demand Formulate strategies; Develop documents; Coordinate the ir Carry out regul improvement. 	g this task must wing: s; management management nplementation; ar reviews and	 Detailed knowledge ab 1.0 Methods The person performing how to: 1.1 Carefully evaluated requirements of the systems, including information manage information manage information management manuwork guidelines; 1.4 Collaborate with stakeholders to ensure and execution of management manuwork guidelines; 1.5 Regularly review the systems and make updates. 2.0 Principles The person performing the following principles 	but: this task must be able the management project; sive management str workflow, duty allo ement; nagement document als, rules and regul various departm sure the smooth imp anagement systems; he effectiveness of n e necessary improve	e to explain needs and rategies and ocation, and s, such as lations, and nents and lementation nanagement vement and e to explain

	2.2 Principle of safe and environment-friendly construction.		
	3.0 Theories		
	The person performing this task must be able to explain the following:		
	3.1 The principles and methods of engineering construction management;		
	3.2 Organizational behaviours;		
	3.3 Quality control;		
	3.4 Transformation management;		
	4.0 Essential Skills		
	4.1 Analytical skills;		
	4.2 Planning and organizational skills;		
	4.3 Communication skills;		
	4.4 Problem solving skills;		
	4.5 Attention to details;		
	4.6 Leadership skills;		
	4.7 Decision-making skills.		
DESCRIPTION OF THE END PRODUCT / SERVICE	Comprehensive and effective management systems and strategies are developed in accordance with relevant laws and regulations to ensure the smooth operation and success of the construction project.		
CIRCUMSTANTIAL	Detailed knowledge about:		
KNOWLEDGE	1. Project management;		
	2. Architectural technologies;		
	3. Architectural regulations and rules;		
	4. Environmental sustainability;		
	5. Contract management.		

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE TECHNOLOGY	7	CONSTRUCTION	DUTY NO.	802
TASK TITLE	VERIFY TECHNOLOGY	7	CONSTRUCTION	TASK NO.	8021
PERFORMANCE CRITERIA	The person per construction tec to ensure techni	formi hnolo cal sa	ng this task must be ogy scheme in view of t ffety and quality durir	able to develop a he actual situation on the construction p	reasonable f the project process.
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Construction drawings: building structure drawings, electrical layout drawings, etc. used as the basis and references for the verification of construction technologies; Measuring tools: measuring instruments, level gauges, distance measuring tools, etc. used to detect and verify the accuracy of construction technologies; Technical documents and materials: design documents, construction plans, bill of quantities, etc. used as the references for verifying construction technologies; 				
	EVID	ENCE	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
The person performing	g this task must	Deta	ailed knowledge abo	ut:	
 Review construct specifications to accuracy and cor Carry out on-sit evaluate constru- and quality; Collaborate with architects to se problems and pri- guidance; Evaluate constru- and propose in alternative soluti- efficiency and qui- 5. Record and approved technologies stakeholders. 	ction plans and ensure technical mpliance; e inspections to action progress a engineers and solve technical covide technical uction methods mprovement or ions to improve hality; communicate construction to relevant	1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the fill 2.1 2.2 2.3	person performing the to: Ensure technical acc Evaluate constructio Solve technical pro- guidance; Put forward improve improve efficiency a Determine the detail technologies. Principles person performing the following principles: Principles of complia Principle of safe construction. Building quality star	his task must be able uracy and compliane n progress and quali- oblems and provide ement or alternative and quality; Is of the approved c his task must be able ance with laws and r e and environme adards.	e to explain ce; ity; e technical solutions to construction e to explain regulations; ent-friendly
		3.0	Theories		

	The person performing this tesk must be able to explain
	the following:
	3.1 Theories of structural engineering and building materials;
	3.2 Knowledge about construction project management principles and technologies;
	3.3 Sustainability and environmental factors;
	3.4 Construction process theories.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END	A verified construction technology scheme is developed
PRODUCT / SERVICE	in accordance with relevant laws and regulations to ensure
	compliance, safety, and quality.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Construction cost estimation and budget preparation;
	2. Construction equipment and machinery;
	3. Construction contract management;
	4. Construction risk assessment and management;
	5. Legal and contractual obligations related to construction.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE TECHNOLOGY	ζ	CONSTRUCTION	DUTY NO.	802
TASK TITLE	SUPERVISE TECHNICAL D	AN. DISCL	D IMPLEMENT OSURE	TASK NO.	8022
PERFORMANCE CRITERIA	The person perfe documents and	ormin imple	g this task must be abl ement technical disclo	e to prepare technica osure.	al disclosure
RANGE STATEMENT	 The task can be chief architectur. The tools and each of the tools and evalua and evalua Communic boards, proand discuss 	perfo ral en quipm on s ons ar in tecl tions on me d pho d resu tion; eation jector sions.	rmed on the construct gineers. nent to be used includ pecifications and nd manuals used to re- hnical disclosure; patterns and samples for technical disclo- thods and technical re- ptographic equipment ilts of technical disclo- tools and conferen- rs, audio equipment, en-	ion site under the sup e: operation manuals ference and guide c : they serve as refe osure to demonstr equirements; :: they are used to sure for subsequent nce equipment: in tc. used for technical	pervision of relevant construction erences and ate correct record the supervision terpretation disclosures
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
The person performin	FORMANCE	Det	UNDERPINNI ailed knowledge abo	NG KNOWLEDG ut:	E
PRACTICAL PER The person performingbe able to do the follow1. Organize technicmeetings;	FORMANCE ng this task must owing: ical disclosure	Deta 1.0 The how	UNDERPINNI ailed knowledge abo Methods person performing th to:	NG KNOWLEDG ut: his task must be able	E e to explain
PRACTICAL PER The person performingbe able to do the follow1. Organize technicmeetings;2. Supervise thepersonnel in technic	reformance ag this task must wing: ical disclosure construction mical disclosure;	Det 1.0 The how 1.1	UNDERPINNI ailed knowledge abo Methods person performing the to: Clarify the technica methods during the o	NG KNOWLEDG ut: his task must be able al requirements and construction process	E e to explain d operating
 PRACTICAL PER The person performine be able to do the following technologies in the personnel in technologies in technologies in the personnel in technologies in technologies in the personnel in technologies in technologies in the personnel in technologies in technologies	FORMANCE Ing this task must by ing: ical disclosure construction inical disclosure; al guidance and ons from the connel:	Det: 1.0 The how 1.1 1.2	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technica methods during the of Ensure that all com and comply with tech	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements	E e to explain d operating s; understand ;
 PRACTICAL PER The person performine be able to do the following technologies in technologies	ruction site;	Det: 1.0 The how 1.1 1.2 1.3	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technica methods during the of Ensure that all com and comply with tec Ensure that they car correct manner;	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements ry out construction	E e to explain d operating s; understand ; tasks in the
 PRACTICAL PER The person performines be able to do the folice 1. Organize technic meetings; 2. Supervise the personnel in tech 3. Provide technication answer question construction personstruction personstructi	FORMANCE Ing this task must owing: ical disclosure construction inical disclosure; al guidance and ons from the sonnel; ruction site; n designers and	Det: 1.0 The how 1.1 1.2 1.3 1.4	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technica methods during the of Ensure that all com and comply with tec Ensure that they car correct manner; Verify the implement and record relevat measures;	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements ry out construction tation of technical re- nt issues and in	E e to explain d operating s; understand ; tasks in the equirements nprovement
 PRACTICAL PER The person performines able to do the following technology in the personnel in technology in technology in the personnel in technology in technology in the personnel in technology in technolo	FORMANCE Ing this task must owing: ical disclosure construction inical disclosure; al guidance and ons from the sonnel; ruction site; n designers and	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technicate methods during the of Ensure that all com- and comply with tec Ensure that they car correct manner; Verify the implement and record relevate measures; Solve technical issut the construction.	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements ry out construction tation of technical re- nt issues and in es and doubts that a	E e to explain d operating s; understand ; tasks in the equirements nprovement arise during
 PRACTICAL PER The person performines able to do the follor 1. Organize technic meetings; 2. Supervise the personnel in tech 3. Provide technication answer question construction personstruction personstruction	FORMANCE In this task must owing: ical disclosure construction inical disclosure; al guidance and ons from the sonnel; ruction site; n designers and	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technical methods during the of Ensure that all com- and comply with tec Ensure that they car correct manner; Verify the implement and record releval measures; Solve technical issu the construction. Principles	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements ry out construction tation of technical re- nt issues and in es and doubts that a	E e to explain d operating s; understand ; tasks in the equirements nprovement arise during
 PRACTICAL PER The person performines able to do the following the following of the following of the personnel in tech in the personnel in tech in the following of the personnel in tech in the following of the following of the personnel in tech in in	FORMANCE ag this task must owing: ical disclosure construction mical disclosure; al guidance and ons from the sonnel; ruction site; n designers and	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technical methods during the of Ensure that all com- and comply with tec Ensure that they car correct manner; Verify the implement and record releval measures; Solve technical issue the construction. Principles person performing the	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements ry out construction tation of technical re- nt issues and in es and doubts that a	E e to explain d operating s; understand ; tasks in the equirements nprovement arise during e to explain
 PRACTICAL PER The person performines able to do the folication of the folication of	FORMANCE In this task must owing: ical disclosure construction mical disclosure; al guidance and ons from the sonnel; ruction site; n designers and	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the	UNDERPINNI ailed knowledge abor Methods person performing the to: Clarify the technical methods during the of Ensure that all con- and comply with tec Ensure that they car correct manner; Verify the implement and record releval measures; Solve technical issue the construction. Principles person performing the following principles:	NG KNOWLEDG ut: his task must be able al requirements and construction process struction personnel hnical requirements ry out construction tation of technical re- nt issues and in es and doubts that a	E e to explain d operating s; understand ; tasks in the equirements nprovement arise during e to explain

	2.3 Construction quality acceptance standards.
	 3.0 Theories The person performing this task must be able to explain the following: 3.1 Basic principles and process of construction; 3.2 Performance and application of building materials; 3.3 Quality control methods and standards in construction; 3.4 Measurement and detection techniques in construction engineering.
	 4.0 Essential Skills 4.1 Analytical skills; 4.2 Planning and organizational skills; 4.3 Cooperation competence; 4.4 Problem solving skills; 4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	Technical disclosure is supervised and implemented according to relevant laws and regulations to ensure that the construction personnel understand and comply with technical requirements.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Safety management and environmental protection requirements for construction;
	2. Safety protection and emergency rescue measures on the construction site;
	3. Knowledge about relevant quality management systems, such as ISO 9001;
	4. Construction project management and schedule control;
	5. Application of relevant building equipment and technologies.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE TECHNOLOGY	ζ	CONSTRUCTION	DUTY NO.	802
TASK TITLE	ORGANISE TE	CHN	ICAL REVIEW	TASK NO.	8023
PERFORMANCE CRITERIA	The person perf technical revie techniques durin	formi ws ang the	ng this task must be a and re-examinations e engineering construc	ble to carry out con of construction o ction process.	nprehensive rganization
RANGE STATEMENT	The task can be chief architectu	perfo ral en	rmed on the construct agineers.	ion site under the suj	pervision of
	The tools and ed	quipn	nent to be used includ	e:	
	1. Technical	docu	ments and drawings	: relevant design	documents,
	2 Measuring	n ura tools	: measuring instrume	echnical review;	nt etc used
	for accurat	e mea	asurement and evaluation	tion of construction	results;
	3. Computers	softw	are and tools: compute	er-aided design (CAI	D) software,
	constructio	on ma	nagement software a	nd other tools used	for digital
	4 Inspection	anar	recording equipment	· inspection forms	checklists
	cameras, et	tc. use	ed to record the process	s and results of techn	ical review.
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
The person performing	ng this task must	Det	ailed knowledge abo	ut:	
be able to do the follo	owing:	1.0	Methods		
1. Conduct technic	al reviews;	The	person performing th	nis task must be able	e to explain
2. Review constru specifications,	and technical	now 1.1	Coordinate and arra	nge with relevant s	takeholders
 Record discrepa conflicts: 	ncies, errors, or	1.2	Ensure accuracy and	d compliance with	the project
4. Put forward	appropriate	13	Identify and record i	tems in technical de	cuments.
solutions;		1.5	Collaborate with de	sign and engineerir	ig teams to
5. Provide fee	edback and		solve technical prob	lems;	8
suggestions.		1.5	Provide feedback an	nd suggestions on th	ne technical
			aspects of the constr	uction project.	
		2.0	Principles		
		The	person performing th	nis task must be able	e to explain
		the	following principles:		L
		2.1	Principles of compli	ance with laws and 1	regulations;
		2.2	Basic principles for	building safety man	agement;
		2.3	Principles and pra-	ctices for quality	control of
			construction projects	5.	

	The person performing this task must be able to evaluin
	the following:
	3.1 Principles, techniques, and methodology of construction;
	3.2 Properties, applications, and related knowledge about building materials;
	3.3 Methods and standards for building construction quality control;
	3.4 Measurement and testing techniques in construction.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	Technical reviews are organized and conducted in accordance with relevant laws and regulations to ensure compliance with the project requirements.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Principles and practice of construction project management;
	2. Health and safety regulations and practices in construction;
	3. Relevant quality management systems, such as ISO 9001;
	4. Construction equipment and technologies;
	5. Environmental sustainability practices in construction.

DUTY TITLECONTROL QUALITYCONSTRUCTION QUALITYDUTY NO.80TASK TITLEPREPARE PROJECT CONSTRUCTION QUALITY MANAGEMENT SYSTEMTASK NO.80PERFORMANCE CRITERIAThe person performing this task must be able to prepare a construction quality plan and management system to ensure technica and quality during the construction process .80RANGE STATEMENTThe task can be performed on the construction site under the superv chief architectural engineers. The tools and equipment to be used include: 1.Quality control software and tools: quality control system softw quality management manuals for standardized construction management;2.Inspection and test equipment: testing instruments and test equ used for inspecting and testing construction materials and comp 3.Quality documents and recording equipment: quality record cameras, etc. used to record quality inspection results and during the construction process.	
TASK TITLEPREPARE PROJECT CONSTRUCTION QUALITYTASK NO.80QUALITYPLANANDMANAGEMENT SYSTEMMANAGEMENT SYSTEMPERFORMANCE CRITERIAThe person performing this task must be able to prepare a construction quality plan and management system to ensure technica and quality during the construction process .80RANGE STATEMENTThe task can be performed on the construction site under the superv chief architectural engineers. The tools and equipment to be used include:1.Quality control software and tools: quality control system softw quality management manuals for standardized construction management;2.Inspection and test equipment: testing instruments and test equ used for inspecting and testing construction materials and comp 3.Quality documents and recording equipment: quality record cameras, etc. used to record quality inspection results and during the construction process.	CONSTRUCTION DUTY NO. 803
PERFORMANCE CRITERIAThe person performing this task must be able to prepare a construction quality plan and management system to ensure technic; and quality during the construction process.RANGE STATEMENTThe task can be performed on the construction site under the superv chief architectural engineers. The tools and equipment to be used include: 1. Quality control software and tools: quality control system softw quality management; 2. Inspection and test equipment: testing instruments and test equ used for inspecting and testing construction materials and comp 3. Quality documents and recording equipment: quality record cameras, etc. used to record quality inspection results and during the construction process.	DJECT CONSTRUCTION TASK NO. 8031 PLAN AND NT SYSTEM
 RANGE STATEMENT The task can be performed on the construction site under the supervision chief architectural engineers. The tools and equipment to be used include: Quality control software and tools: quality control system softwicture quality management manuals for standardized construction management; Inspection and test equipment: testing instruments and test equipment: due to for inspecting and testing construction materials and comp Quality documents and recording equipment: quality record cameras, etc. used to record quality inspection results and during the construction process. 	erforming this task must be able to prepare a project ality plan and management system to ensure technical safety ring the construction process.
EVIDENCE REQUIREMENT	e performed on the construction site under the supervision of iral engineers. equipment to be used include: ontrol software and tools: quality control system software and anagement manuals for standardized construction quality ent; and test equipment: testing instruments and test equipment and test equipment: testing construction materials and components; becuments and recording equipment: quality record forms, etc. used to record quality inspection results and issues construction process. DENCE REQUIREMENT
PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE	UNDERPINNING KNOWLEDGE
 The person performing this task must be able to do the following: 1. Analyse project requirements and relevant standards; 2. Determine measures and methods for quality control; 3. Develop quality control systems; 4. Supervise quality control activities during the construction process; 5. Collect and analyse quality data. 5. Collect and analyse quality data. 6. Collect and analyse quality data. 7. Determine measures quality data. 6. Collect and analyse quality data. 7. Determine measures quality data. 7. Develop quality control systems; 8. Supervise quality control activities during the construction process; 9. Collect and analyse quality data. 9. Collect and analyse quality data. 9. Collect and analyse quality data. 1.4 Ensure the compliance with plans and standard 1.5 Prepare reports and propose improvement more control; 9. Principles The person performing this task must be able to the following principles: 9. Principles of compliance with laws and regu 2.2 Basic principles for puality control in cons projects. 9. The person performing this task must be able to the process of the person performing the task must be able to the process. 	 Detailed knowledge about: 1.0 Methods The person performing this task must be able to explain how to: 1.1 Develop applicable construction project quality plans; 1.2 Detect, test, and evaluate; 1.3 Clarify the process and responsibilities for quality control;

	3.1 Theoretical models and methods of building quality
	management;
	3.2 Quality requirements for building materials, processes, and construction processes;
	3.3 Quality control techniques and tools in construction;
	3.4 Theoretical knowledge about quality inspection and evaluation.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	Systems that comply with the project construction quality plan and management are developed according to relevant laws and regulations to ensure that quality control meets relevant requirements.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Knowledge about engineering design principles and architectural structure;
	2. Knowledge about engineering surveying and mapping for construction projects;
	3. Engineering materials and testing methods;
	4. Environmental protection and sustainability practices in construction;
	5. Quality management systems and certification standards.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL QUALITY		CONSTRUCTION	DUTY NO.	803
TASK TITLE	ACCEPT ENGI	NEEF	RING QUALITY	TASK NO.	8032
PERFORMANCE CRITERIA	The person perf accordance with timely record th	formin stand ne acc	ng this task must be lards and specificatic eptance process and	e able to carry out ac ons, rectify defective p results.	ceptance in rojects, and
RANGE STATEMENT	The task can be chief architectur The tools and ec 1. Measurement instrument	perfor ral en quipm ent ar s, etc	rmed on the construct gineers. Thent to be used inclu- and test equipment: the used for actual r	ction site under the sup de: measuring instrume neasurement and ins	pervision of nts, testing spection of
	 Quality ac inspection engineering References engineering for accepta 	ccepta form g qual sampl g qual ance ju	ance record forms s, etc. used to rec lity acceptance; es and specimens: sa lity displayed for con udgment.	e: quality acceptance ord the process and amples and specimens aparison and reference	e records, results of of qualified ce and used
	EVID	ENCE	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINN	ING KNOWLEDG	E
The person performing	g this task must	Deta	ailed knowledge ab	out:	
 Review the spectrum requirements of the control of th	ecifications and the project; sting ions during the	1.0 The how 1.1 1.2	Methods person performing to to: Understand the scop Verify the complia regulatory requirem	this task must be able pe of quality acceptar ance with quality sta nents;	e to explain nce work; ndards and
 Solve quality-rel Prepare quality reports and docu 	ated issues; y acceptance ments.	1.3 1.4 1.5	Keep records; Collaborate with the corrective measures Conduct final revie	e project stakeholders s are taken; ws and approval.	and ensure
		 2.0 The fill 2.1 2.2 3.0 The fill 3.1 	Principles person performing to following principles Principles of comple Basic principles for projects. Theories person performing to following: Quality control	this task must be able : liance with laws and r r quality control in c this task must be able methods and techn	e to explain egulations; onstruction e to explain niques for

	3.2 Statistical quality control principles and their application in engineering projects;
	3.3 Quality management systems and their implementation;
	3.4 Quality assurance and quality control processes;
	3.5 Building materials and their properties;
	3.6 Building technologies and construction processes;
	3.7 Quality control procedures in related fields such as civil engineering or architecture.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	Engineering quality acceptance is implemented according to relevant laws and regulations to ensure compliance with relevant specifications and standards.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Environmental regulations and practices;
	2. Health and safety regulations for construction projects.

OCCUPATION	ARCHITECTU	RAL ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL QUALITY	CONSTRUCTION	DUTY NO.	803
TASK TITLE	INVESTIGATE HANDLE QUA	, ANALYSE, AND LITY INCIDENTS	TASK NO.	8033
PERFORMANCE CRITERIA	The person perf handle quality i	orming this task must be a ncidents.	ble to investigate, a	nalyse, and
RANGE STATEMENT	 The task can be chief architectur. The tools and each of the detailed accident detai	performed on the construct ral engineers. quipment to be used includ- cident investigation record d information of quality inc escription, and other inform cident analysis tools: fish ault tree analysis, etc. used s; restigation tools: measuring investigation and collectio ling guidelines and manu- andling different types of quality on the quality control perso	ion site under the sup e: forms: they are use idents, including tim nation; bone diagram (caus to analyse the causes instruments, camera n of relevant eviden als: they provide m cality incidents for re	ed to record ne, location, sal analysis and effects as, etc. used nce; nethods and efference and
	EVID	ENCE REQUIREMENT		
		le l		
PRACTICAL PER	FORMANCE	UNDERPINNI	NG KNOWLEDG	E
 PRACTICAL PER The person performines be able to do the following of the	FORMANCE ag this task must owing: and collect ncidents; ot cause of the dent; riate preventive ssary measures.	UNDERPINNI Detailed knowledge abor 1.0 Methods The person performing the how to: 1.1 Conduct comprehene the information about 1.2 Analyse the root cause incident; 1.3 Assess the impact and project; 1.4 Develop appropriate measures to handle to 1.5 Implement necessary and prevent its recur	NG KNOWLEDG ut: his task must be able sive investigations at quality incidents; se and influencing fa d severity of the inc te corrective and he incident; measures to resolve rence.	E e to explain and collect actors of the ident on the preventive e the icident

	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Methods and techniques for accident investigation;
	3.2 Quality management systems and their application in accident handling;
	3.3 Risk assessment and management principles;
	3.4 Laws and regulations related to accident handling.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	An effective report is prepared for investigating, analysing, and resolving the quality incident in accordance with relevant laws and regulations.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Understanding of building materials and their characteristics;
	2. Construction process and technology;
	3. Relevant laws and regulations in the construction industry;
	4. Knowledge related to quality control, such as civil engineering or architecture;
	5. Health and safety regulations for construction projects.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL SCHEDULE		CONSTRUCTION	DUTY NO.	804
TASK TITLE	PREPARE SCHEDULE		CONSTRUCTION	TASK NO.	8041
PERFORMANCE CRITERIA	The person perf schedule, arrang and ensure the c	formi ge rea constr	ng this task must be a sonable construction s ruction quality during	able to prepare the c sequence and human the construction per	construction n resources, riod.
RANGE STATEMENT	 The task can be chief architectur. The tools and economic and economic	perfo ral en quipn ratior repare Proje edule cey n d adj cation for time rvisco on sit o rec with t	rmed on the construct agineers. nent to be used includ a software: professionate and manage the c ct; table: project schedul odes, workload, and ustment; devices: mobile pho mely communication prs, and stakeholders; e observation tools: ca cord actual construction he plan.	ion site under the sup e: al project manageme construction schedul es tables created and time requirements f nes, walkie talkies, and coordination v ameras, measuring i con schedule and co	ent software e, such as maintained or progress computers, with project nstruments, ompare and
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
The person performing	g this task must	Det	ailed knowledge abo	ut:	
1. Look into project drawings, and rel	et specifications, ated documents;	1.0 The how	Methods person performing th to:	nis task must be able	e to explain
 Determine the duration of activ Develop detaile schedules; 	sequence and ities; ed construction	1.1 1.2	Confirm the scope of Determine the seque view of construc availability:	work and project render and duration of tion methods and	quirements; activities in l resource
 Coordinate wit stakeholders; Regularly monitor 	h the project or and update the	1.3	Develop detailed co task dependency rela path method analysi	nstruction schedules ationship, milestone s;	s, including and critical
schedule.		1.4 1.5	Collect opinions an schedule; Regularly monitor an actual progress and n	nd incorporate then nd update the schedu make necessary adju	n into the le to reflect stments.
		2.0	Principles		
		The the	person performing th following principles:	nis task must be able	e to explain
		2.1	Principles of complia	ance with laws and 1	egulations;

	
	2.2 Project management principle;
	2.3 Principles for quality management of engineering construction project;
	2.4 Principles of safety management.
	3.0 Theories
	The person performing this task must be able to explain
	the following:
	3.1 Methods and techniques for accident investigation;
	3.2 Quality management systems and their application in accident handling;
	3.3 Risk assessment and management principles;
	3.4 Laws and regulations related to accident handling.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	A reasonable construction schedule with detailed construction sequence is developed to ensure construction quality and timely completion of the construction project.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Understanding of building materials and their characteristics;
	2. Construction process and technologies;
	3. Relevant laws and regulations in the construction industry;
	4. Knowledge related to quality control, such as civil engineering or architecture;
	5. Health and safety regulations for construction projects.

OCCUPATION	ARCHITECTU	RAL ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL SCHEDULE	CONSTRUCTION	DUTY NO.	804
TASK TITLE	PREPARE SCHEDULE	CONSTRUCTION	TASK NO.	8041
PERFORMANCE CRITERIA	The person perf schedule, arrang and ensure the c	Forming this task must be a ge reasonable construction construction quality in the construction the construction quality in the construction quality quali	able to control the c sequence and human construction period.	construction n resources,
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Plan preparation software: professional project management software used to prepare and manage the construction schedule, such as Microsoft Project; Project schedule table: project schedules tables created and maintained to record key nodes, workload, and time requirements for progress tracking and adjustment; Communication devices: mobile phones, walkie talkies, computers, etc. used for timely communication and coordination with project teams, supervisors, and stakeholders; Construction site observation tools: cameras, measuring instruments, etc. used to record actual construction schedule and compare and 			
	EVID	ENCE REQUIREMENT		
PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE			E	
 The person performing this task must be able to do the following: 1. Investigate and collect information on incidents; 2. Analyse the root cause of the accident; 3. Evaluate the accident; 4. Develop appropriate preventive measures: 		 Detailed knowledge abo 1.0 Methods The person performing the how to: 1.1 Conduct comprehent the information about 1.2 Analyse the root cau accident; 1.3 Assess the impact and the impact	ut: nis task must be able nsive investigations at quality incidents; se and influencing fa ad severity of the acc	e to explain and collect actors of the ident on the
5. Implement neces	sary measures.	 project; 1.4 Develop appropriation measures to handle to the surface of the su	te corrective and the accident; ry measures to r t its recurrence. his task must be able ance with laws and r	preventive resolve the e to explain regulations;

	2.2 Basic principles for quality control in construction projects.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Key Path Method (CPM) and project evaluation;
	3.2 Principle of resource allocation and balance;
	3.3 Risk management principles and their application in project schedule planning;
	3.4 Use of schedule software and computer-aided design (CAD) tools.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details;
	4.6 Predictive skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	A comprehensive construction schedule that meets project objectives and requirements is developed in accordance with relevant laws and regulations
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Construction methods and technologies;
	2. Construction industries and their interdependence;
	3. Relevant regulations and standards on construction project management;
	4. Cost estimation and budgeting principles in project scheduling;
	5. Health and safety regulations for construction projects.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE			
DUTY TITLE	CONTROL SCHEDULE		CONSTRUCTION	DUTY NO.	804		
TASK TITLE	SUPERVISE CONSTRUCTIO ORGANIZATIO	ANE ON ON	O COORDINATE SITE	TASK NO.	8042		
PERFORMANCE CRITERIA	The person performing this task must be able to supervise the organization and coordination of the construction site in view of the specific project characteristics and field conditions.						
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Project schedule table: it is used to track and record construction progress, ensuring that construction is carried out according to plan; Communication tools: mobile phones, walkie talkies, computers, etc. used for communication and coordination with project teams, contractors, and stakeholders. 						
	 Construction site observation tools: cameras, measuring instruments, etc. used to monitor and record the actual situation of the construction site; Construction documents and recording equipment: construction record sheets, meeting minutes, etc. used to record construction progress, issues, and docisions. 						
	EVID	ENCE	REQUIREMENT		EVIDENCE REQUIREMENT		
PRACTICAL PERFORMANCE							
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E		
The person performin	FORMANCE ng this task must	Deta	UNDERPINNI ailed knowledge abo	NG KNOWLEDG ut:	E		
The person performine be able to do the follow	FORMANCE ng this task must owing:	Deta 1.0	UNDERPINNI ailed knowledge abor Methods	NG KNOWLEDG ut:	E		
PRACTICAL PER The person performing be able to do the follow1. Monitor the construction action	FORMANCE ng this task must owing: progress of vities;	Deta 1.0 The how	UNDERPINNI ailed knowledge abor Methods person performing th to:	NG KNOWLEDG ut: his task must be able	E e to explain		
 PRACTICAL PER The person performines be able to do the following the construction action actio	rogress of vities; ensure smooth mely completion	Deta 1.0 The how 1.1	UNDERPINNI ailed knowledge about Methods person performing the to: Monitor the progress ensure that they are of	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne	E e to explain ctivities and ed;		
 PRACTICAL PER The person performines be able to do the following the construction action action	FORMANCE ag this task must wing: progress of vities; ensure smooth mely completion as during the cess;	Deta 1.0 The how 1.1 1.2	UNDERPINNI ailed knowledge about Methods person performing the to: Monitor the progress ensure that they are of Coordinate with differ to ensure smooth work tasks;	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne ferent teams and sub rkflow and timely co	E e to explain ctivities and ed; pcontractors pmpletion of		
 PRACTICAL PER The person performines be able to do the follow Monitor the construction active Coordinate and workflow and the of tasks; Solve problem construction produces Ensure the construction products 	FORMANCE In this task must by ing: progress of vities; ensure smooth mely completion as during the cess; ompliance with ns and quality	Deta 1.0 The how 1.1 1.2 1.3	UNDERPINNI ailed knowledge about Methods person performing the to: Monitor the progress ensure that they are of Coordinate with diff to ensure smooth work tasks; Address conflicts of construction process	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne ferent teams and sub rkflow and timely co r issues that arise ;	E e to explain ctivities and ed; ocontractors ompletion of during the		
 PRACTICAL PER The person performines be able to do the follow Monitor the construction action Coordinate and workflow and the of tasks; Solve problem construction production production production production standards; Record deviation 	FORMANCE ag this task must wing: progress of vities; ensure smooth mely completion as during the cess; ompliance with ns and quality as or delays.	Deta 1.0 The how 1.1 1.2 1.3 1.4	UNDERPINNI ailed knowledge about Methods person performing the to: Monitor the progress ensure that they are of Coordinate with diff to ensure smooth work tasks; Address conflicts of construction process Conduct regular ins with safety regulation	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne ferent teams and sub rkflow and timely co r issues that arise ; pections to ensure ons and quality stand	E e to explain etivities and ed; pcontractors ompletion of during the compliance lards;		
 PRACTICAL PER The person performines be able to do the follow Monitor the construction action Coordinate and workflow and the of tasks; Solve problem construction production production production production standards; Record deviation 	FORMANCE ag this task must owing: progress of vities; ensure smooth mely completion as during the cess; ompliance with ns and quality as or delays.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5	UNDERPINNI ailed knowledge about Methods person performing the to: Monitor the progress ensure that they are of Coordinate with diffe to ensure smooth work tasks; Address conflicts of construction processs Conduct regular ins with safety regulation Record and report construction progress	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne ferent teams and sub rkflow and timely co r issues that arise ; pections to ensure ons and quality stand deviations or del s.	E e to explain ctivities and ed; ocontractors ompletion of during the compliance lards; ays in the		
 PRACTICAL PER The person performines be able to do the follow Monitor the construction active Coordinate and workflow and the of tasks; Solve problem construction products Ensure the construction products Ensure the construction standards; Record deviation 	FORMANCE ag this task must wing: progress of vities; ensure smooth mely completion as during the cess; ompliance with ns and quality as or delays.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0	UNDERPINNI ailed knowledge abor Methods person performing the to: Monitor the progress ensure that they are of Coordinate with differ to ensure smooth wor tasks; Address conflicts of construction processs Conduct regular ins with safety regulation Record and report construction progress Principles	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne ferent teams and sub rkflow and timely co r issues that arise ; pections to ensure ons and quality stand deviations or del s.	E e to explain ctivities and ed; ocontractors ompletion of during the compliance lards; ays in the		
 PRACTICAL PER The person performines be able to do the follor 1. Monitor the construction action 2. Coordinate and workflow and the of tasks; 3. Solve problem construction produces of the construction pr	FORMANCE ag this task must owing: progress of vities; ensure smooth mely completion as during the cess; ompliance with ns and quality as or delays.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the f	UNDERPINNI ailed knowledge abor Methods person performing the to: Monitor the progress ensure that they are of Coordinate with differ to ensure smooth wor tasks; Address conflicts of construction processs Conduct regular ins with safety regulation Record and report construction progress Principles person performing the following principles:	NG KNOWLEDG ut: his task must be able s of construction ac carried out as planne ferent teams and sub rkflow and timely co r issues that arise ; pections to ensure ons and quality stand deviations or del s.	E e to explain ctivities and ed; ocontractors ompletion of during the compliance lards; ays in the e to explain		

	2.2 Basic principles for building safety management:
	2.2 Basic principles for building safety management,
	2.3 Basic principles for quality control in construction projects.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Techniques and methods for controlling construction schedule;
	3.2 Critical path method (CPM) and other scheduling tools;
	3.3 Resource allocation and optimization principles;
	3.4 Risk management principles and their application in construction schedule control.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	The work on the construction site is effectively supervised and coordinated according to relevant laws and regulations to ensure that it is carried out according to the schedule and project requirements
	Detaile disconde des alsoste
KNOWLEDGE	Detailed knowledge about:
KING WEEDGE	1. Construction methods, technologies, and materials;
	site;
	3. Environmental considerations in construction projects;
	4. Construction cost estimation and budgeting principles;
	5. Quality control processes and standards in construction.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL SCHEDULE		CONSTRUCTION	DUTY NO.	804
TASK TITLE	SUPERVISE MANAGEMEN PLANE LAYOU	T OF JT	DYNAMIC F CONSTRUCTION	TASK NO.	8043
PERFORMANCE CRITERIA	The person performing this task must be able to supervise the plane layout on the construction site and dynamically manage it in view of factors such as construction schedule, process requirements, and safety requirements.				
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Plane layout drawings: they are used to understand the construction layout and the location of each construction area; Construction schedule table: it is used to record construction tasks and time requirements for dynamic management and adjustment; On-site signs and symbols: construction area signs and symbols used to guide workers and visitors to understand the requirements and arrangements for construction plane layout; Real time monitoring equipment: cameras, monitoring instruments, etc. used to monitor the actual situation of the construction site and acompare and adjust them with the plane. 				
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PER	FORMANCE UNDERPINNING KNOWLEDGE		E		
The person performin	ig this task must	Detailed knowledge about:			
be able to do the follo $1 \qquad \Delta nalyse and evaluate the following of the $	wing: duate the needs	1.0	Methods	is tooly moved he shi	a ta anglaig
and requirements	s;	how	to:	lis task must be able	e to explain
 Develop plans; Supervise the plans; 	ane layout work	1.1	Analyse and evaluate construction plane la	e the needs and requinyout;	rements for
on the constructi 4. Coordinate the	on site; work among	1.2	Develop dynamic construction plane la	management ayout;	plans for
different types subcontractors;	of work and	1.3	Supervise the plane l site to ensure that it	layout work on the c is carried out accor	construction rding to the
5. Address constru- conflicts.	ction issues and	1.4	plan; Coordinate the work and subcontractors t smooth progress of t Address issues and	among different ty to ensure the coord he plane layout; conflicts in constru	pes of work ination and
		1.0	layout.		Free Prene
		2.0	Principles		
		The the	person performing th following principles:	is task must be able	e to explain
		2.1	Basic principles of c	onstruction plane la	yout;

	2.2 Basic principles for building safety management;
	2.3 Principles of environmental protection;
	2.4 Basic principles of engineering project management.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Design principles and methods of construction plane layout;
	3.2 Software tools and technologies for construction plane layout;
	3.3 The correlations and impacts between construction plane layout and other construction processes;
	3.4 Optimization principles and methods for construction plane layout.
	4.0 Eccential Skills
	4.0 Essential Skills
	4.1 Addity to analyse and interpret drawings;
	4.2 Planning and organizational skills;
	4.5 Cooperation competence;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	The construction plane layout is effectively supervised and managed according to relevant laws and regulations to ensure the compliance with relevant requirements.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Principles of architectural design and characteristics of building materials;
	2. Construction process and construction technologies;
	3. Correlation between construction plane layout and construction safety management;
	4. Regulations and specifications on construction.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL CO	NSTF	RUCTION COST	DUTY NO.	805
TASK TITLE	PREPARE CO PLAN	ONST	RUCTION COST	TASK NO.	8051
PERFORMANCE CRITERIA	The person perf plans.	formi	ng this task must be al	ble to prepare const	ruction cost
RANGE STATEMENT	The task can be performed on the construction site under the supervision of chief architectural engineers.				
	The tools and equipment to be used include:				
	1. Cost management software: professional cost management software used for preparing and managing construction cost plans, such as Microsoft Excel;			ent software ns, such as	
	2. Bill of qua provides a for constru	ntitie detai ction	s; bills of quantities f led list of materials, l , in order to facilitate	or production and n abour, and equipme cost control and est	naintenance ent required imation;
	3. Procureme procureme	nt ant contract	and contract docu ontracts, etc. used	ments: supplier to record and m mipment:	quotations, nanage the
	4. Real-time or record the conduct co	cost tr diffe st ana	acking tools: cost trac rences between actual lysis and adjustments	king tables, reports, l costs and budgeter	etc. used to d costs and
	EVID	ENCI	E REOUIREMENT		
	TAL PERFORMANCE UNDERPINNING KNOWLEDGE				
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	Е
The person performin	FORMANCE	Det	UNDERPINNI ailed knowledge about	NG KNOWLEDG	E
The person performin be able to do the follo	FORMANCE ag this task must owing:	Det: 1.0	UNDERPINNI ailed knowledge abor Methods	NG KNOWLEDG ut:	E
The person performine be able to do the follow 1. Analyse the requirements of	FORMANCE ag this task must owing: needs and of construction	Deta 1.0 The how	UNDERPINNI ailed knowledge about Methods person performing the to:	NG KNOWLEDG	E e to explain
PRACTICAL PER The person performing be able to do the follow 1. Analyse the requirements on projects;2. Collect and organ to construction construction construction	FORMANCE ag this task must owing: needs and of construction nize data related osts;	Deta 1.0 The how 1.1	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs an projects, including d requirements;	NG KNOWLEDG ut: his task must be able and requirements of c esign documents, ar	E e to explain construction nd technical
 PRACTICAL PER The person performine be able to do the follor 1. Analyse the requirements of projects; 2. Collect and organ to construction c 3. Develop construct 4. Monitor and con the construction 	FORMANCE Ig this task must wing: needs and of construction nize data related osts; ction cost plans; trol costs during process;	Det : 1.0 The how 1.1	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs and projects, including de requirements; Collect and organize costs, such as mate equipment leasing;	NG KNOWLEDG ut: his task must be able and requirements of c esign documents, ar we data related to c erial prices, labour	E e to explain construction nd technical construction costs, and
 PRACTICAL PER The person performine be able to do the folloo 1. Analyse the requirements of projects; 2. Collect and organ to construction c 3. Develop construct 4. Monitor and construction 5. Analyse cost develop 	FORMANCE ag this task must wing: needs and of construction nize data related osts; ction cost plans; trol costs during process; iations.	Det: 1.0 The how 1.1 1.2 1.3	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs are projects, including de requirements; Collect and organize costs, such as matter equipment leasing; Develop construction targets and budgets f	NG KNOWLEDG ut: his task must be able nd requirements of c esign documents, ar we data related to c erial prices, labour n cost plans, and det for each stage of the	E e to explain construction d technical construction costs, and ermine cost project;
 PRACTICAL PER The person performine be able to do the folloo 1. Analyse the requirements of projects; 2. Collect and organ to construction c 3. Develop construct 4. Monitor and cont the construction 5. Analyse cost dev 	FORMANCE ag this task must wing: needs and of construction nize data related osts; ction cost plans; trol costs during process; iations.	Det: 1.0 The how 1.1 1.2 1.3 1.4	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs an projects, including de requirements; Collect and organize costs, such as mate equipment leasing; Develop construction targets and budgets for Monitor and control to process to ensure the	NG KNOWLEDG ut: his task must be able nd requirements of c esign documents, an e data related to c erial prices, labour n cost plans, and det for each stage of the the costs during the c ey are within the buc	E e to explain construction d technical construction costs, and ermine cost project; construction dget range;
 PRACTICAL PER The person performine be able to do the folloon 1. Analyse the requirements of projects; 2. Collect and organ to construction construction construction construction 3. Develop construction 4. Monitor and construction 5. Analyse cost develop 	FORMANCE ag this task must wing: needs and of construction nize data related osts; ction cost plans; trol costs during process; iations.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs are projects, including de requirements; Collect and organiz costs, such as mate equipment leasing; Develop construction targets and budgets ff Monitor and control to process to ensure the Analyse cost de improvement measu	NG KNOWLEDG ut: his task must be able and requirements of c esign documents, ar we data related to c erial prices, labour in cost plans, and det for each stage of the the costs during the c ey are within the buc viations and pur res for cost control.	E e to explain construction ad technical construction costs, and ermine cost project; construction lget range; t forward
 PRACTICAL PER The person performine be able to do the folloon 1. Analyse the requirements of projects; 2. Collect and organ to construction construction construction construction 3. Develop construction 4. Monitor and construction 5. Analyse cost develop 	FORMANCE ag this task must wing: needs and of construction nize data related osts; ction cost plans; trol costs during process; iations.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs are projects, including de requirements; Collect and organiz costs, such as mate equipment leasing; Develop construction targets and budgets for Monitor and control for process to ensure the Analyse cost de improvement measu	NG KNOWLEDG ut: his task must be able and requirements of c esign documents, and e data related to c erial prices, labour in cost plans, and det for each stage of the the costs during the c ey are within the buc viations and pur res for cost control.	E e to explain construction ad technical construction costs, and ermine cost project; construction lget range; t forward
 PRACTICAL PER The person performine be able to do the folloo 1. Analyse the requirements of projects; 2. Collect and organ to construction construction construction construction 3. Develop construct 4. Monitor and construction 5. Analyse cost device 	FORMANCE ag this task must wing: needs and f construction nize data related osts; ction cost plans; trol costs during process; iations.	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs ar projects, including de requirements; Collect and organiz costs, such as mate equipment leasing; Develop construction targets and budgets for Monitor and control to process to ensure the Analyse cost de improvement measu Principles person performing the following principles:	NG KNOWLEDG ut: his task must be able and requirements of c esign documents, and we data related to c erial prices, labour in cost plans, and det for each stage of the the costs during the c ey are within the buc viations and pur res for cost control.	E e to explain construction ad technical construction costs, and ermine cost project; construction dget range; t forward
 PRACTICAL PER The person performine be able to do the folloo 1. Analyse the requirements of projects; 2. Collect and organ to construction c 3. Develop construct 4. Monitor and cont the construction 5. Analyse cost dev 	FORMANCE ag this task must wing: needs and of construction nize data related osts; ction cost plans; trol costs during process; iations.	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the 2.1	UNDERPINNI ailed knowledge about Methods person performing the to: Analyse the needs and projects, including de requirements; Collect and organize costs, such as mate equipment leasing; Develop construction targets and budgets for Monitor and control to process to ensure the Analyse cost des improvement measu Principles person performing the following principles: Principles of complia	NG KNOWLEDG ut: his task must be able and requirements of c esign documents, ar we data related to c erial prices, labour in cost plans, and det for each stage of the the costs during the c ey are within the buc viations and pur res for cost control.	E e to explain construction nd technical construction costs, and ermine cost project; construction lget range; t forward e to explain regulations;

	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Theoretical knowledge about cost estimation and budgeting;
	3.2 Software tools and technologies for cost management;
	3.3 Key elements of cost structure and cost control in construction projects;
	3.4 Cost control techniques and strategies.
	4.0 Essential Skills
	4.1 Data analysis and processing;
	4.2 Planning and organizational skills;
	4.3 Communication skills;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	An effective construction cost plan is developed according to relevant laws and regulations to ensure that the project is carried out within the cost budget.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Price and market changes of building materials and equipment;
	2. Construction technology and process;
	3. Financial management and accounting knowledge to support cost accounting and control;
	4. Basic principles of construction project management;
	5. Basic concepts of architectural economics and investment evaluation.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL CO	NSTF	RUCTION COST	DUTY NO.	805
TASK TITLE	DEVELOP QUANTITIES COSTS	AND	ENGINEERING CONSTRUCTION	TASK NO.	8052
PERFORMANCE CRITERIA	The person performing this task must be able to develop bills of quantities, list all materials, equipment, and labour required, and estimate the required quantities.				
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Measuring tools: measuring instruments, measuring tapes, etc. used for measuring engineering quantities and dimensions; Cost accounting software: professional cost accounting software used for calculating and accounting construction quantities and costs, such as Microsoft Excel, and professional accounting software; Bill of quantities: it is used for cost accounting and budget control, as well as recording the quantities and unit prices of each construction project; Project management software: software used to track and manage construction progress and cost, as well as accounting and analysis of quantities and costs, such as Microsoft Project 				
EVIDENCE REQUIREMENT					
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
PRACTICAL PER The person performines be able to do the following the f	FORMANCE g this task must wing:	Det: 1.0	UNDERPINNI ailed knowledge abo Methods	NG KNOWLEDG ut:	E
PRACTICAL PER The person performine be able to do the follow 1. Calculate the quantities;	FORMANCE Ig this task must wing: engineering	Deta 1.0 The how	UNDERPINNI ailed knowledge about Methods person performing the to:	NG KNOWLEDG	E e to explain
 PRACTICAL PER The person performines be able to do the following of the	FORMANCE Ig this task must wing: engineering collect price related to	Det : 1.0 The how 1.1	UNDERPINNI ailed knowledge about Methods person performing the to: Calculate various en materials, labour, and design drawings and	NG KNOWLEDG ut: his task must be able ngineering quantities nd equipment, in v bills of quantities;	E e to explain s, including riew of the
 PRACTICAL PER The person performines be able to do the follow 1. Calculate the quantities; 2. Query and information construction; 3. Calculate the estimate the construction; 4. Monitor the activity of the setimate the set set set set set set set set set se	FORMANCE g this task must wing: engineering collect price related to timated cost of project; ual engineering	Det 1.0 The how 1.1	UNDERPINNI ailed knowledge about Methods person performing the to: Calculate various en materials, labour, and design drawings and Query and collect construction, such standards and equip	NG KNOWLEDG ut: nis task must be able ngineering quantities nd equipment, in v bills of quantities; price information as material price ment rental fees:	E e to explain s, including riew of the related to ces, salary
 PRACTICAL PER The person performine be able to do the follor 1. Calculate the quantities; 2. Query and information construction; 3. Calculate the estimate construction 4. Monitor the act quantities and construction procession. 	FORMANCE Ig this task must wing: engineering collect price related to timated cost of project; ual engineering osts during the cess;	Deta 1.0 The how 1.1 1.2 1.3	UNDERPINNI ailed knowledge abor Methods person performing the to: Calculate various en materials, labour, an design drawings and Query and collect construction, such standards, and equip Calculate the estim project in view of the	NG KNOWLEDG ut: his task must be able ngineering quantities nd equipment, in v bills of quantities; price information as material price ment rental fees; hated cost of the cost equantity and price in	E e to explain s, including riew of the related to ces, salary construction nformation;
 PRACTICAL PER The person performine be able to do the follow 1. Calculate the quantities; 2. Query and information construction; 3. Calculate the estimate the construction of the construction 4. Monitor the act quantities and construction procession 5. Analyse the development of the construction of the construction of the construction of the construction procession. 	FORMANCE ag this task must wing: engineering collect price related to timated cost of project; ual engineering osts during the cess; iations between attices and costs.	Deta 1.0 The how 1.1 1.2 1.3 1.4	UNDERPINNI ailed knowledge abor Methods person performing the to: Calculate various en materials, labour, an design drawings and Query and collect construction, such standards, and equip Calculate the estim project in view of the Monitor the actual e during the constru- accounting and comp	NG KNOWLEDG ut: nis task must be able ngineering quantities nd equipment, in v bills of quantities; price information as material price ment rental fees; nated cost of the c equantity and price in ngineering quantities action process, an parison;	E e to explain s, including riew of the related to ces, salary construction nformation; es and costs id conduct
 PRACTICAL PER The person performine be able to do the follow 1. Calculate the quantities; 2. Query and information construction; 3. Calculate the estimate the construction 4. Monitor the actinguantities and construction process. 5. Analyse the development of the engineering quartities 	FORMANCE ag this task must wing: engineering collect price related to timated cost of project; ual engineering osts during the cess; iations between atities and costs.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5	UNDERPINNI ailed knowledge abor Methods person performing the to: Calculate various en materials, labour, an design drawings and Query and collect construction, such standards, and equip Calculate the estim project in view of the Monitor the actual e during the constru- accounting and comp Analyse deviations b put forward improve	NG KNOWLEDG ut: nis task must be able ngineering quantities nd equipment, in v bills of quantities; price information as material price ment rental fees; nated cost of the c equantity and price in ngineering quantities action process, an parison; between quantities ar ment measures for c	E e to explain s, including riew of the related to ces, salary construction nformation; es and costs id conduct nd costs and cost control.
 PRACTICAL PER The person performine be able to do the follor 1. Calculate the quantities; 2. Query and information construction; 3. Calculate the estimate the construction 4. Monitor the act quantities and construction process. 5. Analyse the development of the engineering quartities and construction process. 	FORMANCE ag this task must wing: engineering collect price related to timated cost of project; ual engineering osts during the cess; iations between atities and costs.	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0	UNDERPINNI ailed knowledge abor Methods person performing the to: Calculate various en materials, labour, an design drawings and Query and collect construction, such standards, and equip Calculate the estim project in view of the Monitor the actual e during the constru- accounting and comp Analyse deviations b put forward improve	NG KNOWLEDG ut: his task must be able ngineering quantities nd equipment, in v bills of quantities; price information as material price ment rental fees; hated cost of the c equantity and price in engineering quantities action process, an parison; between quantities ar	E e to explain s, including riew of the related to ces, salary construction nformation; es and costs id conduct nd costs and cost control.

	2.1 Principles of compliance with laws and regulations;	
	2.2 Financial management principles;	
	2.3 Cost accounting management principles;	
	2.4 Basic principles of construction project	
	management.	
	3.0 Theories	
	The person performing this task must be able to explain the following:	
	3.1 Theoretical knowledge about engineering quantitie measuring and accounting;	
	3.2 Relevant theories of cost calculation and cost control;	
	3.3 Cost accounting techniques and strategies.	
	4.0 Essential Skills	
	4.1 Data analysis and comparison;	
	4.2 Planning and organizational skills;	
	4.3 Query and analysis of cost figures;	
	4.4 Computing skills;	
	4.5 Attention to details.	
DESCRIPTION OF THE END PRODUCT / SERVICE	Accurate engineering quantities and construction costs are calculated in accordance with relevant laws and regulations to provide a basis for project decision-making and cost control.	
CIRCUMSTANTIAL	Detailed knowledge about:	
KNOWLEDGE	1. Characteristics and purposes of materials and equipment;	
	2. Construction technology and process;	
	3. Financial management and accounting knowledge to support cost accounting and control;	
	4. Basic concepts of architectural economics and investment evaluation.	

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	CONTROL CO	NSTF	RUCTION COST	DUTY NO.	805
TASK TITLE	ANALYSE ADDEVIATION	ND	CORRECT COST	TASK NO.	8053
PERFORMANCE CRITERIA	The person perfective	ormir meas	ng this task must be abl sures to control costs.	le to analyse cost dev	viations and
RANGE STATEMENT	The task can be chief architectur The tools and ec	perfo ral en juipm	rmed on the construct gineers. The used include	ion site under the suj e:	pervision of
	 Cost analy construction control soft Real-time of to collect a and analysi 	sis to on cos tware data c actual is:	ols: professional cost at deviations and deter and financial analys ollection equipment: s construction cost and	analysis tools used rmine the reasons, s is tools; sensors, data recorde d progress data for o	l to analyse uch as cost rs, etc. used comparison
	 Financial si etc. used to Communic phones, co coordinatio parties to c 	tatem o reco cation onfere on wi correc	ents and records: cost ord and track deviation and coordination e ence equipment, etc. th project teams, fin t cost deviations.	statements, account as in construction co quipment: compute used for communi ancial personnel, an	ing records, osts; ers, mobile ication and nd relevant
	EVID	ENCI	E REQUIREMENT		
	PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE				
PRACTICAL PER	FORMANCE		UNDERPINNI	NG KNOWLEDG	E
PRACTICAL PER The person performin	FORMANCE	Det	UNDERPINNI ailed knowledge abov	NG KNOWLEDG	Е
PRACTICAL PER The person performine be able to do the follo	FORMANCE g this task must wing:	Det: 1.0	UNDERPINNI ailed knowledge abov Methods	NG KNOWLEDG ut:	E
PRACTICAL PER The person performingbe able to do the follow1.Collect and orgduring the constr	FORMANCE Ig this task must wing: anize cost data uction process;	Deta 1.0 The how	UNDERPINNI ailed knowledge abov Methods person performing they to:	NG KNOWLEDG	E e to explain
 PRACTICAL PER The person performine be able to do the follow 1. Collect and org during the construct of the construction of the co	FORMANCE g this task must wing: anize cost data uction process; d costs with monitor the	Det : 1.0 The how 1.1	UNDERPINNI ailed knowledge above Methods person performing the to: Collect and organ construction process budgeted costs;	NG KNOWLEDG ut: his task must be able nize cost data c , including actual ex	E e to explain during the spenses and
 PRACTICAL PER The person performine be able to do the folloon 1. Collect and orgen during the construction of the con	FORMANCE ag this task must wing: anize cost data uction process; al costs with monitor the rend of cost	Det: 1.0 The how 1.1	UNDERPINNI ailed knowledge above Methods person performing the to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for	NG KNOWLEDG ut: his task must be able nize cost data c , including actual ex sts with budgeted or and extent of cost	E e to explain during the spenses and costs, and deviations;
 PRACTICAL PER The person performine be able to do the folloon Collect and orge during the construction of the construct	FORMANCE ag this task must wing: anize cost data uction process; al costs with monitor the rend of cost actors and risk	Det 1.0 The how 1.1 1.2 1.3	UNDERPINNI ailed knowledge abor Methods person performing the to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for Track and monitor deviations, and prom	NG KNOWLEDG ut: his task must be able nize cost data co , including actual ex sts with budgeted or and extent of cost the development tre optly identify proble	E e to explain during the spenses and costs, and deviations; end of cost ems;
 PRACTICAL PER The person performine be able to do the folloo 1. Collect and org during the construct budgeted costs; 2. Compare actuate budgeted costs; 3. Track and development the deviations; 4. Identify key far points; 5. Put forward corrande sugges 	FORMANCE g this task must wing: anize cost data uction process; d costs with monitor the rend of cost actors and risk ective measures stions for	Det: 1.0 The how 1.1 1.2 1.3 1.4	UNDERPINNI ailed knowledge about Methods person performing the to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for Track and monitor deviations, and prom Identify key factors a deviations;	NG KNOWLEDG ut: his task must be able nize cost data co , including actual ex sts with budgeted or and extent of cost the development tro ptly identify proble and risk points that	E e to explain during the spenses and costs, and deviations; end of cost ems; lead to cost
 PRACTICAL PER The person performine be able to do the folloo 1. Collect and org during the construct of the construction of the constructio	FORMANCE ag this task must wing: anize cost data uction process; al costs with monitor the rend of cost actors and risk rective measures stions for	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5	UNDERPINNI ailed knowledge about Methods person performing the to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for Track and monitor deviations, and prom Identify key factors a deviations; Put forward cost suggestions for impri cost deviations.	NG KNOWLEDG ut: his task must be able nize cost data co , including actual ex sts with budgeted or and extent of cost the development transperies the development transperies and risk points that is corrective mea covement to control	E e to explain during the spenses and costs, and deviations; end of cost ems; lead to cost sures and and reduce
 PRACTICAL PER The person performine be able to do the folloo 1. Collect and org during the construct budgeted costs; 2. Compare actuat budgeted costs; 3. Track and development the deviations; 4. Identify key far points; 5. Put forward corrand sugge improvement. 	FORMANCE g this task must wing: anize cost data uction process; d costs with monitor the rend of cost actors and risk rective measures stions for	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0	UNDERPINNI ailed knowledge about Methods person performing the to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for Track and monitor deviations, and prom Identify key factors a deviations; Put forward cost suggestions for impricost deviations. Principles	NG KNOWLEDG ut: his task must be able nize cost data of , including actual ex sts with budgeted or and extent of cost the development tro hptly identify proble and risk points that is corrective mea covement to control	E e to explain during the spenses and costs, and deviations; end of cost ems; lead to cost sures and and reduce
 PRACTICAL PER The person performine be able to do the folloon Collect and org during the construct budgeted costs; Compare actuate budgeted costs; Track and development the deviations; Identify key fate points; Put forward correst and sugge improvement. 	FORMANCE ag this task must wing: anize cost data uction process; al costs with monitor the rend of cost actors and risk rective measures stions for	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the	UNDERPINNI ailed knowledge about Methods person performing the to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for Track and monitor deviations, and prom Identify key factors a deviations; Put forward cost suggestions for imprices cost deviations.	NG KNOWLEDG ut: his task must be able nize cost data co , including actual ex sts with budgeted or and extent of cost the development tro hptly identify proble and risk points that is corrective mea rovement to control	E e to explain during the xpenses and costs, and deviations; end of cost ems; lead to cost sures and and reduce e to explain
 PRACTICAL PER The person performine be able to do the folloon Collect and org during the construct of the construct	FORMANCE ag this task must wing: anize cost data uction process; al costs with monitor the rend of cost actors and risk ective measures stions for	Det: 1.0 The how 1.1 1.2 1.3 1.4 1.5 2.0 The the 2.1	UNDERPINNI ailed knowledge about Methods person performing the r to: Collect and organ construction process budgeted costs; Compare actual cost analyse the causes for Track and monitor deviations, and prom Identify key factors a deviations; Put forward cost suggestions for imprices cost deviations. Principles person performing the following principles: Principles of complia	NG KNOWLEDG ut: his task must be able nize cost data of , including actual ex sts with budgeted or and extent of cost the development tre optly identify proble and risk points that t corrective mea covement to control	E e to explain during the spenses and costs, and deviations; end of cost ems; lead to cost sures and and reduce e to explain regulations;

	2.3 Cost accounting management principles.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Theoretical knowledge about cost analysis and cost control;
	3.2 Budget preparation and cost accounting methods and techniques;
	3.3 Principles and strategies for cost deviation analysis and correction;
	3.4 Use of cost management software and tools.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Communication skills;
	4.4 Problem solving skills;
	4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	Accurate cost analysis reports and corrective suggestions are provided in accordance with relevant laws and regulations to support project decision-making and cost control.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. The correlations between construction project management and project progress;
	2. Price and market changes of building materials and equipment;
	3. Construction technology and process;
	4. Financial management and accounting knowledge to support cost accounting and control;
	5. Basic concepts of risk management and quality control.

OCCUPATION	ARCHITECTU	RAL ENGINEER	OCCUPATION CODE				
DUTY TITLE	MANAGE S ENVIRONMEN	MANAGE SAFETY AND THE DUTY NO. 806 ENVIRONMENT					
TASK TITLE	PREPARE PR MANAGEMEN MANAGEMEN CONSTRUCTIO	RODUCTIONSAFETYTPLANSANDTSYSTEMSFORONPROJECTSSAFETY	TASK NO.	8061			
PERFORMANCE CRITERIA	The person perf management pla	forming this task must be all ans and management system	ble to prepare produns for construction	ction safety projects			
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Safety management software: professional safety management software used to prepare and manage safety management plans and systems of construction projects, such as safety management system software, and document management software; Safety signs and warning equipment: safety signs, protective railings, emergency parking equipment, etc. used to identify and remind you of safety requirements and hazardous areas on the construction site; Safety detection instruments: smoke alarms, gas detectors, measuring instruments, etc. used to monitor the safety environment and potential risks on the construction site; Safety training materials and equipment: safety education videos, training documents, training equipment, etc. used for safety training and promotion to enhance workers' safety consciousness and 						
EVIDENCE REQUIREMENT							
PRACTICAL PER	FORMANCE	UNDERPINNI	NG KNOWLEDG	E			
The person performin	ng this task must	Detailed knowledge about:					
 Analyse the sa hidden dangers projects; Develop w management construction projects Organize safety educational activ Supervise the sa construction site Inspection and e 	owing: afety risks and of construction york safety plans and systems for jects; y training and vities; fety status of the ; valuation.	 1.0 Methods The person performing the how to: 1.1 Develop corresponds 1.2 Develop a safety promanagement system ensure the improved safety rules and regularity rules and regularity identify and 1.3 Improve employees' 1.4 Timely identify and 1.5 Regularly conduct sate to ensure that constant safety standards and 	his task must be able ing safety measures oduction manageme of for construction p ement and implem ilations and systems safety consciousnes handle safety issues fety inspections and struction projects co regulatory requirem	e to explain ; ent plan and rojects, and entation of ; s and skills; s; evaluations omply with nents.			
		2.0 Principles The person performing the following principles:	nis task must be abl	e to explain			

	2.1 Principles of compliance with laws and regulations;
	2.2 Quality control principles;
	2.3 Principles of safety management.
	3.0 Theories
	The person performing this task must be able to explain
	the following:
	3.1 Theoretical knowledge about work safety management, including methods for safety evaluation and risk control;
	3.2 The correlations between construction technology and on-site safety management;
	3.3 Principles and strategies for accident prevention and emergency management;
	3.4 Safety management tools and techniques, such as safety inspections, and accident investigations.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Planning and organizational skills;
	4.3 Communication skills;
	4.4 Problem solving skills;
	4.5 Attention to detail
DESCRIPTION OF THE END PRODUCT / SERVICE	Comprehensive work safety management plans and systems are provided in accordance with relevant laws and regulations to ensure that the construction safety comply with standard requirements.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Construction technology and process;
	2. Use of safety equipment and protective measures;
	3. Basic concepts of environmental protection and occupational hygiene;
	4. Laws, regulations, and standards, such as construction safety management standards;
	5. Knowledge about emergency management and hazardous chemical safety.

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE S ENVIRONMEN	AFE. T	FY AND THE	DUTY NO.	806
TASK TITLE	DEVELOP EI PLANS FOR INCIDENTS	MERO	GENCY RESCUE N-SITE SAFETY	TASK NO.	8062
PERFORMANCE CRITERIA	The person perfection plans for on-site	ormir e safe	ng this task must be ab ty incidents.	le to develop emerg	ency rescue
RANGE STATEMENT	 The task can be chief architectur. The tools and eacher of the tools and eacher of t	perfo ral en quipm com bro ation quipn , etc. e equi , etc. v ligh ure li	rmed on the construct gineers. nent to be used include munication equipmen adcasting equipmen and coordination of e nent and drugs: first a used for on-site first a pment: fire extinguish used for emergency e ting equipment: eme ghting needs during e	ion site under the sup e: t: walkie talkies, mo at, etc. used for mergency rescue wo aid kits, equipment, aid and injury treatm ners, safety ropes, sat scape and firefightin ergency lights, head emergencies.	bile phones, real-time ork; commonly nent; fety oxygen ng; llights, etc.
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PER	PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE				Ε
 Analyse potentia the construction Develop detail rescue plans for s Configure eme equipment and re Organize safet training; Launch emergen and organize effe response. 	g this task hlust wing: l safety risks on site; ed emergency safety incidents; rgency rescue esources; y drills and cy rescue plans ctive emergency	Det 1.0 The how 1.1 1.2 1.3 1.4 1.5	Methods person performing the to: Analyse the potent incidents on the cons Develop detailed em accidents, includi emergency measures Configure and maint equipment and resour Organize safety drill personnel are familia and possess correspon Quickly activate en of safety incidents.	is task must be able ial safety risks an struction site; ergency rescue plan ng incident cla s, and rescue proced ain necessary emerg nrces; s and training to ens ar with emergency r onding emergency sl emergency rescue nergency responses	e to explain d potential as for safety assification, ures; ency rescue sure that the escue plans kills; plans and in the event
		2.0 The the 2.1 2.2	Principles person performing the following principles: Principles of complia Quality control principles	is task must be able ance with laws and i ciples;	e to explain regulations;

	2.3 Principles for the evolution process and emergency decision-making of safety incidents.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Basic theories and methods of emergency rescue for safety incidents, including emergency response, rescue measures, and accident investigation;
	3.2 Principles for the evolution process and emergency decision-making of safety incidents;
	3.3 Legal liability and compensation mechanisms related to safety incidents on the construction sites;
	3.4 Operation mechanisms of emergency rescue organizations and command systems.
	4.0 Essential Skills
	4.1 Emergency response and organizational coordination skills;
	4.2 Planning and organizational skills;
	4.3 Communication skills;
	4.4 On-site rescue and first aid skills for safety incidents;4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	Comprehensive emergency rescue plans are provided for the on-site safety incidents in accordance with relevant laws and regulations to ensure prompt and effective handling and rescue in the event of any safety incident
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Processes and characteristics of construction engineering;
	2. Knowledge about the characteristics and hazard assessment of building materials;
	3. First aid knowledge.

DUTY TITLE MANAGE SAFETY AND THE ENVIRONMENT DUTY NO. 806 TASK TITLE SUPERVISE AND MANAGE ON-SITE ENVIRONMENT TASK NO. 8063 PERFORMANCE CRITERIA The person performing this task must be able to supervise and manage the on-site environment. 5063 RANGE The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: 1. 1. Environmental monitoring equipment: air quality monitors, noise detectors, vibration monitors, etc. used to monitor environmental parameters at construction sites and ensure compliance with relevant standards and regulatory requirements; 2. Safety inspection tools: safety facilities and personal protective equipment used to inspect and ensure the safety of the construction site, such as safety helmets, safety shoes, and safety ropes; 3. 3. Environmental protection equipment: oil-water separators, dust screens, environmental barriers, etc. used to protect the environmental around the construction site from pollution and damage. 1. Supervise the implementation of environmental safety measures Detailed Knowledge about: 10 2. Check the environmental factors on the construction site; of the construction site; 1. 2. Check the environmental factors on the construction site; 3. Carry out coordination and environme	OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
TASK TITLE SUPERVISE AND MANAGE ON-SITE ENVIRONMENT TASK NO. 8063 PERFORMANCE CRITERIA STATEMENT The person performing this task must be able to supervise and manage the on-site environment. The person performing this task must be able to supervise and manage the on-site environment. The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: I. Environmental parameters at construction site and ensure compliance with relevant standards and regulatory requirements; Safety inspection tools: safety facilities and personal protective equipment used to inspect and ensure the safety of the construction site, such as safety hemets, safety shoes, and safety ropes; Environmental protection equipment: oil-water separators, dust screens, environmental barriers, etc. used to protect the environment around the construction site from pollution and damage. The person performing this task must be able to do the following: Detailed knowledge about: 1.0 Methods Detailed knowledge about: 1.1 Supervise the implementation of environmental safety measures on the construction site; The person performing this task must be able to explain how to: 1.1 Supervise the environmental actors on the construction site; 1.3 Supervise the implementation of environmental safety measures 1.3 Supervise the implementation of environmental safety measures 3. Carry out coordination and communication; 1.3 Supervise the implementation of environmental management suggestions; 1.4 Coordinate and communicate with relevan	DUTY TITLE	MANAGE S ENVIRONMEN	AFE] T	TY AND THE	DUTY NO.	806
PERFORMANCE CRITERIA The person performing this task must be able to supervise and manage the on-site environment. RANGE STATEMENT The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: 1. Environmental parameters at construction sites and ensure compliance with relevant standards and regulatory requirements: 2. 2. Safety inspection tools: safety facilities and personal protective equipment used to inspect and ensure the safety of the construction site, such as safety helmets, safety shoes, and safety ropes; 3. 3. Environmental parameters at construction equipment: on the construction site environmental be able to do the following: Detailed knowledge about: 10. Detailed knowledge	TASK TITLE	SUPERVISE A ENVIRONMEN	ND N T	ANAGE ON-SITE	TASK NO.	8063
RANGE STATEMENT The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: 1. Environmental monitoring equipment: air quality monitors, noise detectors, vibration monitors, etc. used to monitor environmental parameters at construction sites and ensure compliance with relevant standards and regulatory requirements; 2. Safety inspection tools: safety facilities and personal protective equipment used to inspect and ensure the safety of the construction site, such as safety helmets, safety shoes, and safety ropes; 3. Environmental protection equipment: oil-water separators, dust screens, environmental barriers, etc. used to protect the environmental around the construction site from pollution and damage. EVIDENCE REQUIREMENT PRACTICAL PERFORMANCE Underline the onstruction site, deteen around the construction site from pollution and damage. 1. Supervise the implementation of environmental safety measures on the construction site; 1. Supervise the environmental factors on the construction site; 1.1 Supervise the implementation of environmental factors on the construction site; 2. Check the environmental factors on the construction site; 1.2 Check the environmental factors on the construction site; 3. Carry out coordination and communication; 1.3 Detect and monitor environmental factors on the construction site;	PERFORMANCE CRITERIA	The person performance on-site environment	ormir nent.	ng this task must be ab	ble to supervise and	manage the
PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE The person performing this task must be able to do the following: Detailed knowledge about: 1. Supervise the implementation of environmental safety measures on the construction site; The person performing this task must be able to explain how to: 2. Check the environmental hygiene of the construction site, detect and monitor the environmental factors on the construction site; 1.1 Supervise the implementation of environmental safety measures on the construction site; 3. Carry out coordination and communication; 1.2 Check the environmental hygiene of the construction site; 4. Train and guide the construction personnel. 1.3 Detect and monitor environmental factors on the construction site, such as air quality and water quality, to ensure the compliance with relevant requirements; 1.4 Coordinate and communicate with relevant departments and contractors to solve problems and difficulties in environmental management on the construction site; 1.5 Train and guide the construction site;	RANGE STATEMENT	The task can be p chief architectur The tools and ed 1. Environme detectors, p parameters standards a 2. Safety insp equipment site, such a 3. Environme screens, en around the	performation ral en juipm ntal in vibration at co nd re pection used s safe ntal viron const	rmed on the construct gineers. Thent to be used include monitoring equipment tion monitors, etc. un nstruction sites and en- gulatory requirements on tools: safety faci- to inspect and ensure ety helmets, safety she protection equipmer mental barriers, etc. un ruction site from poll	ion site under the sup e: at: air quality moni- sed to monitor env- nsure compliance with s; lities and personal the safety of the copes, and safety ropes at: oil-water separ used to protect the en- ution and damage.	ervision of itors, noise vironmental ith relevant protective onstruction s; ators, dust nvironment
 The person performing this task muss be able to do the following: Supervise the implementation of environmental safety measures on the construction site; Check the environmental hygiene of the construction site, detect and monitor the environmental factors on the construction site; Carry out coordination and communication; Train and guide the construction personnel. Detailed knowledge about: Methods The person performing this task must be able to explain how to: 1.1 Supervise the implementation of environmental safety measures on the construction site; Check the environmental hygiene of the construction site; Carry out coordination and communication; Train and guide the construction personnel. Detect and monitor environmental factors on the construction site, such as air quality and water quality, to ensure the compliance with relevant requirements; Coordinate and communicate with relevant departments and contractors to solve problems and difficulties in environmental management on the construction site; Train and guide the construction site; 	PRACTICAL PER	FORMANCE	LINCI	INDERPINNI	NG KNOWLEDG	F
	 The person performine be able to do the folloo 1. Supervise the imenvironmental son the construction of the construction of the construct and monitor the factors on the construction; 3. Carry out concommunication; 4. Train and guide personnel. 	g this task must wing: plementation of afety measures on site; nmental hygiene ion site, detect e environmental nstruction site; ordination and the construction	Deta 1.0 The how 1.1 1.2 1.3 1.4 1.5	ailed knowledge abor Methods person performing the to: Supervise the impli- safety measures on compliance with re- safety standards; Check the environment site, including noise forward improvement Detect and monitor construction site, su- quality, to ensure requirements; Coordinate and departments and con- difficulties in envir construction site; Train and guide t enhance their awa environmental mana	ut: his task must be able lementation of enve the construction site ental hygiene of the c ental hygiene of the c ental hygiene of the c environmental fact uch as air quality the compliance with the compliance with tractors to solve pre- onmental managem he construction pe- areness and comp gement.	e to explain vironmental e to ensure ations, and construction e, and put cors on the and water th relevant oblems and ent on the ersonnel to petence in

	The person performing this task must be able to explain the following principles:
	2.1 Principles of compliance with laws and regulations;
	2.2 Quality control principles;
	2.3 Environmental management principles.
	3.0 Theories
	The person performing this task must be able to explain the following:
	3.1 Basic concepts and principles of environmental management, including environmental impact assessment, and environmental monitoring;
	3.2 Methods and technologies for environmental monitoring and detection, including sampling and analysis;
	3.3 Impacts of environmental factors on construction processes and personal health on the construction site.
	4.0 Eccontial Skills
	4.1 Environmental monitoring and detection skills:
	 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills;
	 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills:
	 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills;
	 4.0 Essential Skins 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details
DESCRIPTION OF THE END	 4.0 Essential Skins 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details.
DESCRIPTION OF THE END PRODUCT / SERVICE	 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and
DESCRIPTION OF THE END PRODUCT / SERVICE	 4.0 Essential Skins 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process.
DESCRIPTION OF THE END PRODUCT / SERVICE CIRCUMSTANTIAL	 4.0 Essential Skins 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process. Detailed knowledge about:
DESCRIPTION OF THE END PRODUCT / SERVICE CIRCUMSTANTIAL KNOWLEDGE	 4.0 Essential Skins 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process. Detailed knowledge about: 1. Basic knowledge in the field of environmental
DESCRIPTION OF THE END PRODUCT / SERVICE CIRCUMSTANTIAL KNOWLEDGE	 4.0 Essential owns 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process. Detailed knowledge about: 1. Basic knowledge in the field of environmental protection and hygiene, such as noise control, dust control, and waste disposal;
DESCRIPTION OF THE END PRODUCT / SERVICE CIRCUMSTANTIAL KNOWLEDGE	 4.0 Essential owners 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process. Detailed knowledge about: 1. Basic knowledge in the field of environmental protection and hygiene, such as noise control, dust control, and waste disposal; 2. Cross-disciplinary knowledge related to
DESCRIPTION OF THE END PRODUCT / SERVICE CIRCUMSTANTIAL KNOWLEDGE	 4.0 Essential Skins 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process. Detailed knowledge about: 1. Basic knowledge in the field of environmental protection and hygiene, such as noise control, dust control, and waste disposal; 2. Cross-disciplinary knowledge related to environmental management, such as environmental
DESCRIPTION OF THE END PRODUCT / SERVICE CIRCUMSTANTIAL KNOWLEDGE	 4.0 Essential owners 4.1 Environmental monitoring and detection skills; 4.2 Planning and organizational skills; 4.3 Communication skills; 4.4 Problem solving skills; 4.5 Attention to details. On-site environmental management that meets laws and regulations is provided to ensure environmental safety and hygiene during the construction process. Detailed knowledge about: 1. Basic knowledge in the field of environmental protection and hygiene, such as noise control, dust control, and waste disposal; 2. Cross-disciplinary knowledge related to environmental management, such as environmental impact assessment, and environmental management systems:

OCCUPATION	ARCHITE	CTUF	RAL ENGINEER	OCCUPATION CODE		
DUTY TITLE	MANAGE ENVIRON	MANAGE SAFETY AND THE DUTY NO. 806 ENVIRONMENT				
TASK TITLE	INVESTIG HANDLE ENVIRON	ATE, MEN	ANALYSE, AND SAFETY AND TAL ISSUES	TASK NO.	8064	
PERFORMANCE CRITERIA	The person and handle	perf safet	orming this task must l y and environmental is	be able to investigate sues.	e, analyse,	
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Building specifications: relevant specifications and manuals used to refer to and guide the construction personnel to conduct technical disclosure; Safety inspection tools: safety facilities and personal protective equipment used to inspect and ensure the safety of the construction site, such as safety helmets, safety shoes, and safety ropes; Videos and photographic equipment: they are used to record the process and results of technical disclosure for subsequent supervision and evaluation; 					
	disclosures and discussions.					
DDACTICAL DEDEOL		ENCI	E REQUIREMENT			
The person performing thi	s task must	Det	ailed knowledge abou	t.		
be able to do the following	g:	1.0	Methods			
 Check civilized c measures against safe and standardized c schemes; Check and accept construction measurements 	construction e, civilized, construction t civilized sures in	The how 1.1	person performing thi to: Conduct on-site inves hazards, and illegal of construction process civilized construction	s task must be able t tigations on the hazar perations that exist of in view of the key	to explain tds, safety luring the points of	
accordance with safe and standardized c schemes; 3. Check the em- protection measures	e, civilized, construction vironmental s on the	1.2	Conduct on-site accep civilized construction relevant national laws construction;	tance of the impleme measures in accord and regulations on er	entation of ance with agineering	
 construction site ag civilized, and s construction schemes 4. Check and accept en- protection measures construction site in 	ainst safe, tandardized ; vironmental s on the accordance	2.0	illegal operations base national laws and construction.	regulations on en	ations and gineering	
with safe, civili	ized, and	the	following principles:	s task must de adie t	o explain	

S S	tandardized construction chemes;	2.1	Safe, civilized, and standardized construction schemes;
5. A s	Analyse and handle hazards, afety hazards, and illegal operations that arise during the	2.2	Requirements for safe, civilized, and standardized construction.
с	construction;	3.0	Theories
6. C	Optimize civilized construction chemes.	The the	e person performing this task must be able to explain following:
		3.1	Key points of civilized construction of the project;
		3.2	Key points of green construction of the project;
		3.3	Key points of safety technical disclosure of the project.
		4.0	Essential Skills
		4.1	Competence to analyse safety and environmental issues;
		4.2	Ability to investigate safety and environmental issues;
		4.3	Ability to organize safety and environmental issues;
		4.4	Communication with construction personnel;
		4.5	Sharp insight into details.
DESC PROI	CRIPTION OF THE END DUCT / SERVICE	Civa acco proo	ilized construction schemes are implemented in ordance with safety and environmental standard cedures and regulations.
CIRC	CUMSTANTIAL	Det	ailed knowledge about:
KNO	WLEDGE	1.	Key points of safety inspection;
		2.	Management of civilized construction sites and green construction;
		3.	Emergent handling of safety incidents.

OCCUPATION	ARCHITECTU	RAL I	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE PRO	JECT	DUTY NO.	807	
TASK TITLE	DEVELOP C MANAGEMEN MANAGEMEN	ONST T T SYS	RUCTION DATA PLAN AND STEM	TASK NO.	8071
PERFORMANCE CRITERIA	The person perfermanagement pl process.	ormin ans a	g this task must be able nd management syste	e to develop constru ems during the co	ction data nstruction
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Data management software: professional data management software used for preparing construction data plans and management systems; Construction schedule: it is used to prepare a construction data schedule; Building specifications: they are used for reference and guidance of 				
	4. Office supp	olies:	computers, printers, sta	ationery, etc.	
	EVID	ENCE	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINNIN	G KNOWLEDGE	
 The person performing be able to do the follo Analyse the ma on engineering relationship diag organs; Analyse the per collector and c duties and respo Develop conse management sys Study the constr and prepare com management pla 	ng this task must owing: nagement duties data and draw grams of various osition of data larify their job nsibilities; struction data tems; ruction schedule onstruction data ns.	Deta 1.0 The how 1.1 1.2 2.0 The the f 2.1 2.2 3.0 The	Methods person performing this to: Analyse the duties of a management in acco quality management develop construction Develop construction view of the const requirements for const each stage. Principles person performing this following principles: Basic knowledge ab document writing; National laws and construction. Theories person performing this	t: s task must be able to each organ in engine rdance with curren laws and regulat data management sy to data management truction schedule struction data management struction data management sout secretarial and regulations on er	to explain ering data t national ions, and stems; plans in and the gement at to explain d official ngineering

DESCRIPTION OF THE END PRODUCT / SERVICE	4.4 Communication skills.Construction data management plans and management systems are developed in accordance with relevant laws
	4.2 Writing skills;4.3 Organizing competence;
	4.1 Analytical skills;
	4.0 Essential Skills
	3.4 Construction schedule.
	3.3 Duties of the documenter;
	3.2 Responsibilities of construction project data management;
	3.1 Requirements for construction project data management;

DUTY TITLE MANAGE PROJECT RESOURCES DUTY NO. 807 TASK TITLE SUPERVISE THE COLLECTION. ORGANISATION, USAGE, STORAGE, ARCHIVING TASK NO. 8072 PERFORMANCE The person performing this task must be able to supervise the collection, organization, use, storage, archiving and handover of construction data during the construction process. The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equiparment to be used include: 1. Data management software: professional data management software used for preparing construction data plans and management systems; 2. 2. Construction schedule: it is used to prepare a construction data schedule; 3. Building specifications: they are used for reference and guidance of documenters in data management; 9. Office supplies: computers, printers, file boxes, stationery, etc. EVIDENCE REQUIREMENT PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE The person performing this task must be able to do the following: 1. Number the construction project data; Organize and compile a directory of construction project data wolumes; Detailed knowledge about: 1.0 3. Compile the page numbers of documents in the construction project data volumes; 1.0 Mathods 5. Participate in	OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
TASK TITLE SUPERVISE ORGANISATION, USAGE, STORAGE, ARCHIVING AND HANDOVER OF CONSTRUCTION DATA TASK NO. 8072 PERFORMANCE CRITERIA The person performing this task must be able to supervise the collection, organization, use, storage, archiving and handover of construction data during the construction process. The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Interask can be performed on the construction data management software used for preparing construction data plans and management systems; 2. Construction schedule: it is used to prepare a construction data schedule; Subiling specifications: they are used for reference and guidance of documenters in data management; 3. Building specifications: they are used for reference and guidance of documenters in data management; UNDEPRINNING KNOWLEDGE The person performing this task must be able to do the following: Detailed knowledge about: Detailed knowledge about: 1. Number the construction project data; Organize and compile a directory of construction project data, volumes; In Granize and inspect construction Project Document Filing and Arrangement; 1.0 Organize and inspect construction archive centre within the specified time. 9. Participate in the handover of compilate ngineering files tothe archive centre. In And over files according to the acceptance requirements of urban construction archive centre within the specified time. <th>DUTY TITLE</th> <th>MANAGE PRO</th> <th>JECT</th> <th>RESOURCES</th> <th>DUTY NO.</th> <th>807</th>	DUTY TITLE	MANAGE PRO	JECT	RESOURCES	DUTY NO.	807
PERFORMANCE CRITERIA The person performing this task must be able to supervise the collection, organization, use, storage, archiving and handover of construction data during the construction process. RANGE STATEMENT The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: I. Data management software: used for preparing construction data plans and management software used for preparing construction data plans and management systems; 2. Construction schedule: it is used to prepare a construction data schedule; 3. Building specifications: they are used for reference and guidance of documenters in data management; 1. Number the construction project data; Detailed knowledge about: 1.0 Methods 1. Number the construction project data, durify and bind them into volumes; Detailed knowledge about: 1.0 Granize and inspect construction project data according to the <i>Code for Construction Project Document Filing and Arrangement</i> ; 2. Organize in the acceptance of construction project files; I.3 Hand over files according to the acceptance requirements of urban construction archive centre within the specified time. 5. Participate in the handover of compliant engineering files to the archive centre. Conganize the project Document Filing and Arrangement; 2.0 Principles The person performing this task must be able to explain the following principl	TASK TITLE	SUPERVISE ORGANISATIO ARCHIVING CONSTRUCTIO	THI N, U AND DN D	E COLLECTION, USAGE, STORAGE, HANDOVER OF ATA	TASK NO.	8072
RANGE STATEMENT The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Image: The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Image: The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Image: The task can be performed on the construction at an enagement software: professional data management software: used for preparing construction data plans and management systems; Image: The task can be performed on the construction schedule; Image: Construction schedule; Image: Construction schedule; Image: The person performing this task must be able to do the following: Image: Construction project Image: Construction project data, and verify and bind them into volumes; Detailed knowledge about: Image: Construction project data, and verify and bind them into volumes; Image: Compile the page numbers of documents in the construction project files; Image: Compile the page numbers of construction project files; Image: Compile the page numbers of construction project files; Image: Compile the page numbers of compliant engineering files tothe archive centre. Image: Compile the page numbers of compliant engineering files tothe archive centre. Image: Compile the page numbers of compliant engineering files tothe archive centre. Image: Compile the page numbers of compliant engineering files tothe arc	PERFORMANCE CRITERIA	The person perf organization, us during the const	ormine, sto ructio	ng this task must be ab orage, archiving and h on process.	le to supervise the c andover of construc	ollection, ction data
4. Office supplies: computers, printers, file boxes, stationery, etc. EVIDENCE REQUIREMENT PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE The person performing this task must be able to do the following: Detailed knowledge about: 1. Number the construction project data; Detailed knowledge about: 2. Organize and compile a directory of construction project data, and verify and bind them into volumes; The person performing this task must be able to explain how to: 3. Compile the page numbers of documents in the construction project files; 1.2 Organize the project data into volumes according to the <i>Code for Construction Project Document Filing and Arrangement</i> ; 4. Participate in the handover of compliant engineering files to the archive centre. 2.0 Principles 5. Participate in the handover of compliant engineering files to the archive centre. 2.0 Principles The person performing this task must be able to explain the following principles: 2.1 Code for Construction Project Document Filing and Arrangement; 2.2 Regulations on the acceptance content and handover of urban construction archive centre. 2.1 Code for Construction Project Document Filing and Arrangement;	RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Data management software: professional data management software used for preparing construction data plans and management systems; Construction schedule: it is used to prepare a construction data schedule; Building specifications: they are used for reference and guidance of 				rvision of software systems; tion data idance of
EVIDENCE REQUIREMENT PRACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE The person performing this task must be able to do the following: Detailed knowledge about: 1. Number the construction project data; Detailed knowledge about: 2. Organize and compile a directory of construction project data, and verify and bind them into volumes; The person performing this task must be able to explain how to: 3. Compile the page numbers of documents in the construction project files; Organize the project data into volumes according to the Code for Construction Project Document Filing and Arrangement; 4. Participate in the acceptance of construction project files; 1.3 Hand over files according to the acceptance requirements of urban construction archive centre. 5. Participate in the handover of compliant engineering files to the archive centre. 2.0 Principles The person performing this task must be able to explain the following principles: 2.1 Code for Construction Project Document Filing and Arrangement; 2.2 Regulations on the acceptance content and handover of urban construction archive centre. 2.2 Regulations on the acceptance content and handover of urban construction archive centre.		 Office supplies: computers, printers, file boxes, stationery, etc. 			etc.	
PRACTICAL PERFORMANCEUNDERPINNING KNOWLEDGEThe person performing this task must be able to do the following:Detailed knowledge about:1. Number the construction project data;10 Methods2. Organize and compile a directory of construction project data, and verify and bind them into volumes;1. Organize and inspect construction project data, and verify and bind them into volumes;1. Organize and inspect construction project data, and verify and bind them into volumes;3. Compile the page numbers of documents in the construction project data volumes;1.2 Organize the project data into volumes according to the Code for Construction Project Document Filing and Arrangement;4. Participate in the acceptance of construction project files;1.3 Hand over files according to the acceptance requirements of urban construction archive centre5. Participate in the handover of compliant engineering files to the archive centre.2.0 Principles The person performing this task must be able to explain the following principles:2.1 Code for Construction Project Document Filing and Arrangement;2.2 Regulations on the acceptance content and handover of urban construction archive centre.	EVIDENCE REQUIREMENT					
 The person performing this task must be able to do the following: 1. Number the construction project data; 2. Organize and compile a directory of construction project data, and verify and bind them into volumes; 3. Compile the page numbers of documents in the construction project data volumes; 4. Participate in the acceptance of construction project files; 5. Participate in the handover of compliant engineering files to the archive centre. 4. Participate in the handover of compliant engineering files to the archive centre. 5. Participate in the handover of compliant engineering files to the archive centre. 6. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of compliant engineering files to the archive centre. 7. Participate in the handover of c	PRACTICAL PER	FORMANCE		UNDERPINNIN	G KNOWLEDGE	
	 The person performine be able to do the follows able to do the follows. Number the conducta; Organize and conduct of construction proverify and bine volumes; Compile the participate in the project data voluwers. Participate in the construction properties of the propertie	ng this task must owing: struction project mpile a directory project data, and nd them into age numbers of he construction umes; e acceptance of ject files; he handover of eering files to the	Det: 1.0 The how 1.1 1.2 1.3 2.0 The the 2.1 2.2	ailed knowledge about Methods person performing this to: Organize and inspect according to the Co Document Filing and I Organize the project of the Code for Construct and Arrangement; Hand over files ac requirements of urban within the specified ti Principles person performing this following principles: Code for Construction Arrangement; Regulations on the acc of urban construction	t: s task must be able t ct construction pro de for Construction Arrangement; lata into volumes acc ction Project Docume ecording to the a n construction archi me. s task must be able t a Project Document H ceptance content and archive centre.	o explain ject data <i>n Project</i> cording to <i>ent Filing</i> cceptance ve centre o explain <i>Filing and</i> handover

	 The person performing this task must be able to explain the following: 3.1 National laws and regulations on engineering construction; 3.2 Basic knowledge about engineering materials; 3.3 Engineering construction processes and methods; 3.4 Basic knowledge about engineering project management.
	4.0 Essential Skills
	4.1 Analytical skills;
	4.2 Writing skills;
	4.3 Organizing competence;
	4.4 Communication skills.
DESCRIPTION OF THE END PRODUCT / SERVICE	The collection, organization, use, storage, archiving and handover of construction data are completed in accordance with relevant laws and regulations.
CIRCUMSTANTIAL	Detailed knowledge about:
KNOWLEDGE	1. Standards and management regulations related to the position;
	2. Management knowledge about project completion acceptance filing;
	3. Basic knowledge about urban construction archive management, construction data management, and construction industry statistics;
	4. Basic knowledge about secretarial and official document writing;

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE PRO	JECT	RESOURCES	DUTY NO.	807
TASK TITLE	PARTICIPATE COMPUTER-A PLATFORM DATA AND OPERATION	IN IDED FOR SUP	ESTABLISHING A MANAGEMENT CONSTRUCTION ERVISION OF ITS	TASK NO.	8073
PERFORMANCE CRITERIA	The person performing this task must be able to participate in establishing a computer-aided management platform for construction data during the construction process and supervise its operation.			ablishing uring the	
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: 1. Data management software: professional data management software used for preparing construction data plans and management systems; 2. Construction schedule: it is used to prepare a construction data 			vision of software systems; ion data	
	 schedule; Building specifications: they are used for reference and guidance of documenters in data management; Office supplies: computers, printers, file boxes, stationery, etc. 				
DRACTICAL DER		LINCI		KNOWI FDCF	
The person performit	ng this task must	Date	piled knowledge about:		
be able to do the following:		1.0	Methods		
 Participate in computer-aided platform for con Be proficient construction da software; Use constr management sof 	establishing a management struction data; in operating ta management uction data tware to process	The how 1.1	person performing this to: Use construction n understand the key p writing and acceptance; Use construction data manage and hand over o	task must be able to nanagement softwoints of construct management soft construction data;	o explain vare to ion data ware to
construction data	a.	2.0	Principles		
		The f	person performing this following principles:	task must be able to	o explain
		2.1	Code for Construction I Arrangement;	Project Document F	iling and
		2.2	Regulations on the acce of urban construction an	ptance content and h rchive centre;	nandover
		2.3	Operating construction	data management so	oftware.
		3.0	Theories		
		The the f	person performing this following:	task must be able to	o explain

	3.1 National laws and regulations on engineering construction;	
	3.2 Knowledge about using computers and related da management software.	
	4.0 Essential Skills	
	4.1 Analytical skills;	
	4.2 Computer application skills;	
	4.3 Communication skills;	
	4.4 Sharp insight into details.	
DESCRIPTION OF THE END PRODUCT / SERVICE	An information-based management system is conducted for the construction data in accordance with relevant laws and regulations.	
CIRCUMSTANTIAL	Detailed knowledge about:	
KNOWLEDGE	1. Standards and management regulations related to the position;	
	2. Management knowledge about project completion acceptance filing;	
	3. Basic knowledge about urban construction archive management, construction data management, and construction industry statistics;	
	4. Operating the computer-aided management platform for construction data.	

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE PRO	OJEC	T RESOURCES	DUTY NO.	808
TASK TITLE	PREPARE RESOURCE MANAGEMEN	DEM NT S	CONSTRUCTION IAND PLAN AND YSTEM	TASK NO.	8081
PERFORMANCE CRITERIA	The person per resource deman process.	rform nd pla	ning this task must be ans and management sy	able to develop con stems during the con	nstruction Instruction
RANGE STATEMENT	 The task can be performed in the office area on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Project construction drawings: they are used for construction resource demand plans and management systems; Construction schedule: it is used to prepare a resource demand plan; Building specifications: they are used as references and to guide the construction workers to prepare and manage the data requirements; 			site under n resource and plan; guide the rements;	
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PER	FORMANCE		UNDERPINNIN	G KNOWLEDGE	
 be able to do the follo 1. Understand and material inform classification, ma material plann procurement and site, material co project; 2. Understand the duties of mechan management, as methods and mechanical management; 	wing: manage the ation, material iterial suppliers, ing, material supply, material ost, etc. of the content and nical equipment well as the systems of equipment	 1.0 The how 1.1 1.2 1.3 1.4 	Methods person performing this to: Clarify the key manage material information material suppliers, procurement and suppletc. according to the c Clarify the content equipment manage construction scheme; Predict and compare to in view of the quota sp Clarify the economic	s task must be able t gement points of the n, material clas material planning, ly, material site, mat onstruction scheme; and duties of m ment according the construction proj pecifications;	o explain project's sification, material erial cost, echanical to the ect funds
 Be familiar with management of management, as economic responsibility incentive mecha construction site; Predict and comp project funds; Develop constru- demand plans ar 	h the role and labour quota well as the contracting system and anism on the are construction action resource and management	2.0 The the 1 2.1 2.2	system for the commindentives in accordations. Principles person performing this following principles: Concept of project ress Concept of project mat	s task must be able t source management; aterial management.	develop laws and o explain
sveteme.		-			

	T_{1} = $1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 $		
	the following:		
	3.1 Content and duties of mechanical equipment		
	management;		
	3.2 Methods of labour management;		
	3.3 Content of project funding principles.		
	4.0 Essential Skills		
	4.1 Analytical skills;		
	4.2 Ability to predict and compare funds;		
	4.3 Project coordination competence;		
	4.4 Organizing competence;		
	4.5 Communication skills;		
	4.6 Sharp insight into details.		
DESCRIPTION OF THE END	Construction resource demand plans and management		
PRODUCT / SERVICE	systems are developed in accordance with relevant laws		
I RODUCI / SERVICE	and regulations		
	and regulations.		
CIRCUMSTANTIAL	Detailed knowledge about:		
CIRCUMSTANTIAL KNOWLEDGE	Detailed knowledge about:1. Basic content, main content, principles, and resource		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: 1. Basic content, main content, principles, and resource management plan of project resource management; 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management; 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management, role and 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management, role and management of labour quota management, grouped labour management, grouped 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management, and methods and systems of labour management, role and management of labour quota management, grouped labour management, labour economic contracting meneribility and the section and the section works. 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management, and methods and systems of labour management, role and management of labour quota management, grouped labour management, labour economic contracting responsibility system, and incentive mechanism; 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management, and methods and systems of labour management, role and management of labour quota management, grouped labour management, labour economic contracting responsibility system, and incentive mechanism; Prediction and comparison of project funds 		
CIRCUMSTANTIAL KNOWLEDGE	 Detailed knowledge about: Basic content, main content, principles, and resource management plan of project resource management; Clarify the key management points of the project's material information, material classification, material suppliers, material planning, material procurement and supply, material site, material cost, etc. according to the construction scheme; Significance and characteristics of mechanical equipment management, content and duties of mechanical equipment management, and methods and systems of mechanical equipment management, role and management of labour management, grouped labour management, labour economic contracting responsibility system, and incentive mechanism; Prediction and comparison of project funds management, and key points of construction project 		

OCCUPATION	ARCHITECTU	RAL	ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE PRO	OJEC	T RESOURCES	DUTY NO.	808
TASK TITLE	SUPERVISE ACCEPTANCE STORAGE MATERIALS	E, OF	PROCUREMENT, USAGE, AND CONSTRUCTION	TASK NO.	8082
PERFORMANCE CRITERIA	The person performing this task must be able to supervise the procurement, acceptance, use, and storage of construction materials during the construction process.				curement, aring the
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: 1. Construction scheme: it is used to prepare material procurement plans; 2. Building specifications: they are used as references and to guide the 			pervision curement guide the erials;	
	3. Office sup	plies	computers, printers, s	tationery, etc.	,
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PERF	ORMANCE		UNDERPINNIN	G KNOWLEDGE	
 be able to do the follow Develop materia plans; Evaluate the qu material suppliers Accept and sampl materials and equ Supervise and reasonable use of Check and count t Calculate the cost Sample and tes materials. 	alifications of the incoming ipment; inspect the materials; of materials; at engineering	1.0 The how 1.1 1.2 1.3 1.4 1.5 1.6 1.7 2.0 The the formation of the formatio of the formation	Methods person performing this to: Develop a material pr construction resource Evaluate the qualification accordance with management laws and Accept and sample equipment in accord quality management la Supervise and inspect according to the construction resource Calculate the cost of m specifications; Sample and test engine with current national of regulations. Principles person performing this following principles:	s task must be able t rocurement plan bas demand plan; ations of material su current national regulations; e incoming mater lance with current aws and regulations; the reasonable use of ruction resource dem e materials according demand plan; naterials according to eering materials in ac quality management	o explain ed on the ppliers in quality ials and national materials and plan; ng to the the quota ccordance laws and o explain

	2.1 Unified Standard for Constructional Quality Acceptance of Building Engineering;	
	2.2 Construction scheme;	
	2.3 Classification and characteristics of building	
	materials;	
	2.4 Principles of material sampling.	
	3.0 Theories	
	The person performing this task must be able to explain the following:	
	3.1 Key points of material procurement;	
	3.2 Key points of material acceptance;	
	3.3 Key points of material storage;	
	4.0 Essential Skills	
	4.1 Ability to develop various plans;	
	4.2 Evaluation ability;	
	4.3 Report writing skills;	
	4.4 Communication skills;	
	4.5 Ability to analyse test results;	
	4.6 Cost accounting skills.	
DESCRIPTION OF THE END PRODUCT / SERVICE	The procurement, receiving, use, and storage of construction materials are supervised in accordance with relevant laws and regulations.	
CIRCUMSTANTIAL	Detailed knowledge about:	
KNOWLEDGE	1. Classification, characteristics, and technical requirements of various building materials;	
	2. Material sampling;	
	 Material sampling; Material management; 	

OCCUPATION	ARCHITECT	URA	L ENGINEER	OCCUPATION CODE	
DUTY TITLE	MANAGE PI	roje	CT RESOURCES	DUTY NO.	808
TASK TITLE	SUPERVISE LEASING CONSTRUCT	THI AND ΓΙΟΝ	E PROCUREMENT, SAFE USE OF EQUIPMENT	TASK NO.	8083
PERFORMANCE CRITERIA	The person procurement, construction	The person performing this task must be able to supervise the procurement, leasing and safe use of construction equipment during the construction process.			
RANGE STATEMENT	 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: 1. Construction scheme: it is used to prepare procurement and leasing 			pervision nd leasing	
	 Construction scheme: It is used to prepare procurement and reasing plans for construction equipment; Building specifications: they are used to develop procurement or leasing plans for construction equipment, inspect the education, training, and qualification certificates of mechanical equipment operators, etc.; Office supplies: computers, printers, stationery, etc. 				
	EVID	ENCI	E REQUIREMENT		
PRACTICAL PERF	RACTICAL PERFORMANCE UNDERPINNING KNOWLEDGE				
The person performing	The person performing this task must Detailed knowledge about:				
1 Develop equipme	nt usage plans	1.0 The	Methods	a taala muut ha ahla t	o oveloin
and maintenance j	plans;	how	v to:	s task must be able t	o explain
 Participate in construction for procurement or mechanical equips Manage and super of the instruction 	the overall loor plan, leasing of nent; vise the safety	1.1	Develop procureme construction equipment the safety of the ins special equipment a Specification for Safe Machinery Supervise	nt or leasing p nt, and manage and stallation and disma according to the <i>ty Operation of Con</i>	lans for supervise antling of <i>Technical</i> <i>istruction</i>
disassembly equipment;	of special	Ilation and <i>Machinery</i> ; Supervise and in f special maintenance of mechanical equ the safe use of special en-		anical equipment, an pecial equipment; and handle m	Identify, echanical
4. Conduct Insp acceptance of equipment, and o technologies;	mechanical lisclose safety	1.2	equipment accidents. Check the education certificates of mech	, training, and qua anical equipment	alification operators
5. Check the educa and qualification mechanical equipr	tion, training, certificates of nent operators;		according to the <i>Reg</i> <i>Management of Const</i> files for special mecha	ulations on the Wo ruction Engineering; anical operators.	ork Safety Establish
o. Establish files mechanical operat	tor special ors;	2.0	Principles		
7. Supervise and insp maintenance of	ect the use and mechanical	The the	person performing this following principles:	s task must be able t	o explain
equipment, and in use of special equ	ispect the safe	2.1 2.2	Basic principles of ap Basic principles of bu	plied mechanics; dgeting;	

8.	Identify, investigate, analyse, and handle mechanical equipment	2.3	Working principles, types, structures, and technical performance of mechanical equipment;	
	accidents.	2.4	Technical Specification for Safety Operation of Construction Machinery;	
		2.5	Regulations on the Work Safety Management of Construction Engineering;	
		30	Theories	
		The	person performing this task must be able to explain	
		the	following:	
		3.1	Pre-management methods for mechanical equipment;	
		3.2	Management methods for the safe use of mechanical equipment;	
		3.3	Correct methods for the use of construction machinery;	
		3.4	Mobilization system of mechanical equipment;	
		3.5	Supervision and inspections system for construction machinery.	
		4.0	Essential Skills	
		4.1	Ability to develop various plans;	
		4.2	Evaluation ability;	
		4.3	Report writing skills;	
		4.4	Communication skills;	
		4.5	Ability to analyse test results;	
		4.6	Cost accounting skills.	
DES PRC	SCRIPTION OF THE END DUCT / SERVICE	The equi laws	procurement, leasing, and safe use of construction ipment are supervised in accordance with relevant s and regulations.	
CIR	CUMSTANTIAL	Det	ailed knowledge about:	
KNO	OWLEDGE	1.	Maintenance and repair of equipment;	
		2.	Prevention and handling of mechanical accidents;	
		3.	Asset management of construction machinery.	

ARCHITECTU	RAL ENGINEER	OCCUPATION CODE	
MANAGE PRO	DJECT RESOURCES	DUTY NO.	808
SUPERVISE T AND CONTRA CONSTRUCTION	HE REVIEW, TRAINING, ACT MANAGEMENT OF ON PERSONNEL	TASK NO.	8084
The person per training, and co construction pro-	forming this task must be ontract management of consocess.	able to supervise th struction personnel d	e review, luring the
 The task can be performed on the construction site under the supervision of chief architectural engineers. The tools and equipment to be used include: Labour contracts: they are used to verify the identity and professional qualifications of labour personnel; Labour laws: they are used to review the standardization of labour contracts, evaluate labour subcontracting contracts, and comprehensively evaluate the labour force; Various training plans: they are used to develop training programs for construction personnel; 			rvision of ofessional of labour ets, and grams for
EVID	ENCE REQUIREMENT		
FORMANCE	UNDERPINNIN	G KNOWLEDGE	
g this task must wing: e preparation of and training identity and alifications of subcontracting omprehensively ters; ive review of subcontracting salaries of the al salary ledger	 CIRCUMSTANTIAL KN 1.0 Methods The person performing this how to: 1.1 Manage labour commatters, and maintain <i>Labour Law</i>; 1.2 Review qualification relevant regulations on construction enterprise 2.0 Principles The person performing this the following principles: 2.1 Labour Law; 2.2 Regulations on que construction enterprise 3.0 Theories The person performing this the following: 3.1 Qualification review to the following: 	NOWLEDGE s task must be able t tracts, verify labo in records accordin training in accorda n qualification manages. s task must be able t alification manage es s task must be able t training; gement.	o explain ur-related g to the unce with gement of o explain ment of o explain
	ARCHITECTU MANAGE PRO SUPERVISE T AND CONTRA CONSTRUCTION The person per training, and co construction pro The task can be chief architectur The tools and en 1. Labour con qualification 2. Labour law contracts, compreher 3. Various tra construction 4. Office sup EVIDI FORMANCE g this task must wing: preparation of and training identity and alifications of subcontracting pomprehensively ters; ive review of subcontracting salaries of the al salary ledger	ARCHITECTURAL ENGINEER MANAGE PROJECT RESOURCES SUPERVISE THE REVIEW, TRAINING, AND CONTRACT MANAGEMENT OF CONSTRUCTION PERSONNEL The person performing this task must be training, and contract management of cons- construction process. The task can be performed on the construction chief architectural engineers. The tools and equipment to be used include 1. Labour contracts: they are used to verify qualifications of labour personnel; 2. Labour contracts: they are used to review contracts, evaluate labour subc comprehensively evaluate the labour for construction personnel; 3. Various training plans: they are used to construction personnel; 4. Office supplies: computers, printers, st EVIDENCE REQUIREMENT FORMANCE UNDERPINNIN (In Methods) g this task must wing: CIRCUMSTANTIAL KN 1.0 Methods identity and alifications of and training I.1 Manage labour con matters, and maintai <i>Labour Law</i> ; ive review of subcontracting alaries of the al salary ledger 2.0 Principles The person performing thi the following principles: 2.1 <i>Labour Law</i> ; 3.0 Theories The person performing thi the following: 3.1 Qualification review to 3.2 Labour contract mana	ARCHITECTURAL ENGINEER OCCUPATION CODE MANAGE PROJECT RESOURCES DUTY NO. SUPERVISE THE REVIEW, TRAINING, AND CONTRACT MANAGEMENT OF CONSTRUCTION PERSONNEL TASK NO. The person performing this task must be able to supervise th training, and contract management of construction personnel d construction process. The task can be performed on the construction site under the supe chief architectural engineers. The tools and equipment to be used include: 1 1. Labour contracts: they are used to verify the identity and pro- qualifications of labour personnel; 2 2. Labour laws: they are used to review the standardization contracts, evaluate labour subcontracting contract comprehensively evaluate the labour force; 3. 3. Various training plans: they are used to develop training pro- construction personnel; 4 4. Office supplies: computers, printers, stationery, etc. EVIDENCE REQUIREMENT FORMANCE UNDERPINNING KNOWLEDGE identity and alifications of and training morphensively; ers; ive review of subcontracting malafications 1.1 Manage labour contracts, verify labo matters, and maintain records accordin <i>Labour Law;</i> 1.2 Review qualification training in accords relevant regulations on qualification manage construction enterprises. 3.0 Theories The person performing this task must be able to the following; 3.1 Qualification review training; 3.2 Labour contract management.

	4.0 Essential Skills	
	4.1 Ability to develop training programs;	
	4.2 Communication skills;	
	4.3 Archive management skills;	
DESCRIPTION OF THE END PRODUCT / SERVICE	The review, training, and contract management of construction personnel are supervised in accordance with relevant laws and regulations.	
CIRCUMSTANTIAL	Detailed knowledge about:	
KNOWLEDGE	1. Skills in labour management in the construction industry;	
	2. Labour contract management;	
	3. Labour subcontracts.	

TASKS DUTIES **ENABLERS** 1.1 Prepare design for General skills and knowledge 1.0 Plan and organise construction organization. Ability to identify and produce construction engineering drawings 1.2 Prepare dedicated construction schemes. Engineering surveying skills Be familiar with national laws and 1.3 Develop management systems. regulations on engineering construction . Be familiar with engineering construction processes and methods . Basic knowledge about mechanics • Building software application skills . Experience in the construction industry • Logical thinking Project organization Communication skills • • Writing skills Analytical skills . . Entrepreneurial skills **Tools and equipment** Drawings • Pens and drawing tools Computers • Measuring tools Construction safety supplies . Other auxiliary tools and • equipment **Materials** . **Stationeries Requirements for employees Business proficiency** • Emphasis on commitment . Pursuit of excellence . Solidarity and cooperation Career identity 2.1 Verify construction General skills and knowledge technology.

APPENDIX: DACUM CHARTS FOR ARCHITECTURAL ENGINEER - NTA LEVEL 8

DUTIES	TASKS	ENABLERS
DUTIES 2.0 Manage construction technology	TASKS 2.2 Supervise and implement technical disclosure. 2.3 Organise technical review.	 ENABLERS Ability to identify and produce engineering drawings Engineering surveying skills Be familiar with national laws and regulations on engineering construction Be familiar with engineering construction processes and methods Basic knowledge about mechanics Building software application skills Experience in the construction industry Logical thinking Project organization Communication skills
		 Writing skills Analytical skills Entrepreneurial skills Tools and equipment Specifications
		 Pens and drawing tools Computers Measuring tools Construction safety supplies Other auxiliary tools and equipment
		Materials
		Stationeries
		 Requirements for employees Business proficiency Keeping promises Pursuit of excellence
		 Solidarity and cooperation
		Career identity
3.0 Control construction quality	 3.1 Prepare project construction quality plan and management system. 3.2 Accept engineering quality. 	 General skills and knowledge Ability to identify and produce engineering drawings Engineering surveying skills

DUTIES	TASKS	ENABLERS
	3.3 Investigate, analyse, and handle quality incidents.	• Be familiar with national laws and regulations on engineering construction
		• Be familiar with engineering construction processes and methods
		• Basic knowledge about mechanics
		 Building software application skills
		• Experience in the construction industry
		Logical thinking
		Project organization
		Communication skills
		Writing skills
		Analytical skills
		Innovation skills
		Tools and equipment
		• Paper
		• Pens and drawing tools
		Computers
		Measuring tools
		Construction safety supplies
		• Other auxiliary tools and
		equipment
		Materials
		• Stationeries
		Requirements for employees
		Business proficiency
		• Emphasis on commitment
		• Pursuit of excellence
		Solidarity and cooperation
		Career identity
4.0 Control	4.1 Prepare construction schedule.	General skills and knowledge
schedule.	4.2 Supervise and coordinate construction site organization.	Ability to identify and produce engineering drawings
	4.3 Supervise dynamic	• Engineering surveying skills
	management of construction plane layout.	 Be familiar with national laws and regulations on engineering construction

DUTIES	TASKS	ENABLERS
		Be familiar with engineering construction processes and methods
		Basic knowledge about mechanics
		 Ability to develop construction organization designs and dedicated construction schemes
		 Building software application skills
		• Experience in the construction industry
		Logical thinking
		Project organization
		Communication skills
		Writing skills
		Analytical skills
		Innovation skills
		Tools and equipment
		• Drawings
		Construction schemes
		• Pens and drawing tools
		• Computers
		Measuring tools
		Construction safety supplies
		• Other auxiliary tools and equipment
		Materials
		• Stationeries
		Requirements for employees
		Business proficiency
		• Keeping promises,
		• Pursuit of excellence,
		Solidarity and cooperation
		Career identity
5.0 Control Construction cost.	5.1 Prepare construction cost plan.	General skills and knowledge
	5.2 Develop engineering quantities and construction	Ability to identify and produce engineering drawings
	costs.	• Cost budgeting and accounting skills
	deviation.	• Engineering surveying skills

DUTIES	TASKS	ENABLERS
		• Be familiar with national laws and regulations on engineering construction
		• Be familiar with engineering construction processes and methods
		• Basic knowledge about mechanics
		• Ability to develop construction organization designs and dedicated construction schemes
		 Building software application skills
		• Experience in the construction industry
		Logical thinking
		Project organization
		Communication skills
		• Writing skills
		Innovation skills
		Tools and equipment
		• Drawings
		Construction schemes
		• Pens and drawing tools
		• Computers
		• Measuring tools
		Construction safety supplies
		equipment
		Materials
		• Stationeries
		Requirements for employees
		Business proficiency
		• Emphasis on commitment
		• Pursuit of excellence
		• Solidarity and cooperation
		Career identity
6.0 Manage	6.1 Prepare production safety	General skills and knowledge
environment	management systems for construction projects.	• Ability to identify and produce engineering drawings

DUTIES	TASKS	ENABLERS
	6.2 Develop emergency rescue plans for on-site safety incidents.	 Cost budgeting and accounting skills Engineering surveying skills
	6.3 Supervise and manage on-site environment.	• Be familiar with national laws and regulations on engineering
	6.4 Investigate, analyse, and handle safety and environmental issues.	 Be familiar with engineering construction processes and methods
		 Basic knowledge about mechanics Ability to develop construction organization designs and dedicated construction schemes
		 Building software application skills
		• Experience in the construction industry
		Logical thinking
		Project organization
		Communication skills
		Writing skills
		Analytical skills
		Innovation skills
		Tools and equipment
		• Drawings
		Construction schemes
		• Pens and drawing tools
		• Computers
		• Measuring tools
		Construction safety supplies
		• Other auxiliary tools and equipment
		Materials
		• Stationeries
		Requirements for employees
		Business proficiency
		• Emphasis on commitment
		• Pursuit of excellence
		Solidarity and cooperation
		Career identity

DUTIES	TASKS	ENABLERS
7.0 Manage	7.1 Develop construction data management plan and	General skills and knowledge
resources	management system.	engineering drawings
	7.2 Supervise the collection, organisation, usage, storage, archiving and handover of	 Cost budgeting and accounting skills Engineering surveying skills
	 7.3 Participate in establishing a computer-aided management 	• Be familiar with national laws and regulations on engineering construction
	and supervision of its operation.	 Be familiar with engineering construction processes and methods
		 Basic knowledge about mechanics Ability to develop construction organization designs and dedicated construction schemes
		• Building software application skills
		• Experience in the construction industry
		Logical thinking
		Project organization
		Communication skills
		Writing skills
		Analytical skills
		Innovation skills
		Tools and equipment
		• Drawings
		Construction schemes
		• Pens and drawing tools
		• Computers
		Measuring tools
		Construction safety supplies
		Other auxiliary tools and equipment
		Materials
		• Stationeries
		Requirements for employees
		Business proficiency
		• Emphasis on commitment
		• Pursuit of excellence
		Solidarity and cooperation

DUTIES	TASKS	ENABLERS
		Career identity
8.0 Project	8.1 Prepare construction resource	General skills and knowledge
8.0 Project resource management	8.1 Prepare construction resource demand plan and management system. 8.2 Supervise procurement, acceptance, usage, and storage of construction materials. 8.3 Superivise the procurement leasing and safe use of construction equipment 8.4 Supervise the review, training, and contract management of construction personnel	 Career identity General skills and knowledge Ability to identify and produce engineering drawings Cost budgeting and accounting skills Engineering surveying skills Be familiar with national laws and regulations on engineering construction Be familiar with engineering construction processes and methods Basic knowledge about mechanics Ability to develop construction organization designs and dedicated construction schemes Building software application skills Experience in the construction industry Logical thinking Project organization Communication skills Writing skills Analytical skills Innovation skills Construction schemes Pens and drawing tools Construction safety supplies Other auxiliary tools and equipment
		• Stationeries
		Stationeries
		Requirements for employees
		Business proficiency
		Emphasis on commitment
		• Pursuit of excellence

DUTIES	TASKS	ENABLERS
		• Solidarity and cooperation
		• Career identity