NOS.A.01
First Edition

NATIONAL OCCUPATIONAL STANDARD FOR ARCHITECT

APPROVING AUTHORITY

This National Occupational Standard has been prepared and published under the authority of the Zambia Qualifications Authority Board on 20th December 2023.

ZAMBIA QUALIFICATIONS AUTHORITY

The Zambia Qualifications Authority Act No. 13 of 2011 was enacted by the Government of the Republic of Zambia to ***"provide for the development and implementation of a national qualifications framework; establish the Zambia Qualifications Authority; provide for the registration and accreditation of qualifications; provide measures to ensure that standards and registered qualifications are internationally comparable; and provide for matters connected with, or incidental to the foregoing".*** Among other functions, ZAQA is responsible for ***determining national standards for any occupation***, through various sector specific National Occupational Standards Development Teams (NOSDTs).

REVISION OF NATIONAL OCCUPATIONAL STANDARDS

National Occupational Standards shall be revised every after **5 years**, or whenever necessary, by the issue of either amendments or of revised editions. It is important that users of National Occupational Standards (NOS) ascertain that they are in possession of the latest amendments or editions.

NOS DEVELOPMENT TEAM RESPONSIBLE

This National Occupational Standard was prepared by the Construction National Occupational Standards Development Team, upon which the following organisations were represented:

1. Copperbelt University
2. Engineering Institution of Zambia
3. Ministry of Local Government and Rural Development
4. Road Development Agency
5. Surveyors Institute of Zambia
6. University of Zambia
7. Zambia Institute of Architects
8. Association of Building and Civil Engineering Contractors
9. Water Resources Management Authority
10. Bari Zambia Limited
11. Zulu Barrow Construction
12. Ng'andu Consulting
13. Zambia Qualifications Authority – Secretariat

ACKNOWLEDGEMENT

The Zambia Qualifications Authority would like to acknowledge the invaluable support of the following stakeholders that participated in the development of this National Occupational Standard:

1. Arch. Mofya Kumisuku (Zambia Institute of Architects)
2. Arch. Peter Simphila Chiuto (Zambia Institute of Architects)
3. Dr. Erastus Mishengú Mwanaumo (University of Zambia)
4. Dr. Ephraim Zulu (Copperbelt University)
5. Mr. Abraham Zulu (Association of Building and Civil Engineering Contractors)
6. Mr. Felisian Ngosa (Ministry of Local Government and Rural Development)
7. Eng. Christopher Ngwira (Road Development Agency)
8. Dr. Chabota Kaliba (Engineering Institution of Zambia)
9. Mr. Michael Chileshe (Surveyors Institute of Zambia)
10. Mr. Stubbs Bernadine Mofya (Surveyors Institute of Zambia)
11. Mr. Douglas Lubaba (Water Resources Management Authority)
12. Eng. Dr. Kasongo Mwale (Ng'andu Consulting)
13. Mr. Elliot B. Phiri (Bari Zambia Limited)
14. Mr. Joseph Nyirenda (Zulu Barrow Construction)
15. Mr. Fidelis Cheelo (Zambia Qualifications Authority)
16. Mr. Jericho Kashiya (Zambia Qualifications Authority)
17. Ms. Womba Soneka (Zambia Qualifications Authority)

TABLE OF CONTENTS

FOREWORD v
JUSTIFICATION v
ACRONYMS AND ABBREVIATIONS vii
GLOSSARY OF TERMS viii
1. OVERVIEW 1
2. SCOPE 2
3. PERSONAL ATTRIBUTES (VALUES, ETHICS AND ATTITUDES) 2
4. UNITS AND ELEMENTS 2
5. EQUIPMENT, TOOLS AND CONSUMABLE MATERIALS 22
6. DILEMMAS/CHALLENGES AND COMPLEXITIES FOR A JOB HOLDER 22
6.1 Alternative Choices (Solutions) to Dilemmas and Complexities 22
7. WORKING CONDITIONS/ENVIRONMENT 23
8. PARTIES INVOLVED/INTERACTING WITH THE JOB HOLDER OR TRAINEE 23
9. PHYSICAL DEMANDS ON THE BODY 23
ANNEX A 24
Criteria for Assessments based on this NOS 24
ANNEX B 25
NOS Version Control 25

FOREWORD

The Zambia Qualifications Authority (ZAQA) is a statutory body under the Ministry of Education established by ZAQA Act No. 13 of 2011 to ***develop and implement a national qualifications framework; register and accredit qualifications; and ensure that standards and registered qualifications are internationally comparable.***

Among other functions, ZAQA is responsible for *"determining national standards for any occupation"*, through various sector specific National Occupational Standards Development Teams (NOSDTs) of experts composed of representation from appropriate authorities, government departments, industry, academia, regulators, consumer associations and non-governmental organisations, etc.

This National Occupational Standard (NOS) has been developed by the Construction National Occupational Standards Development Team in accordance with the procedures and guidelines of ZAQA. All users should ensure that they have the latest edition of this publication as National Occupational Standards are revised from time to time.

This NOS shall be used by, among others, industry, employers, quality assurance bodies, awarding and professional bodies and education and training institutions, as a benchmark to identify training needs, develop job profiles/descriptions, develop curricula and learning programmes, in various sectors where the occupation exists. In the Construction sector, demonstration of competence against this NOS may be required in order to run a business or practice a craft or profession.

JUSTIFICATION

Architecture is one of the critical trades in the construction industry. An Architect acts as a Designer, Project Co-ordinator, Project Manager and Principal Agent for the client when undertaking his role on building or infrastructure project. He/She translates the clients requirements into architectural designs or information which he expresses through drawings or other documents based on which construction work is being undertaken, ranging from erecting of new buildings or infrastructure to alterations, additions, rehabilitations, refurbishments, conversions, etc., of existing buildings or infrastructure. He/She often works with other related consultants such as Planners, Engineers, Quantity Surveyors, Geomatic Surveyors and Environmentalist.

The Architect is trained to design buildings and infrastructure that correspond to the client's aesthetical, functional, cost and time requirements that also adequately respond to the general environmental, social, cultural, economic factors, etc.

The Architect acts as a key representative of the client during the construction process. He also provides post-construction services to clients relating to maintenance and management.

The development of this National Occupational Standard will ensure relevance of the training to latest advancements in industry, resulting in adequately and appropriately skilled Architects.

This National Occupational Standard highlights core knowledge, skills, competences and personal attributes that Architects must possess to be successful in their jobs.

ACRONYMS AND ABBREVIATIONS

A	Architect
CS	Core Skill
NOS	National Occupational Standard
NOSDT	National Occupational Standards Development Team
OK	Organisational Knowledge
PC	Performance Criteria
PS	Professional Skill
RPL	Recognition of Prior Learning
SOP	Standard Operating Procedure
TK	Technical Knowledge
ZAQA	Zambia Qualifications Authority
ZQF	Zambia Qualifications Framework
OSHE	Occupational Safety, Health and Environment

GLOSSARY OF TERMS

For the purposes of this NOS, the following terms and definitions shall apply:

Core Skills/Generic Skills: are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.

Disability: Physical or mental impairment that substantially limits one or more major life activities.

Function: is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.

Job Title: defines a unique set of functions that together form a unique employment opportunity in an organisation.

Knowledge and Understanding: are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

National Occupational Standards (NOS): are statements of the standards of performance individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding. They are precise descriptions of what an individual is expected to be able to do in his/her work role.

National Occupational Standards (NOS) Code: is a unique reference code that identifies a NOS.

National Occupational Standards Development Team (NOSDT): means an established group of national stakeholders/experts responsible for the development of National Occupational Standards within a specific economic sector or occupation.

Occupation: is a set of job roles, which perform similar/related set of functions in an industry.

Organisational Context: includes the way the organisation is structured and how it operates, including the extent of operative knowledge that managers have in their relevant areas of responsibility.

Performance Criteria: are statements that together specify the standard of performance required when carrying out a task.

Scope: is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Sector: is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.

Sub Sector: is derived from a further breakdown based on the characteristics and interests of its components.

Technical Knowledge: is the specific knowledge needed to accomplish specific designated responsibilities.

Unit Title: gives a clear overall statement about what the incumbent should be able to do.

1. OVERVIEW

This is an introductory section providing a summary and specific information or commentary about the content of the NOS and the targeted sector and occupation to help the user judge whether it is relevant to them.

NOS Code	NOS.A.01
Occupation	Architect
Job Title	Architect
Job Description	An Architect is responsible for design of physical spaces and the management of the construction of such spaces.
Job Purpose	Architect responds to the clients' requirements for specific function spaces, translating their expressed needs into built environment fabric that is fit for purpose and responds to environmental requirements.
ZQF Level	7
Sector	Construction
Sub sector	Real Estate and Infrastructure Construction
Other Economic Sector(s) in which the Occupation is Practiced	Mining, Manufacturing, Telecommunication, Energy, Education/training, Agriculture, Health.
Other Similar Jobs that can be Performed in the Occupation	Facilities Management, Property Management, Property Development Appraisal/Advisory Services, etc.
Minimum Educational Job Entry Qualification(s)	Bachelor's Degree in Architecture or equivalent
Practicing License Requirements (if any)	Zambia Institute of Architects Corporate Membership
Training/RPL (Suggested)	Degree
Minimum Job Entry Age	21 Years
Prior Experience (Recommended)	2 Years post-graduate experience interning under supervision of a Registered Architect
Performance Criteria	As described in the Units under Section 4

2. SCOPE

This National Occupational Standard highlights core knowledge, skills, competences and personal attributes that Architects must possess to be successful in their jobs.

3. PERSONAL ATTRIBUTES (VALUES, ETHICS AND ATTITUDES)

This job requires an individual to possess ability to apply advanced mathematical, scientific, cultural, historical, geographical, artistic and statistical principles to provide solutions. The job requires problem-solving skills and reasoning ability, ability to communicate effectively and clearly, must be self-motivated and a great team leader/worker. He/she must be creative, have ability to plan and prioritise, quality consciousness, occupational health and safety orientated, be physically fit and courteous, as well as dexterity and well developed mobility skills.

4. UNITS AND ELEMENTS

This National Occupational Standard is divided into 5 Units representing the tasks that a jobholder should undertake in his/her day-to-day work. Each unit is further broken down into elements depicting the number of activities to be carried out for the successful execution of a particular task.

UNIT 1 [This Unit covers the skills and knowledge required to Develop a brief from client's requirements and translate it into architectural drawings or documents].

Unit No.	**01**
Unit Title	**Develop a brief from clients requirements and translate it into architectural drawings or documents.**
Description	This Unit describes the skills and knowledge required to understand a client's requirements and translate them into spatial design sketches/drawings and specifications for constructional use.
Scope	This Unit covers the following: • Taking client's instructions and understanding the requirements. • Translating Clients requirements into an Architectural Project Brief. • Translating the Project Brief into Architectural Drawings, Specifications or other architectural information for construction.
Performance Criteria (PC) with respect to the Scope	
Element	**Performance Criteria (PC)**
Taking client's instructions and understanding the requirements	To be competent, the individual must be able to: PC1. Receive verbal or written instructions or requirements from the client. To do this the individual needs to be able to: - Curate from the client the project requirements in writing or verbally. - listen attentively, record accurately, read well and comprehend information provided by the client. - Confirm back to the client the instructions for completeness and accuracy.
Translating Clients requirements into an Architectural Project Brief	To be competent, the individual must be able to: PC2. Convert the client's requirements into an Architectural Project Brief. To do this s/he needs to be able to: - Translate the client's requirements into architectural design parameters that can be used for the production of Architectural Drawings, Specifications and/or other architectural information required for the project.
Translating the Project Brief into Architectural Drawings	To be competent, the individual must be able to: PC3. Convert the architectural design parameters into Architectural drawings, Specifications and other architectural information for the project or assignment.
Knowledge and Understanding (K)	
A. Organisation-al Context (Knowledge of the company/ organisation and its processes)	The individual on the job must demonstrate knowledge and understanding of: OK1. Organisations policies, procedures and operating manuals. OK2. Zambia Institute of Architects Handbook
B. Technical Knowledge	The individual on the job must demonstrate knowledge and understanding of: TK1. Design concepts/approach.

	TK2. Construction materials performance and workmanship standards. TK3. Local environmental conditions. TK4. Planning legislation and regulations. TK5. Relevant legislation guiding and providing restrictions with respect to architectural services and works. TK6. Construction codes, mandatory standards. TK7. Other consulting disciplines and services relevant to the project. TK7. Available construction skills. TK8. Project Appraisal/Feasibility. TK8. Project Brief Preparation. TK9. Preparation of architectural designs, specifications and reports.
C. Regulatory Context (Practice License, Knowledge	The individual on the job must demonstrate knowledge and understanding of the: RK1. Zambia Institute of Architects Act and subsidiary legislation. RK2. Urban Planning Legislation. RK3. Public Health Act and subsidiary legislation. RK4. Fire Services Regulations. RK5. Lands Act and subsidiary legislation. RK6. Environmental Management Act and subsidiary legislation. RK7. National Conservation and Heritage Legislation. RK8. Occupational Health and Safety Act. RK9. National Construction Council Act and subsidiary legislation. RK10. Legislation and regulations governing other disciplines relevant to the project or assignment.
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The individual on the job must be able to: CS1. Write in English and be able to translate the client's instructions into a Project Brief that can easily be understood by other staff working in the architectural office, as well as other project consultants providing input on the project. CS2. Prepare and provide clear and comprehensive architectural drawings, details and specifications that can be used for pricing and construction of the project.
	Reading Skills
	The individual on the job must be able to: CS3. Read in English and comprehend the client's instructions and develop a Project Brief that can easily be understood by staff working in the drawing office or architectural firm. CS4. Read and interpret sketches, drawings, photographs, illustrations, etc., provided by the client that provide illumination to the client's requirements.

	CS5. Read and interpret various planning and building regulations and user specific construction guidelines, etc., of relevance to the project.
	Oral Communication (Listening and Speaking skills)
	The individual on the job must be able to: CS6. Speak in English and be able to give instructions in the office. CS7. Speak in English and be able to or have the means to give simple instructions in the local language used at the site. CS8. Listen attentively and interpret communication/instructions from the client to co-workers, consultants' team and contractors.
B. Professional Skills	**Decision Making**
	The individual on the job must be able to: PS1. Interpret the client's instructions or requirements into a spatial design that is fit for purpose.
	Plan and Organise
	The individual on the job should be able to: PS2. Plan work and organise the preparation of all required project documentation, approvals/permits, in coordination with team members, subconsultants, and stakeholders.
	Customer Centricity
	The individual on the job must be able to: PS3. Accurately curate and translate the client's requirements into architectural drawings and information that can be used to construct a building or infrastructure that meets the client's requirements and vision. PS4. Observe the highest level of ethical conduct and confidentiality.
	Problem Solving
	The individual on the job should be able to: PS5. Resolve any technical and administrative conflicts within the team and with external stakeholders.
	Analytical Thinking
	The individual on the job should be able to: PS6. Analyse and determine how the client's requirements can be best translated into a spatial design and architectural construction information.
	Critical Thinking
	The individual on the job should be able to: PS7. Identify and avert any violation of safety and other special spatial design principles, planning/building regulations, building contract infringements, etc.

UNIT 2 [This Unit covers the skills and knowledge required by an Architect to provide project budget estimates with respect to time and cost].

Unit No.	**02**
Unit Title	**Provide project budget estimates with respect to time and cost**
Description	This Unit describes the skills and knowledge required to understand a client's requirements and translate them into financial cost estimates and estimated project durations.
Scope	This Unit covers the following: • Providing cost estimates based on available data gathered from similar projects, current or historical, considered in combination with prevailing market and economic factors. • Providing estimated project durations based on available data with respect to similar projects executed, available construction technology, materials, logistical requirements, new industry innovations, etc.
Performance Criteria (PC) with respect to the Scope	
Element	**Performance Criteria (PC)**
Providing cost estimates.	To be competent, the individual must be able to: PC1. Prepare project estimates using works cost rates obtained from Quantity Surveyors, Construction Works Pricing Indices, similar recent or current projects and apply appropriate rates considered in combination with prevailing market and economic factors, to arrive at realistic cost estimates.
Providing estimated project durations	To be competent, the individual must be able to: PC2.Gather resources and skills information from the construction industry from current or historical projects and apply appropriate assumptions in order to arrive at project duration estimates.
Knowledge and Understanding (K)	
A. Organisation-al Context (Knowledge of the company/ organisation and its processes)	The individual on the job must demonstrate knowledge and understanding of: OK1. Organisations policies, procedures and operating manuals as it relates to project cost estimation and project duration. OK2. Zambia Institute of Architects Handbook as it relates to project cost estimation and project duration.
B. Technical Knowledge	The individual on the job must demonstrate knowledge and understanding of: TK1. Construction costs and rates. TK2. Relevant consultants' fees. TK3. Applicable statutory fees. TK4. Construction processes. TK5. Sequencing and task durations, etc.
C. Regulatory Context	The individual on the job must demonstrate knowledge and understanding of the: RK1. Zambia Institute of Architects Act and subsidiary legislation. RK2. Relevant legislation pertaining to project team consultants' fees.

Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The individual on the job must be able to: CS1. Generate a spreadsheet providing high level cost estimates of key project components. CS2. Generate a project program highlighting key milestones of the project life cycle and durations.
	Reading Skills
	The individual on the job must be able to: CS3. Read in English and be able to comprehend the client's instructions translating these into project components with related cost estimates. CS4. Read in English and be able to comprehend the client's instructions translating these into project activities with estimated durations.
	Oral Communication (Listening and Speaking skills)
	The individual on the job must be able to: CS5. Speak in English and present project cost estimates to the client and any other stakeholders. CS6. Speak in English and present estimated project durations, activities or programs to the client and any other stakeholders.
B. Professional Skills	**Decision Making**
	The individual on the job must be able to: PS1. Interpret the client's instructions or requirements into spatial design solutions fitting into the client's financial budget, delivery time and vision.
	Plan and Organise
	The individual on the job should be able to: PS2. Plan and organise activities, workflows, and resources related to gathering information, in collaboration with other relevant consultants that will result in the development of accurate and realistic cost estimates and project duration estimates.
	Customer Centricity
	The individual on the job must be able to: PS3. Obtain rates for various works components, using current and historical projects as a reference, and in consultation with other industry experts and apply prevailing market and/or economic conditions to arrive at realistic and accurate project financial budget estimates. PS4. Observe the highest level of ethical conduct and confidentiality.
	Problem Solving
	The individual on the job should be able to: PS5. Recognise threats to project budget and duration and recommend measures to avert cost escalations and project delays or should be able to recommend specific measures to de-escalate costs and to make up for lost time.

	Analytical Thinking
	The individual on the job should be able to: PS6. Analyse and determine how the clients requirements can be translated into project components, activities and processes with associated costs and timelines.
	Critical Thinking
	The individual on the job should be able to: PS7. Identify and avert any risks with respect cost escalation and project completion delays.

UNIT 3 [This Unit covers the skills and knowledge required by an Architect for green field design of spaces, buildings or infrastructure and conversion, refurbishment, alteration, restoration, rehabilitation of existing spaces, buildings or infrastructure].

Unit No.	**03**
Unit Title	**Provide Architectural Design Services**
Description	This Unit describes the skills and knowledge required by an architect for green field design of spaces, buildings or infrastructure and conversion, refurbishment, alteration, restoration, rehabilitation of existing spaces, buildings or infrastructure.
Scope	This Unit covers the following: • Providing architectural services for green field projects. • Providing architectural services for existing buildings or infrastructure.
Performance Criteria (PC) with respect to the Scope	
Element	**Performance Criteria (PC)**
Providing architectural services for green field projects	To be competent, the individual must be able to: PC1. Produce architectural drawings or architectural information based on the client's brief or requirements and the scope of engagement agreed with the client To do this the individual needs to be able to: - Curate from the client the project requirements. - Produce a Project Brief from the clients requirements. - Undertake field and desktop surveys and research with respect to site conditions. - Demonstrate understanding of the local environmental and regulatory conditions and restrictions impacting the successful delivery of the project. - Provide high level cost estimates of the project costs across the design stages as more detailed information is produced or becomes available. - Produce architectural drawings with the appropriate level of detail or information at each design stage sufficient to assist the client, consulting team members, regulators and any other stakeholders to make decisions or to take actions that support the successful delivery of the project. - Advise the client and obtain the clients consent with respect to the participation of other required professional necessary for the successful delivery of the project. - Organise and co-ordinate the production, communication and exchange of information amongst project team professional. - Advise the client on the life cycle, maintenance requirements and environmental impacts of the materials and construction technology incorporated into the fabric of the building or infrastructure.
Providing architectural services for existing	To be competent, the individual must be able to: PC2. Produce architectural drawings or architectural information based on the client's brief or requirements and the scope of

buildings or infrastructure	engagement agreed with the client To do this the individual needs to be able to: - Curate from the client the project requirements. - Produce a Project Brief from the clients requirements. - Undertake field and desktop surveys and research with respect to existing buildings or infrastructure and site conditions. - Have an understanding of the local heritage, environmental and regulatory conditions and restrictions impacting the successful delivery of the project. - Plan, organise and manage engagement with multiple stakeholders such as local communities, environmental, heritage, traffic management authorities, etc. - Provide high level cost estimates of the project costs across the design stages as more detailed information is produced or becomes available. - Produce architectural drawings with the appropriate level of detail or information at each design stage sufficient to assist the client, consulting team members, regulators and any other stakeholders to make decisions or to take actions that support the successful delivery of the project. - Advise the client and obtain the clients consent with respect to the participation of other required professional necessary for the successful delivery of the project. - Organise and co-ordinate the production, communication and exchange of information amongst project team professional. - Advise the client on the life cycle, maintenance requirements and environmental impacts of the materials and construction technology incorporated into the fabric of the building or infrastructure.
Knowledge and Understanding (K)	
A. Organisation-al Context (Knowledge of the company/ organisation and its processes)	The individual on the job must demonstrate knowledge and understanding of: OK1. Organisations policies, procedures and operating manuals as it relates to architectural design services. OK2. Organisations design ethos and philosophies in respect of architectural design approach and methodology. OK3. Zambia Institute of Architects Handbook as it relates to architectural design services.
B. Technical Knowledge	The individual on the job must demonstrate knowledge and understanding of: TK1. Spatial design theories, principles and guidelines. TK2. Local environmental, cultural, heritage, organisational factors affecting the project, its design and construction. TK3. Relevant legislation, regulations and consents/restrictions affecting the project. TK4. Sustainable design solutions and sustainable construction methodologies. TK5. Construction technology, services and skills. TK6. Construction materials and their performance in the local environment.

	TK7. Post-construction operations and maintenance requirements of the design solutions, materials, construction methodologies and the likely user conduct or behaviours. TK8. Cost impacts of design solutions or materials choices. (Working knowledge). TK9. Project programming, sequencing and durations. TK10. Trends, styles, culture, etc., that may impact the performance of the architectural solution provided. TK11. CAD packages. TK12. Digital Field Instruments, e.g., Laser Range Finders, Laser levels, Drones, etc.
C. Regulatory Context	The individual on the job must demonstrate knowledge and understanding of the: RK1. Zambia Institute of Architects Act and subsidiary legislation. RK2. Urban Planning legislation. RK3. Public health legislation. RK4. Fire safety and services legislation. RK5. Lands legislation. RK6. Environmental management legislation. RK7. National Conservation and Heritage legislation. RK8. Occupational health and safety legislation. RK9. Construction legislation. RK10. Any other legislation relevant to the project.
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The individual on the job must be able to: CS1. Generate accurate and informative descriptions of materials and installation methodologies. CS2. Generate accurate and appropriate specifications for materials, workmanship and reference building codes/standards for works execution.
	Reading Skills
	The individual on the job must be able to: CS3. Read in English and be able to comprehend the materials technical data information. CS4. Read in English and be able to comprehend workmanship and reference building codes/standards for works execution.
	Oral Communication (Listening and Speaking skills)
	The individual on the job must be able to: CS5. Speak in English and present the design information to the client, contractors, relevant stakeholders and site staff in at least one local language.
B. Professional Skills	**Decision Making**
	The individual on the job must be able to: PS1. Interpret the client's instructions or requirements into spatial design solutions fitting into the client's requirements and vision.
	Plan and Organise
	The individual on the job should be able to:

	PS2. Plan and organise the design process, workflow, durations and required resources (financial, technological, human, etc) for the assignment in accordance with available budget and allocated time.
	Customer Centricity
	The individual on the job must be able to: PS3. Translate the client's requirements into an architectural design solution that answers to his spatial needs, vision and budget and delivery time. PS4. Observe the highest level of ethical conduct and confidentiality.
	Problem Solving
	The individual on the job should be able to: PS5. Resolve design challenges innovatively within the agreed project budget and duration.
	Analytical Thinking
	The individual on the job should be able to: PS6. Analyse and determine how the clients requirements can be translated into an appropriate spatial design solution that is congruent with the clients vision.
	Critical Thinking
	The individual on the job should be able to: PS7. Identify design solution that aligns with the clients spatial requirements, budget and delivery time line.

UNIT 4 [This Unit covers the skills and knowledge required by an Architect to provide quality control, quality assurance, project monitoring, project management and team leadership].

Unit No.	**04**
Unit Title	**Provide Supervision/Project Management Services – (Quality Control And Project Monitoring)**
Description	The Unit describes the skills and knowledge required to provide quality control, quality assurance, project monitoring, project management and team leadership.
Scope	This Unit covers the following: • Providing project team leadership • Providing quality control • Providing and putting in place quality assurance measures • Providing project monitoring services including tracking of progress • Providing contract management services such as guidance on contractual obligations, dispute resolution services (arbitration, expert witness services) • Certification of payments • Certification of performance stages such as site hand over, PC, Final Account • Liaison with regulators impacting the project for acquisition of permits, stage inspections and other necessary consents/approval.
Performance Criteria (PC) with respect to the Scope	
Element	**Performance Criteria (PC)**
Providing project team leadership	To be competent, the individual must be able to: PC1. Demonstrate understanding of other disciplines and resources required to deliver the solution to the clients requirements. PC2. Demonstrate communication and interpersonal skills. PC3. Be ethical and impartial. PC4. Exhibit knowledge of sequencing of activities, milestones and deliverables. PC5. Understand various project consultants, their roles, responsibilities and contractual obligations. PC6. Comprehend relevant legislation and regulations likely to impact the solution. PC7. Apply timely decision making, communication and implementation of agreed actions.
Providing quality control systems	To be competent, the individual must be able to: PC8. Understand all the deliverables of the project consultants in order to avoid gaps or clashes and ensure comprehensive quality control on the project. PC9. Exhibit working knowledge of the types of inspections, tests, observations outputs and reports that each project team member should produce. PC10. Ensure ethics and impartiality in the determination of matters that may arise within the project team.

	PC11. Demonstrate knowledge of sequencing of events and actions required to deliver the solution. PC12. Comprehend relevant legislation and regulations likely to impact the solution.
Providing quality assurance measures	To be competent, the individual must be able to: PC13. Understand and implement quality assurance management systems required on the project, output reports, remediation systems and anticipated outcomes.
Providing project monitoring services	To be competent, the individual must be able to: PC14. Demonstrate working knowledge of the documentation and processes accompanying the delivery of the solution. PC15. Measure, track and record progress against baseline project monitoring information or tools.
Providing contract management services	To be competent, the individual must be able to: PC16. Comprehend various types of contracts and contract management/administration skills. PC17. Apply timely decision making, communication and implementation of agreed actions. PC18. Ensure impartiality with respect to interpretation of contractual clauses and terms when determining issues that may arise between the contractor and client or with project team consultants including himself. PC19. Comprehend alternative dispute resolution mechanisms for the appropriate type of dispute.
Certification of payments	To be competent, the individual must be able to: PC20. Exhibit knowledge of the benchmarks and milestones that trigger certification of valuations prepared by the quantity surveyor in favour of the contractor.
Certification of performance stages	To be competent, the individual must be able to: PC21. Understand the benchmarks and milestones that trigger stage inspections, certifications such as Stage Inspections, Payment Certificates, Practical Completion, Site Handover, Partial Possession, Project Completion Certificates, etc., and Project Final Accounts.
Liaison with regulators impacting the project for acquisition of permits, stage inspections and other necessary consents/approval	To be competent, the individual must be able to: PC22. Possess good working knowledge of the wide range of stakeholders including neighbours, communities, regulators, government departments, agencies and regulators. PC23. Possess good working knowledge of the rights, roles, mandates, legal status of stakeholders and the recourse that they have if they object to the project. PC24. Demonstrate working knowledge of the processes and deliverables with respect to engagement of stakeholders, acquisition of consents, sign-offs and certifications that impact the project.

Knowledge and Understanding (K)	
A. Organisation-al Context (Knowledge of the company/ organisation and its processes)	The individual on the job must demonstrate knowledge and understanding of: OK1. Organisations policies, procedures and operating manuals as it relates to project supervision and project management services. OK2. Organisations design ethos and philosophies in respect of quality control and quality assurance. OK3. Zambia Institute of Architects Handbook as it relates to architectural design services.
B. Technical Knowledge	The individual on the job must demonstrate knowledge and understanding of: TK1. Law of contracts. TK2. Construction law. TK3. Construction contract management. TK4. Project management. TK5. Roles and responsibilities of various professionals or project team members that may be required to support the architectural solution or deliver a project. TK6. Construction Standards and Codes. TK7. Architecture, Planning, Public Health, Environmental Management, Fire Safety, Safety and Health, Local Government and any other relevant legislation and regulations. TK8. Various types of construction contracts. TK9. CAD software packages. TK10. Project programming software packages. TK11. Digital Field Instruments, e.g., Laser Range Finders, Laser levels, Drones, etc. TK12. Dispute resolution mechanisms. TK.13 Quality control and quality assurance.
C. Regulatory Context (Practice License, Knowledge	The individual on the job must demonstrate knowledge and understanding of the: RK1. Zambia Institute of Architects Act and subsidiary legislation. RK2. Urban Planning Legislation. RK3. Public Health Act and subsidiary legislation. RK4. Fire Services Regulations. RK5. Lands Act and subsidiary legislation. RK6. Environmental Management Act and subsidiary legislation. RK7. National Conservation and Heritage Legislation. RK8. Occupational Health And Safety Act. RK9. National Construction Council Act and subsidiary legislation. RK10. Legislation and regulations governing other disciplines relevant to the project or assignment.
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills** The individual on the job must be able to: CS1. Write in English and generate an informative and accurate correspondence and reports.

	CS2. Write in English and generate project program and track activities, highlighting achievements, delays, key milestones, etc. of the project.
	Reading Skills
	The individual on the job must be able to: CS3. Read in English and be able to comprehend the clients, contractors, consultants, regulators, etc., communications and assess implications and impacts on the project.
	Oral Communication (Listening and Speaking skills)
	The individual on the job must be able to: CS4. Speak in English and provide guidance and information to project team members during project meetings, site meetings and coordination discussions. CS5. Speak in English and at least one local language for communication of instructions to site staff.
B. Professional Skills	**Decision Making**
	The individual on the job must be able to: PS1. Interpret the situations arising on the project and provide guidance on how to facilitate progress, mitigate risks, resolve disputes, facilitate honouring of contractual obligations by the parties, etc., for successful delivery of the project.
	Plan and Organise
	The individual on the job should be able to: PS2. Plan and organise the project activities, workflow, durations and required resources (financial, technological, human, etc) required for the assignment in accordance with agreed contract sums and contract periods. PS3. Plan and organise quality control and assurance activities and put in place tools and resources for checking, recording and certification of progress achieved or lack thereof. PS4. Plan and organise activities, check points to facilitate risk assessment and put in place mitigative measures to facilitate project progress and adherence to agreed quality, time and cost parameters.
	Customer Centricity
	The individual on the job must be able to: PS5. Focus all the actors and resources on the project towards delivering the project within the cost, time, quality and vision agreed with the client. PS6. Galvanise the actors towards observing the highest level of ethical conduct, ensuring that the client get value for money.
	Problem Solving
	The individual on the job should be able to: PS7. Recognise threats or risks to the project, cost management and contract duration, and recommend measures to avert cost escalations, project delays or disputes. The individual should be able to recommend specific measures to avert or manage any risks to the project.

	Analytical Thinking
	The individual on the job should be able to: PS8. Identify and determine how the resources, information and efforts can be focused towards the successful delivery of the project.
	Critical Thinking
	The individual on the job should be able to: PS9. Identify and avert any risks with respect delivery of the project within agreed cost and time.

UNIT 5 [This Unit covers the skills and knowledge required by an Architect to provide various consultancy services requiring the expertise of an Architect].

Unit No.	**05**
Unit Title	**Provide Other Consultancy Services For Purposes such As Architectural Valuations, Sectional Titling, Property Development Appraisals, Maintenance Management Services, Architectural Design Competitions, Expert witness Services, Etc.**
Description	This Unit covers the skills and knowledge required by an Architect to provide various consultancy services requiring the expertise of an Architect.
Scope	This Unit covers the following: • Architectural Valuations. • Sectional Titling • Property Development Appraisals • Property Maintenance Management Services • Architectural Design Competitions • Expert witness Services, • Alternative Dispute Resolution, Etc.
Performance Criteria (PC) with respect to the Scope	
Element	**Performance Criteria (PC)**
Architectural Valuations	To be competent, the individual must be able to: PC1. Survey and gather information on state of a building or infrastructure for the intended valuation purpose. PC2.Prepare a report detailing the required actions or works and associated financial information such as repair or reinstatement cost estimates, etc.
Sectional Titling	To be competent, the individual must be able to: PC3. Survey and gather information relating to the demising of the sections of the property, identification of shared building elements, common areas, common access and utility services, etc. PC4. Prepare a report with accompanying diagrams for use in the issuance of sectional certificates of title to the building owners by relevant authorities.
Property Development Appraisals	To be competent, the individual must be able to: PC5.Provide sound and accurate advice to prospective property developers with respect to building and infrastructure design trends, styles, materials, construction technique and methodologies, construction costs and project delivery time lines, etc. PC6. Advise developers on design and construction investment parameters and considerations taking into account historical performance of similar developments, current circumstances and possible future trends, developments and innovations.
Property Maintenance Management Services	To be competent, the individual must be able to: PC7. Survey and gather information on state of repair of the property at project inception. PC8. Gather design and as-built information relating to the property where available.

	PC9. Recommend remedial and maintenance measures to refurbish, restore, improve and maintain the property to facilitate is peak performance as per its design intent.
Architectural Design Competitions	To be competent, the individual must be able to: PC10. Provide guidance to architectural competition promoters with respect regulations governing such competitions and their adjudication.
Expert witness Services	To be competent, the individual must be able to: PC11. Understand architectural design, materials, construction technology and methodologies, workmanship standards, building codes, regulations and construction consultancy contracts and construction contracts. PC12. Provide professional unbiased, accurate and truthful testimony in court or any other dispute resolution forum with respect to his understanding of the matter and how it may be resolved as per the agreements of the parties at inception or as modified in the course of their relationship..
Alternative Dispute Resolution	To be competent, the individual must be able to: PC13. Understand architectural design, materials, construction technology and methodologies, workmanship standards, building codes, regulations and construction consultancy contracts and construction contracts. PC14. Provide professional unbiased, accurate and truthful mediation or adjudication in dispute resolution forums with respect to disputes brought before him, his understanding of the matter and how it may be resolved as per the agreements of the parties at inception or as modified in the course of their relationship.
Knowledge and Understanding (K)	
A. Organisation-al Context (Knowledge of the company/ organisation and its processes)	The individual on the job must demonstrate knowledge and understanding of: OK1. Organisations policies, procedures and operating manuals as it relates to other architectural consultancy services.
B. Technical Knowledge	The individual on the job must demonstrate knowledge and understanding of: TK1. Law of contracts. TK2. Construction law. TK3. Various Types of Construction contracts. TK4. Construction Management. TK5. Project management. TK6. Roles and responsibilities of various professionals or project team members that may be required to support the architectural solution or deliver a project. TK7. Construction Standards, Codes, Technology, Methodologies and Materials. TK8. Architectural design theories, principles and trends.

	TK9. Relevant legislation. TK10. Economics (working knowledge). TK11. Construction Cost Estimation.
C. Regulatory Context	The individual on the job must demonstrate knowledge and understanding of the: RK1. Zambia Institute of Architects Act and subsidiary legislation. RK2. Public Health Act and subsidiary legislation. RK3. Fire Services Regulations. RK4. Environmental Management Act and subsidiary legislation. RK5. National Conservation and Heritage Legislation. RK6. Occupational Health And Safety Act. RK7. Lands Act. RK8. Any other relevant legislation.
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The individual on the job must be able to: CS1. Write in English and generate various types of technical reports.
	Reading Skills
	The individual on the job must be able to: CS2. Read in English and be able to comprehend the clients' instructions and other relevant information, translating these into required outputs.
	Oral Communication (Listening and Speaking skills)
	The individual on the job must be able to: CS3. Speak in English and present information, finds or reports to the client and any other stakeholders.
B. Professional Skills	**Decision Making**
	The individual on the job must be able to: PS1. Consider the client's instructions or requirements and the information gathered during the assignment and provide the client with professional and accurate feedback or outputs as required by the assignment parameters.
	Plan and Organise
	The individual on the job should be able to: PS2. Plan and organise the project activities, workflow, durations and required resources (financial, technological, human, etc) required for the assignment in accordance with available budget and allocated project duration.
	Customer Centricity
	The individual on the job must be able to: PS3. To provide professional, accurate and efficient services as pertains to the required consultancy assignment within the agreed cost and delivery time. PS4. To observe the highest level of ethical conduct and confidentiality.
	Problem Solving
	The individual on the job should be able to:

	PS5. Recognise threats to project budget and duration and recommend measures to avert cost escalations and delays or should be able to recommend specific measures to de-escalate costs and to make up for lost time.
	Analytical Thinking
	The individual on the job should be able to: PS6. Analyse and determine how the clients requirements can be translated into project deliverables, activities and processes within associated costs and timelines.
	Critical Thinking
	The individual on the job should be able to: PS7. Identify and avert any risks with respect providing erroneous or faulty services, cost escalation and project completion delays.

5. EQUIPMENT, TOOLS AND CONSUMABLE MATERIALS

Equipment, tools and consumable materials used by the job holder include, but are not limited to:

- ICT
- CAD Packages
- Microsoft Office Packages
- MS Projects or equivalent
- Digital measuring field equipment
- Photography Equipment
- Drones

6. DILEMMAS/CHALLENGES AND COMPLEXITIES OF THE JOB

Dilemmas associated with the job of Architect include:

- Working in dangerous areas – uncleared bush; at height, etc
- Exposure to construction hazards such as noise, heat, cold, construction chemicals, etc.
- Working long hours
- Frequent travel
- Driving long distance on bad roads, including at night.
- Temptation to accept gratification from contractors, materials suppliers, litigants, etc., as inducement to make decisions in their favour or for award of contracts or for works not done to specification.
- Pressure from politicians to make unprofessional decisions or rulings that are politically expedient.
- Pressure from clients, colleagues, supervisors, contractors, regulators etc. to make decisions without fully considering outcomes or consequences in the interest on making progress on the project.

6.1 Alternative Choices (Solutions) to Dilemmas and Complexities

Solutions to dilemmas include wearing protective clothing and ensuring the availability and use by other employees, exercising regularly to maintain physical fitness, exercising proper work ergonomics, participating in workplace safety sensitisation and awareness meetings/training sessions, adhering to institutional safety and standard operating procedures at all times, consulting extensively within and outside one's department/team on construction safety issues, planning and prioritising work, professional integrity and ethics, stakeholder engagement and people management training and consultations, etc.

7. WORKING CONDITIONS/ENVIRONMENT

Working conditions include indoor and outdoor construction sites as well as workshops and factories, may also work in commercial buildings or private homes, confined spaces, handling machines with moving parts, working at heights, working in conditions that may be dirty and noisy, exposure to seasonal heat and cold or adverse weather conditions, emergency call-outs, standing or squatting for long hours and lifting relatively heavy objects. In most cases, the job involves working normal hours, but in some instances, long working hours and/or regular overtime may be required. The job also requires wearing suitable protective clothing such as works suits, safety shoes, ear protectors, safety visors or goggles, gloves and hardhats, safety harnesses etc.

8. PARTIES INVOLVED/INTERACTING WITH THE JOB HOLDER OR TRAINEE

8.1 Internal/Within the Organisation

Parties involved/interacting with the job holder who are internal to the organization include firm owners, supervisors/superiors, trainers, occupational health and safety team, other colleagues, etc.

8.2 External/Outside the Organisation

Parties involved/interacting with the job holder who are external to the organization include government regulators, trainers, clients, suppliers of equipment/tools/consumables, fellow Architects from other companies, Engineers, Planners, Quantity Surveyors, Contractors, Materials Manufacturers, Equipment Suppliers, Labour Unions, Occupational Health and Safety Agencies, Stakeholder Groups, etc.

9. PHYSICAL DEMANDS ON THE BODY

Ability to sustain strenuous conditions such as

- Climbing heights;
- Walk and stand for long periods of time;
- Bend, stretch, twist, or reach out;
- Lift, carry, push and pull heavy objects;
- Use fingers, hands and feet with ease to complete the assigned task (dexterity);
- Strenuous works that may cause musculoskeletal disorders;
- Working in front of computer screens may cause eyesight defects;
- Etc

ANNEX A
Criteria for Assessments based on this NOS

A.1 Guidelines for Assessment

A.1.1 Criteria for assessment for curricula and learning programmes based on this NOS will be created by curricula and programmes developers. Each Performance Criteria (PC) will be assigned marks proportional to its importance in the NOS. Curricula and programmes developers will also lay down proportion of marks for theory and practical skills for each performance criteria, giving more weight to practical skills.

There shall be allocated the 'Total Mark', which will be the sum of all marks in each Unit, distributed across the number of PCs in that particular Unit. The 'out of' mark will be the mark allocated to each PC, which will be shared between theory and skills practical assessments.

A.1.2 Individual awarding/assessment bodies or institutions and other users of the NOS will create unique question papers for the theory part and evaluations for skill practical part for their respective candidates.

ANNEX B
NOS Version Control

This Annex gives details necessary for the tracking of the NOS versions based on the number of revisions.

NOS Code	NOS.A.01		
ZQF Level	7	**Version Number**	01
Sector	Construction	**Date of Approval**	December 2023
Sub Sector	Real Estate and Infrastructure Construction	**Date of Last Review**	N/A
Occupation	Architect	**Date of Next Review**	December 2028