

SCHEDULE 3

DEFINITION OF ARCHITECTURAL WORK AND COMPETENCIES

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1. THE CHARACTERISTICS OF ARCHITECTURAL WORK

Broadly, the practice of Architecture consists of the provision of professional services in connection with the design, construction, enlargement, conservation, restoration or alteration of a building or group of buildings.

These professional services include, but are not limited to, aspects of planning and land-use planning, urban design, provision of preliminary studies, designs, models, drawings, specifications, technical documentation, coordination of technical documentation prepared by other built environment professionals (as appropriate and without limitation), contract administration, project managing, monitoring and quality inspections of construction.

Architectural work in South Africa can be described in terms of the following intrinsic characteristics.

At an operational level architectural work can be defined as the art and science of construction, comprising primarily the designing of physical interventions in the built environment – essentially buildings and their appurtenant open areas. This must be done in an aesthetically pleasing, socially responsible, environmentally sensitive, technologically appropriate, and professionally competent and ethical manner.

2.0 THE SCOPE OF ARCHITECTURAL WORK

Project Complexity the Project and Site Sensitivity

The scope of architectural work could range from the design of large, monumental or highly sophisticated complexes to modest, small-scale, informal interventions. But size sophistication of the building alone does not determine complexity. An important further consideration is site sensitivity,

which can be classified low through medium to high sensitivity, as defined by legislation such as the National Heritage Resources Act No. 25 of 1999 and the National Environmental Management Act No. 107 of 1998. These two aspects must be considered jointly when categorising projects in terms of complexity.

2.2 ARCHITECTURAL WORK STAGES

Architectural work is characterised by a sequential or staged flow of activities. This flow comprises stages that feature prominently in project planning and apportionment of fees. They are:

- Inception;
- Concept and viability;
- Design Development;
- Documentation and procurement;
- Construction Contract administration

The responsibilities broadly associated with each stage along the flow of work trajectory are listed below. It is significant that all architectural work, from the smallest and simplest, to the largest and most complex, can – and should – be managed according to this flow of work and its elemental stages.

The standard architectural professional's scope of service and the architectural professional's functions in performing this service for each work stage are set out below.

Standard Service

Inception

Receive, appraise and report on the client's requirements with regard to:

- the client's brief
- the site and rights and constraints
- budgetary constraints
- the need for consultants

- project programme
- methods of contracting

Concept and Viability

- Prepare an initial design and advise on:
 - the intended space provisions and planning relationships
 - proposed materials and intended building services
 - the technical and functional characteristics of the design
- Check for conformity of the concept with the rights to the use of the land
- Review the anticipated costs of the project
- Review the project programme

Design Development

- Confirm the scope and complexity
- Review the design and consult with local and statutory authorities
- Develop the design, construction system, materials and components
- Incorporate all services and the work of **consultants**
- Review the design, costing and programme with the **consultants**

Documentation and Procurement

- Prepare documentation sufficient for local authority submission:
 - co-ordinate technical documentation with the consultants and complete primary co-ordination
 - prepare specifications for the works
 - review the costing and programme with the consultants
 - obtain the client's authority and submit documents for approval
- Complete construction documentation and proceed to call for tenders:
 - obtain the client's authority to prepare documents to procure offers for the execution of the works
 - obtain offers for the execution of the works

- evaluate offers and recommend on the award of the building contract
- prepare the contract documentation (and arrange the signing of the building contract)

Construction

- Contract administration
 - hand over the site to the contractor
 - issue construction documentation
 - initiate and/or check sub-contract design and documentation as appropriate
- Inspect the works for conformity to the contract documentation
 - administer and perform the duties and obligations assigned to the principal agent in the JBCC building agreements, or fulfil the obligations provided for in other forms of contract
 - issue the certificate of practical completion
 - assist the client to obtain the occupation certificate
- Fulfil and complete the project close-out including the preparation of the necessary documentation to facilitate the effective completion, handover and operation of the project
- After the contractor's obligations with respect to the building contract are fulfilled, the architectural professional shall issue the certificate related to contract completion
- Provide the client with as-built drawings and relevant technical and contractual undertakings by the contractor and sub-contractors

2.3 CATEGORIES OF ARCHITECTURAL PROFESSIONAL

In terms of the Architectural Profession Act No 44 of 2000, four categories of professionals are identified

- Professional Architect (PA)
- Professional Senior Architectural Technologist (PSAT)
- Professional Architectural Technologist (PAT)

- Professional Architectural Draughtsperson (PAD)

The different categories possess different levels of skills and competency. In terms of the architectural division of labour, the first two categories generally operate at an advanced conceptual, technical and design level. The second two categories are more focused on drawing presentation and production.

3.0 COMPETENCIES AND SKILLS REQUIRED TO PERFORM ARCHITECTURAL WORK

A precise definition of the competency of each category of Professional is a complex matter, given the changing conditions under which training has occurred and the impact of different kinds of experience and level of skills.

Thus at a general level, the competencies of the different categories can broadly be defined as follows:

The **Professional Architect** is trained to engage at a high level in design, theory and history, as well as in technical resolution and the administration and co-ordination of a wide range of architectural projects. The Professional Architect would generally have a Master's Degree or equivalent Degree from a university requiring at least five years of full-time study. The master's Degree (or equivalent) would prepare graduates for advanced and specialised professional employment. The study programme would have been substantially focused on the design of range of building types including complex types and multi-storey structures. The Professional Architect would have completed a compulsory two year period of candidature under an experienced professional or professional firm and would have successfully completed SACAP's compulsory Professional Practice Exam.

A small number of Professional Architects may not have the prescribed qualifications, but would have had their experience and work evaluated by

means of SACAP's RPL mechanism (Recognition of Prior Learning) prior to registration.

The **Professional Senior Architectural Technologist** will have high levels of competency at a technical level, and may also have developed design and administration and co-ordination skills. The highest qualification a Professional Senior Architectural Technologist would have is a Degree or a Postgraduate Diploma, requiring four years of full-time study. The study programme would have included design and technical resolution of two or three story structures. The combination of competencies and skills within this category would vary greatly, with some Professional Senior Architectural Technologists able to offer highly specialised services in particular areas of architectural work.

The **Professional Architectural Technologist** will have reasonable levels of competency at a technical level and would have some design understanding. The highest qualification for a Professional Technologist would be a Diploma incorporating three years of full time study. The study programme would have included design and technical resolution of small scale buildings.

The **Professional Architectural Draughtsperson** will have an entry-level vocational, or industry oriented higher education qualification.

The minimum qualification of a Professional Architectural Draughtsperson would be a Higher Certificate incorporating one year full-time study; the study programme would have focussed on developing basic technical and draughting skills.

CATEGORY Candidate—	ACRONYM	QUALIFICATION	NQF LEVEL
Professional Architect	PrArch	M Arch (Prof) B.Arch	9
Professional Senior Architectural Technologist	PrSArchT	BAS Honours B Arch (Prof) [4 years, PG Diploma	8
		BAS [3 years, 360 credits] Advanced Diploma Both + 1 yr WIL	7
Professional Architectural Technologist	PrArchT	Diploma [3 years, 360 credits] Advanced Certificate [total 240 credits, + 1 yr WIL]	6
Professional Architectural Draughtsperson	PrArchDraught	Advanced Certificate [Hi Cert + 1 yr, 120 credits] Higher Certificate [1 year, 120 credits, + 1 year WIL]	

NB: Refer Schedule 6 for the Qualifications and Experience requirements for registration in each of the categories.

With respect to all Professional Senior Architectural Technologist (PSAT), Professional Architectural Technologist (PAT), and Professional Architectural Draughtsperson (PAD) categories currently registered, a number would NOT have sat the Professional Practice Exam which was not compulsory at the time of initial mandatory registrations. These categories are being encouraged to sit the exam.

All registered Architectural Professionals are required to undertake Continuing Professional Development courses and activities. Performance with respect to this is reviewed at five year intervals serving as a basis for renewal of registration.

Given the difficulties in determining the precise levels of skills within each category, and sometimes between categories, it is highly recommended that before services of any category of Architectural Professional is procured, a portfolio of work produced by the professional is carefully scrutinised, in particular, work of a similar nature to that for which the services are being procured. In addition it is advisable to obtain references.

4.0. MATRIX OF COMPETENCIES

The essential skills and knowledge required to practise architecture in a sustainable, socially responsible and financially viable way are clustered in a range of ten specific outcomes.

Architectural design	1
Environmental relationships	2
Construction technology	3
The structure of buildings	4
Contextual & urban relationships	5
Architectural history, theory & precedent	6
Building services & related technologies	7
Contract documentation and administration	8
Computer applications	9
Office practice, legal aspects and ethics	10

The difference in the level of skills is tabulated in the table below:

LEVEL #	LEARNING LEVEL	DESCRIPTION
A	Awareness	Acquaintance with relevant concepts and methods, without necessarily being skilled to paraphrase information.
B	Knowledge	Familiarity with relevant information, without necessarily being skilled to see its fullest implication or application.
C	Understanding	Full assimilation and comprehension of information, and the skill to correctly paraphrase it and relate it to other situations, including its practical application.
D	Ability	Skill in analysing problems, identifying appropriate information for the accomplishment of tasks and to apply it to the solution of specific problems.

The above can be combined into the matrix below, which relates the level of competency of a category of professional to ten specific outcomes of architectural work.

SACAP summary matrix of competencies

PROFESSIONAL CATEGORY	LEARNING LEVEL REQUIREMENTS PER CATEGORY		OUTCOMES FIELD & N°										
			Architectural design	Environmental relationships	Construction technology	Building structures & Impacts	Contextual and urban relationships	Architectural history, theory and precedent	Building services and related technologies	Contract documentation and administration	Computer applications	Office practice, legal aspects and ethics	
			1	2	3	4	5	6	7	8	9	10	
Professional Architect	Awareness	A											
	Knowledge	B											
	Understanding	C				■				■		■	
	Ability	D	■	■	■		■	■		■			■
Prof. Senior Arch. Technologist	Awareness	A											
	Knowledge	B								■			
	Understanding	C	■	■	■	■	■	■					
	Ability	D									■	■	■
Prof. Arch. Technologist	Awareness	A											
	Knowledge	B	■	■	■	■	■	■	■				
	Understanding	C									■		■
	Ability	D										■	
Prof. Arch. Draughts-person	Awareness	A	■	■	■	■	■	■	■	■			■
	Knowledge	B											
	Understanding	C									■		
	Ability	D										■	

The Schedule below expands upon the matrix in greater detail.

	PROFESSIONAL ARCHITECTURAL DRAUGHTSPERSON	PROFESSIONAL ARCHITECTURAL TECHNOLOGIST	PROFESSIONAL ARCHITECTURAL SENIOR TECHNOLOGIST	PROFESSIONAL ARCHITECT
	A person registered in one of the categories above must demonstrate ...			
10. Office practice, legal aspects and ethics	<p>WORK INTEGRATED LEARNING <u>Knowledge</u> of the administrative and logistical support systems in a practice.</p>	<p>FORMAL</p> <ul style="list-style-type: none"> • <u>Knowledge</u> of the terminology and basic concepts and principles of architectural practice. • <u>Knowledge</u> of the contents of the various building contracts and the SAIA practice manual. <p>FORMAL/WORK INTEGRATED LEARNING</p> <ul style="list-style-type: none"> • <u>Knowledge</u> of the terminology and basic concepts and principles of business practice. • <u>Knowledge</u> of the administrative and logistical support systems in a practice. 	<p>FORMAL</p> <ul style="list-style-type: none"> • <u>Understand</u> the terminology and basic concepts and principles of architectural practice. • <u>Understand</u> all the regulatory and legal aspects of the profession. • <u>Knowledge</u> of the contents of the various building contracts and the SAIA practice manual. <p>FORMAL/WORK INTEGRATED LEARNING</p> <ul style="list-style-type: none"> • <u>Understand</u> the terminology and basic concepts and principles of business practice. • <u>Understand</u> the administrative and logistical support systems in a practice. • <u>Understand</u> the basic concepts of business structures and principles, pertaining to architectural profession. • <u>Ability</u> to design a feasible information access and retrieval system. • <u>Ability</u> to design a functional and integrated management system. • <u>Ability</u> to participate meaningfully in the management and administration of a building project. • <u>Ability</u> to set up and run a building project successfully 	<p>FORMAL</p> <ul style="list-style-type: none"> • <u>Ability</u> to apply all the regulatory and legal aspects of the profession. • <u>Ability</u> to implement the contents of the various building contracts and the SAIA practice manual. <p>FORMAL/WORK INTEGRATED LEARNING</p> <ul style="list-style-type: none"> • <u>Ability</u> to apply the basic concepts of business structures and principles, pertaining to architectural profession. • <u>Ability</u> to design a feasible information access and retrieval system. • <u>Ability</u> to design a functional and integrated management system. • <u>Ability</u> to implement administrative and logistical support systems in a practice. • <u>Ability</u> to design marketing strategy. • <u>Ability</u> to participate meaningfully in the management and administration of a building project. • <u>Ability</u> to set up and run a building project successfully.

PROFESSIONAL CATEGORY	LEARNING LEVEL REQUIREMENTS PER CATEGORY		OUTCOMES FIELD & N°																	
			Architectural design	Environmental relationships	Construction technology	Building structures	Contextual and urban relationships	Architectural history, theory and precedent	Building services and related technologies	Contract documentation and administration	Computer applications	Office practice, legal aspects and ethics								
			1	2	3	4	5	6	7	8	9	10								
Professional Architect	Advanced	A																		
	Medium	B																		
	Low	C																		
	Minimal	D																		
Prof. Senior Arch. Technologist	Advanced	A																		
	Medium	B																		
	Low	C																		
	Minimal	D																		
Prof. Arch. Technologist	Advanced	A																		
	Medium	B																		
	Low	C																		
	Minimal	D																		
Prof. Arch. Draughts-person	Advanced	A																		
	Medium	B																		
	Low	C																		
	Minimal	D																		

