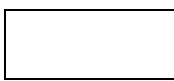


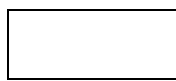


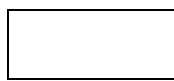
C3.4: PARTICULAR SPECIFICATIONS

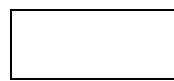
In addition to the Standardized and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

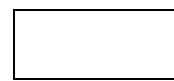
| | |
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| SECTION DWK | DAY WORKS |
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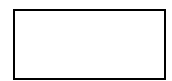

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SECTION DWK: DAY WORKS

This part of the Project Specifications deals with the provision for Day-works in the Schedule of Quantities. Rates for Dayworks shall be entered in Section DWK 6 of the Schedule of Quantities in accordance with the following specifications.

DWK. 1 SCOPE

According to clause 6.5 of the *General conditions of contract for construction works, (3rd ed.), 2015*, certain work may be carried out using rates tendered in the daywork schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a daywork basis is included in the schedule of quantities. The quantities used in the schedule are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.5 of the *General conditions of contract for construction works, (3rd ed.), 2015*.

No work will be paid for as Dayworks without the written instruction or approval of the Engineer.

DWK. 2 TYPE OF WORK

The Engineer may order daywork in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Engineer. Dayworks will only be used in exceptional circumstances.

DWK. 3 MATERIALS

Materials for use in works carried out under Daywork shall be purchased by the Contractor who shall also arrange for delivery to site and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section DWK 6 for Daywork materials. The Contractor shall enter a tendered percentage in the schedule to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in the Pricing Data. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in Dayworks with his dayworks claim to the Engineer. Further, if specific materials are required for Dayworks, quotations will be called for as per Clause 6.5.2 of *General conditions of contract for construction works, (3rd ed.), 2015*.

DWK. 4 CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section DWK 6 shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the schedule for a particular piece of equipment, and where no other rate or combination of rates

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would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.3 of the *General conditions of contract for construction works, (3rd ed.)*, 2015 will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the dayworks.

DWK. 5 SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in Section DWK 6. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen’s compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the dayworks.

All overhead costs, administration costs, site management costs and the Contractor’s profit are deemed to be covered by the Dayworks rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen’s job description e.g. picks, shovels, hammers, saws, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Engineer, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

DWK. 6 MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of Dayworks.

The unit of measurement for plant shall be the number of vibroclock hours worked and each item of plant shall be fitted with a vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor’s attention is drawn to the requirements of Sub-clauses 6.5.3 and 6.5.4 of the General Condition of Contract 2010 edition with regard to the submission of Dayworks claims.

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PB 1 SCOPE

This section specifies the general requirements for the construction of buildings.

PB 2 INTERPRETATIONS

PB 2.1 SUPPORTING SPECIFICATIONS

- (a) Project Specification;
- (b) SABS 1200 A or SABS 1200 AA as applicable;
- (c) SABS 1200 C;
- (d) SABS 1200 D or SABS 1200 DA as applicable;
- (e) SABS 1200 G or SABS 1200 GA or SABS 1200 GB as applicable.

PB 2.2 GENERAL

Building work shall be carried out in accordance with the National Building Regulations and Building Standards Act, 1977, and these specifications.

References to specifications and codes of practice of the South African Bureau of Standards shall be taken to be references to the latest edition of such specifications and codes of practice as amended. Where possible the SABS mark shall appear on all articles, materials or items where it is required to comply with such SABS specification.

PB 2.3 COMMERCIAL PRODUCTS

In all instances where the Contractor handles, stores, uses, applies or fixes commercial products, the work shall be strictly carried out according to the instructions of the manufacturer of such products.

PB 2.4 SAMPLES

The Contractor shall furnish without delay, such samples as called for or may be called for by the Engineer. Materials or workmanship not corresponding with approved samples, may be rejected by the Engineer and shall be removed from the works at the cost of the Contractor.

PB 3 MATERIALS

PB 3.1 CEMENT

Cement shall be ordinary Portland cement complying with the requirements of SABS 471.

PB 3.2 WATER

Water shall be clean and free from clay, silt, oil, acid, alkali, organic or other matter which would impair the required strength and durability of mortar, plaster or floor screed.

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**PB 3.3 LIME**

Lime shall be hydrated bedding mortar lime complying with the requirements of SABS 523.

PB 3.4 AGGREGATE

Sand for plaster and mortar shall comply with the requirements of SABS 1090, whereas the aggregates for normal and granolithic floor creeds shall comply with the requirements of BS1199 and BS1201 respectively.

PB 3.5 BURNT CLAY BRICKS

Burnt clay bricks shall comply with the requirements of SABS 227 and shall also be equal in all respects to the three samples of each type of brick furnished by the Contractor prior to commencement of the works and as approved by the Engineer.

General purpose (special) bricks shall be used in foundation walls and lintels.

The colour and texture of face bricks shall be as specified in the project specifications. Care shall be taken to avoid damage to arisses and faces during transport and handling.

Fire bricks shall be of well burnt refractory fire clay, resistant to spalling and cracking and of same size as the ordinary bricks.

PB 3.6 CONCRETE MASONRY UNITS

Pre-cast concrete masonry units shall comply with the requirements of SABS 1215 and shall be solid unless specified otherwise in the project specifications.

PB 3.7 CALCIUM SILICATE MASONRY UNITS

Calcium silicate masonry units shall comply with the requirements of SABS 285.

PB 3.8 WALL TIES

Wall ties shall comply with the requirements of SABS 28.

PB 3.9 AIR BRICKS

Air bricks shall be well-burnt terra-cotta air bricks in external faces of walls and 250 mm x 150 mm rectangular gypsum air bricks covered with copper mosquito gauze in internal faces.

PB 3.10 BRICK REINFORCEMENT

Brick reinforcement shall be hard drawn mild steel comprising two 3,15 mm diameter wires spaced 75 mm apart and 2,8 mm diameter cross wires spaced at not exceeding 300 mm apart welded to main wires.

*Tenderer**Witness 1**Witness 2**Employer**Witness 1**Witness 2*



PB 3.11 QUARRY TILES

Quarry tiles shall be of approved quality, even in thickness, truly square, free from cracks, twists and blemishes and uniform in colour and unless otherwise specified, shall be of approved red colour.

PB 3.12 CERAMIC TILES

Glazed ceramic tiles for walls shall comply with the requirements of SABS 22 and, unless otherwise specified, shall be white, size 150 mm x 150 mm x 6,5 mm thick.

Ceramic tiles for floors shall comply with the requirements of SABS 1449 and, unless otherwise specified, shall be unglazed, size 240 mm x 115 mm x 20 mm thick and of approved colour.

PB 3.13 CONCRETE PAVING SLABS

Concrete paving slabs shall be precast units of grade 25 MPa/13 mm concrete and shall be of approved manufacture, at least 50 mm thick and sizes 250 mm x 250 mm minimum and 600 mm x 600 mm maximum.

Concrete slabs shall be even in thickness, truly square, free from cracks, twists and blemishes, with a uniform natural cement colour and surface finished smoothly in the mould and shall also be equal in all respects to the samples furnished by the Contractor prior to commencement of the works and as approved by the Engineer.

PB 3.14 DAMP-PROOF MEMBRANE

Damp-proof membrane under floors, unless otherwise specified, shall be of polyethylene sheeting complying with the requirements of SABS 952 as Type C-plain surfaces specified therein, 250 microns in dry areas and 375 microns in wet areas.

PB 3.15 DAMP-PROOF COURSE IN WALLS

Horizontal and vertical damp-proof course, unless otherwise specified, shall be of bituminous sheeting complying with the requirements of SABS 248 and as Type FV (Fibre Base) sheeting or as Type GH (Hessian Base) sheeting specified therein, or of polyethylene sheeting complying with the requirements of SABS 952 and as Type A-plain surfaces 450 microns or as Type B-embossed surfaces 375 microns as described therein.

PB 3.16 TREATMENT OF TIMBER

All timber shall be given a preservative treatment suitable for the duty for which the timber is intended in accordance with SABS code of practice 05, and no untreated timber shall be used. The preservative treatment shall not impair the final finish. The timber shall be impregnated throughout. When surface coating is specified, the compounds applied on the surfaces of the timber shall form an unbroken film.

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**PB 3.17 STRUCTURAL TIMBER**

Structural timber, unless otherwise specified, shall be of South African softwood (pine) complying with the requirements of SABS 563 or SABS 1245 and, unless otherwise specified or shown on the drawings, shall be of Grade 4 and shall be marked as laid down in the specification.

Roof battens and other structural timbers not less than 50 mm or more than 65 mm in width and not less than 38 mm or more than 50 mm thickness, shall be of South African softwood (pine) complying with the requirements of SABS 65PB 3.

All structural timber shall bear the full standardisation mark of the South African Bureau of Standards.

The tolerance by which "actual" dimensions may vary from the "nominal" dimensions specified or stated on drawings of South African sawn structural softwood, shall be as laid down in SABS 563, SABS 653 and SABS 1245 where relevant.

PB 3.18 STRUCTURAL LAMINATED TIMBER**(a) Stock glued laminated timber of S.A. pine**

Stock glued laminated timber of S.A. pine shall comply with the requirements of SABS 1089 and shall be marked as laid down in the specification and shall also bear the standardisation mark of the SABS.

(b) Designed glued laminated timber

Structural glued laminated timber shall comply with the requirements of SABS 876 and shall be marked as laid down in the specification and shall also bear the standardisation mark of the SABS.

The timber shall be of -

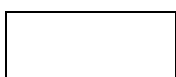
- (i) softwood or hardwood;
 - (ii) the density group and grade;
 - (iii) the exposure category;
 - (iv) moisture content; and
 - (v) of Class A or Class B appearance;
- as specified and, in services having timbers treated against infestation by insect pests, shall be treated against pests as laid down in the specification for laminated timber.

PB 3.19 GALVANISED STEEL ROOFING SHEETS

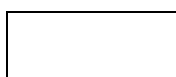
Galvanised steel roofing sheets shall be of the profile as scheduled or shown on the drawings, of 0,60 mm thick mild steel (before galvanising) and shall be galvanised on both sides to the requirements of SABS 934 for a Class Z250 coating, unless a Class Z600 coating is specified, and shall be passivated.

PB 3.20 METAL RIDGING FOR STEEL COVERED ROOFS

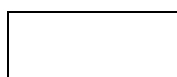
Galvanised iron ridging for ridges and hips of steel covered roofs shall be of 0,60 mm thick flat mild steel (before galvanising), galvanised as specified for roofing sheets in clause PB 3.19.



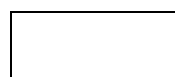
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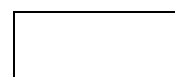
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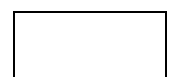
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PB 3.21 FIBRE CEMENT ROOFING SHEETS

Fibre cement roofing sheets shall be of the profile scheduled or shown on the drawings and shall comply with the requirements of SABS 685. The sheets shall be not less than 6 mm thick.

PB 3.22 ADJUSTABLE FIBRE CEMENT RIDGING

Adjustable fibre cement ridging for ridges of fibre cement covered roofs, shall be of same manufacture as the roofing sheets, of not less than 6 mm thick material, with overlapping end joints and shall suit the profile of the roofing sheets. Width of wing shall be not less than 300 mm measured from the centre of roll.

PB 3.23 FASCIAS AND BARGE BOARDS

Fascias and barge boards shall be, unless otherwise specified, of pressed fibre cement boards of section described in long lengths.

PB 3.24 FIBRE CEMENT FLASHINGS

Fibre cement flashing for horizontal top edges of roofs butting against vertical wall or other surfaces, shall be of same manufacture as the roofing sheets of not less than 6 mm thick material and with overlapping end joints. The flashings shall suit the profile of the roofing sheets and shall extend not less than 300 mm onto the roof sheeting, shall have plain upstands against the vertical surfaces and shall be flashed over with metal as described.

PB 3.25 FIBRE CEMENT GUTTERS

Fibre cement gutters shall be of approved manufacture, of not less than 6 mm thick material and with spigot and socket ends.

Gutter brackets shall be heavy quality galvanised steel or non-ferrous metal brackets as supplied by the manufacturers of the gutters.

PB 3.26 FIBRE CEMENT RAIN-WATER DOWN PIPES

Fibre cement rainwater downpipes shall be of approved manufacture, with spigot and socket ends. The material in circular rainwater downpipes 75 mm diameter shall be not less than 6 mm thick, and in circular pipes over 75 mm diameter and in all sizes of square and rectangular pipes, shall be not less than 8 mm thick.

Holderbats for rainwater downpipes shall be heavy quality galvanised steel or non-ferrous metal holderbats.

PB 3.27 CONCRETE ROOFING TILES

Concrete roofing tiles shall comply with the requirements of SABS 542, except that the concrete in the body of the tile need not be coloured where tiles have natural stone granular finish, and shall be of pattern and colour specified.

Unless otherwise specified, the tiles shall have natural stone granular finish.

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PB 3.28 COVERING TO CEILINGS

- (a) **Gypsum plasterboard ceilings with plaster finish**
Gypsum plasterboard for ceilings shall be 6,4 mm thick gypsum ceiling board, complying with the requirements of SABS 266.
The cover strips shall be galvanised or lacquered wire gauze not less than 60 mm wide. The plaster shall be a retarded semi-hydrate wood-fibre plasterboard bonding gypsum plaster.
- (b) **Fibre cellulose board ceilings**
Fibre cellulose board for ceilings shall comply with the requirements of SABS 803 and, unless otherwise specified, shall be 6 mm thick and of flat (unpressed) type.

PB 3.29 COVE CORNICES TO CEILINGS

- (a) **Gypsum plasterboard cornices**
Cove gypsum plasterboard cornices to ceilings shall comply with the requirements of SABS 622 and shall be of 82 mm or 120 mm girth as specified.
- (b) **Timber cornices**
Timber cornices to ceilings shall be 32 mm hardwood Scotia's.

PB 3.30 FLAT FIBRE CEMENT SHEETS

Flat fibre cement sheets other than fibre cellulose boards described in subclause PB 3.28(b), shall comply with the requirements of SABS 685.

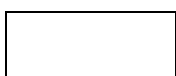
PB 3.31 TIMBER FOR JOINERY

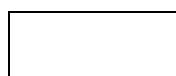
Softwood for joinery shall comply with the requirements of SABS 1359 and hardwood with the requirements of SABS 1099.

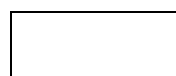
Timber for joinery shall be of clear grade, unless otherwise specified. Counter tops and other tops, where only one face side is visible, shall be of semi-clear grade timber.

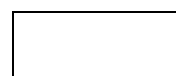
PB 3.32 FRAMED AND LEDGED BATTEN DOORS

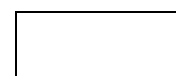
- (a) **Softwood doors**
To be 44 mm thick framed and ledged batten doors complying with the requirements of SABS 545, but the timber shall comply with the requirements of SABS 1359 and shall be of clear grade.
- (b) **Hardwood doors**
To be 44 mm thick framed and ledged batten doors complying with the requirements of SABS 545, but the timber shall comply with the requirements of SABS 1099 and shall be of clear grade. The hardwood shall be solid without any laminations.

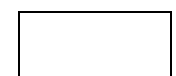

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PB 3.33 FLUSH DOORS

Flush doors shall be solid laminated, chip core or hollow-core as specified and shall comply with the requirements of SABS 545. All glue used in the manufacture of the doors shall comply with the requirements of the above specification.

Unless otherwise specified, face veneers shall be rotary cut, and shall be of timber specified or where doors are to be painted shall be of timber suitable for painting.

Edge-strips to conceal the vertical edges of doors shall be not less than 10 mm thick and of the same timber as face veneers; edge strips to meeting edges of doors in two leaves where edges are to be rebated, shall be not less than 20 mm thick.

Faces of doors shall be machine-sanded to a smooth and even surface.

All glueing together of core strips and glueing on of veneers, edge-strips, etc. shall be done under hydraulic pressure.

The top and bottom edges of doors showing end grain, shall be sealed with lacquer, or other suitable material, before leaving the manufacturer's works, and similarly sealed after doors are fitted into frames if the edges of doors are disturbed during fitting.

PB 3.34 IRONMONGERY

All ironmongery shall be of best quality and shall be approved by the Engineer, before fixing.

Screws for fixing of articles shall be of similar metal than the articles.

Locks shall comply with the requirements of SABS 4 and shall be supplied with two keys each.

Unless otherwise specified, interior and exterior doors shall be fitted with two and four lever heavy-duty mortice locks respectively, which shall be master-keyed.

No key shall pass a second lock. On no account shall the keys be delivered with the doors or locks to the building site. Failure to observe these instructions may entail the provision of new locks and keys.

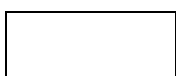
PB 3.35 HOT-DIP GALVANISING TO STEELWORK

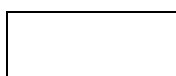
Where prescribed, all steelwork built in as the work proceeds, shall be hot-dip galvanised after fabrication and before leaving the manufacturer's works, in accordance with SABS 763.

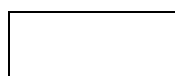
Where they occur, site welds shall be zinc sprayed in order that the zinc coating be even and continuous over all surfaces.

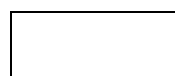
PB 3.36 PRESSED STEEL DOOR FRAMES

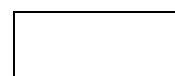
Pressed steel door frames shall comply with the requirements of SABS 1129 and shall be constructed of 1,6 mm thick mild steel sheeting, pressed or rolled to the required shapes, properly mitred, welded and reinforced.

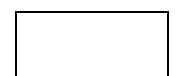

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Frames shall be of widths required to suit the thickness of walls into which they are built and shall be fitted with suitable tie-bars and braces at bottom, and lugs for building in, three to each jamb of frames without fanlights and four to each jamb of frames with fanlights.

Where fanlights are shown over doors, the frames shall be fitted with transoms of pressed or rolled steel sheet as above and rebate for fanlights and for doors if required.

The rebates in frames and transoms for doors and fanlights shall be of width required to suit the thickness of doors and fanlights.

Frames shall each be fitted in the rebate of one jamb with a pair of approved 100 mm steel butt hinges, and transom to opening fanlights hung at bottom shall each be fitted with a pair of approved 75 mm steel butt hinges, all set flush into recesses in frames and either fixed with countersunk screws or securely welded on.

Frames shall be holed as and where required for screws fixing fanlight openers, keeps of spring catches, etc. Where fanlights are shown to be fixed into frames, the frames shall be holed in the rebates, for screws, securing the fanlights, four to each frame.

Frames shall each be fitted in one jamb, with approved chromium plated or stainless steel (unless otherwise specified) adjustable striking plate keep, boxed in at back of frame with sheet metal box welded on, and not less than two rubber buffers.

All welding shall be cleaned off smooth and flush on exposed faces and frames shall be cleaned and primed as described for steel windows before leaving the manufacturer's works.

PB 3.37 STEEL DOORS, SIDELIGHTS AND FANLIGHTS

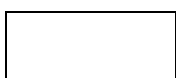
Steel doors, sidelights and fanlights shall, in the case of stock types, comply with the requirements of SABS 727, and in the case of purpose made types with the constructional and other requirements of the above specification wherever applicable, and shall in addition be equipped with the following:

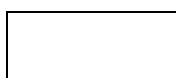
- (a) Suitable weather bars where required to render doors, etc., perfectly watertight;
- (b) Suitable lugs, or holes at the same spacing as the standard fixing lugs, for screwing frames to plugs in the concrete, where frames of doors, etc. are to be fixed to concrete columns, beams, etc.,
- (c) A primer as described for steel windows, except where hot-dip galvanising is prescribed.

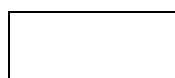
Doors, sidelights and fanlights, unless otherwise shown shall be of "one piece" construction, but where shown to be in two or more "one piece" units, the units shall be coupled together with standard coupling-mullions and/or transoms.

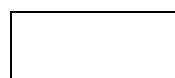
Bottom openings in doors and sidelights shall be fitted with kicking plates of one thickness of 1,6 mm thick mild steel sheet fixed with metal beads.

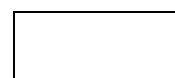
Frames of outward opening doors shall be fitted at bottom with sills of door framing section (stepped sills) and of inward opening doors with metal ties, welded to frames, for embedding in thresholds (flush sills).

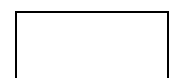

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Stock doors, sidelights and fanlights shall be of the types shown on drawings and purpose made doors, sidelights and fanlights shall be constructed to the forms and sizes shown on drawings.

Unless otherwise specified, the doors shall be of not less than 33 mm universal sections and the sidelights and fanlights of standard 25 mm sections.

Fanlights shall be hung and fitted as described for steel windows in clause PB 3.39.

PB 3.38 STEEL WINDOWS

Stock residential and industrial type steel windows shall comply with the requirements of SABS 727 and all other types both stock and purpose made shall comply with the constructional and other requirements of the above specification wherever applicable, and shall in addition be equipped with the following:

- (a) Suitable weather bars where required to render the windows perfectly watertight;
- (b) Suitable lugs, or holes at the same spacing as the standard fixing lugs, for screwing frames to plugs in the concrete where frames of windows are to be fixed to concrete columns, beams, etc.;
- (c) Windows and components, except where specified to be hot-dip galvanised, shall before leaving the manufacturer's works, be cleaned by acid pickling rinsing and drying, as laid down in SABS code of practice 064, or by other approved means, to remove all scale, rust, grease, oil and foreign matter and then primed with red oxide zinc chromate primer complying with the requirements of SABS 909, applied by dipping or by means of spray gun.

Ventilators hung at side to open out in windows above ground floors and not accessible for cleaning from an adjoining opening ventilator in the same window or from verandas, balconies and the like, shall be hung on projecting hinges.

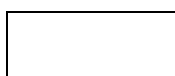
Windows, unless otherwise specified, shall be of "one piece" construction, but where shown to be in two or more "one piece" units, shall be coupled together with standard coupling mullions and/or transoms.

Windows shall be fitted with solid brass handles, stays, catches and other fittings, those to windows constructed of universal sections having polished finish and to all other windows rumbled finish. The fittings shall be fixed in such a way as to be removable after windows are glazed.

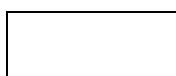
PB 3.39 RESILIENT FLOOR FINISHINGS

Semi-flexible vinyl (vinyl-fibre) floor tiles shall comply with the requirements of SABS 581; flexible vinyl (PVC) floor tiles and sheeting shall comply with the requirements of SABS 786 and thermoplastic (asphaltic) floor tiles shall comply with the requirements of SABS 586. Unless otherwise described, the flooring shall be of marbled pattern and of approved light colour and tiles shall be 230 mm x 230 mm or 250 mm x 250 mm in size.

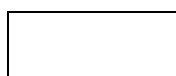
Vinyl cove skirtings shall be of approved manufacture and colour and unless otherwise stated, 70 mm in height.



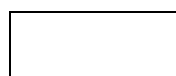
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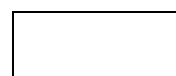
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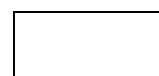
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**PB 3.40 GLASS FOR GLAZING**

Glass for glazing shall comply with the requirements of CKS 55.

Glass not exceeding 0,75 square metre surface area of glass pane, shall be flat drawn clear sheet glass of "QQ" quality (ordinary glazing quality) and of 3 mm thickness.

Glass exceeding 0,75 square metre and up to 1,5 square metres surface area of glass pane, shall be clear float glass of "GG" quality (glazing quality) and of 4 mm thickness.

Laminated safety glass for glazing shall be of "SQ" quality (selected glazing quality) and of 6 mm thickness unless otherwise specified. If high impact strength glass is used, whether cut to size or not, the stencil mark is to appear in a prominent place on the glass.

Toughened safety glass for glazing up to 3 square metres shall be, unless otherwise specified, of 4 mm thickness and must be ordered to the correct size as toughened glass can not be cut, and each piece of glass to be marked in a clear and permanent fashion. (For bigger sizes, manufacturer's instructions are to be followed).

Any pane of glass installed in any door shall, where not made of safety glass, be not more than 1 m² in area and shall have a nominal thickness of not less than 6 mm.

Obscure glass for glazing, unless otherwise specified, shall be Arctic or other similar approved figured rolled glass, of a nominal thickness of not less than 3 mm for glass panes up to a surface area of 0,75 square metre and not less than 5 mm over 0,75 square metre.

Putty for glazing shall comply with the requirements of SABS 680, of Type I for glazing in wood and of Type II for glazing in steel windows, doors, etc. Putty used for glazing in unpainted hardwoods, shall be tinted to match the colour of the wood.

PB 3.41 PAINTS

All materials for paint work for which South African Bureau of Standards specifications have been published, shall comply with the requirements of such specifications and shall bear the standardisation mark of the South African Bureau of Standards on the container or packing. Materials for paint work for which no SABS specifications have been published shall be of brand and manufacture approved by the Engineer.

All materials for paint work must be brought on to the site in unopened containers and no adulteration will be allowed.

Undercoats for paint work shall be as supplied by the manufacturer of the paint being used for the finishing coat.

Paints shall be suitable for application on the surfaces on which they are to be applied, and those used externally shall be of exterior quality or suitable for exterior use.

If necessary, paints shall be strained free from skins and similar impurities immediately before application.

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The various primers, undercoats, paints and distempers shall comply with the requirements of the specifications quoted hereunder and shall be of the type of grade stated, viz:

(a) **Primers**

- (i) For wood:
SABS 678. Type I shall be used on exterior woodwork and Type III on interior woodwork.
- (ii) For metal:

Dip or spray application (red oxide zinc chromate). For steel windows, doors, door jambs, and other articles normally dip or spray primed in the manufacturer's works: SABS 909.

Brush application (zinc chromate). For all metal surfaces primed on site and then painted: SABS 679, Type I.

- (iii) For structural steel (red lead)
SABS 312, Type II, Grade I.
- (iv) For galvanised iron
SABS 912.
- (v) For galvanised metal surfaces and surfaces of non-ferrous metals
Wash primer (metal etch primer) : SABS 723.

(b) **Undercoats**

For all surfaces under HIGH GLOSS, OIL GLOSS, FLAT and EGGSHELL finishing paints : SABS 681, Type II.

(c) **Paints**

- | | | | |
|--------|---------------------------|---|--|
| (i) | High gloss | : | SABS 630 |
| (ii) | Oil gloss | : | SABS 631 |
| (iii) | Flat and eggshell | : | SABS 515 |
| (iv) | Emulsion paint (interior) | : | SABS 633, Grade I |
| (v) | Emulsion paint (exterior) | : | SABS 634, Synthetic Polymer Base Type, but pure acrylic resin base for fibre cement surfaces |
| (vi) | Aluminium paint | : | SABS 682, Grade II |
| (vii) | Roof paint | : | SABS 683, Type B |
| (viii) | Structural steel paint | : | SABS 684, Type B |
| (ix) | Epoxy tar | : | SABS 801 (types as specified) |

(d) **Distemper**
SABS 322

(e) **Varnish for interior use**
SABS 887, Type I with eggshell finish.

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PB 4 PLANT

PB 4.1 GENERAL

The Contractor shall have at his disposal the normal plant necessary for the proper and neat completion and rounding off of all facets of the building work.

PB 5 CONSTRUCTION

PB 5.1 BRICKLAYER

PB 5.1.1 Cement Mortar

Cement mortar shall, unless otherwise specified, be composed of four parts by volume of sand and one part by volume of cement for normal brickwork, and three parts by volume of sand and one part by volume of cement for reinforced brickwork.

The ingredients for cement mortar shall be measured in proper gauge boxes on a boarded platform and thoroughly mixed. Alternatively mixing may be by means of an approved mechanical batch mixer. Only when the dry ingredients have been thoroughly mixed and a mixture of uniform colour has been obtained may the water be added in sufficient quantity to obtain mortar with the required consistency.

Care shall be taken in mixing cement mortar to remove from the mixing machine or platform any old mortar that has already set, as such mortar must not be incorporated in any new batch.

Cement mortar shall be produced in such quantities as can be used before commencing to set, as no cement mortar that has once commenced to set shall be used in any way.

PB 5.1.2 Brickwork

Brickwork, wherever practicable and not otherwise specified, shall be built in English bond. No false headers shall be used, and none but whole bricks employed, except where legitimately required to form bond.

The brickwork, unless otherwise specified, shall be built in 4:1 cement mortar. Brick arches and brick lintels shall be built in 3:1 cement mortar.

The bricks shall be laid on a solid bed of mortar and all joints thoroughly grouted up solid throughout the whole width of each course.

The brickwork shall be carried up in a uniform manner, no portion being raised more than 1,2 m above an adjacent portion.

The bricks shall be well saturated with water, in the stack or dump, approximately two hours before being used. The tops of walls left off, shall be well wetted before work is recommenced.

All rough and fair cutting and cutting of splays, skew backs, chamfers, etc., shall be properly performed.

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All necessary openings for pipes, etc., shall be formed or left and made good after pipes, etc., are fixed in position.

Walls generally shall be taken up two courses above panelled ceilings in the same mortar as the wall below and cut between ties, etc.

Where hollow concrete masonry units are used brick-force shall be built into the walls every third course. Mortar for hollow concrete masonry units shall consist of one part cement, two parts lime and nine parts sand by volume. All cavities below floor level shall be filled with Grade 15 MPa/19 mm concrete.

PB 5.1.3 Mortar Joints

Mortar joints to brickwork generally shall be 10 mm in thickness.

The joints in brickwork receiving plaster, tiling or similar finishings, shall be raked out whilst the mortar is soft to form key for the plaster or mortar backing. The depth of the raking out will depend on the condition of the bricks; the rougher the bricks on face the shallower the raking out and the smoother the bricks the deeper the raking out.

The joints in brickwork shall be flushed off where walls are to be bagged, in readiness for the bagging.

PB 5.1.4 Brickwork In Thicknesses

Walls built in two or three thicknesses shall be tied together with and including metal ties of sufficient length to allow not less than 75 mm of each end to be built into brickwork and shall be spaced not more than 1 m apart to every third course and staggered.

PB 5.1.5 Brickwork In Linings

Linings to concrete shall be tied with and including 4 mm diameter galvanised crimped wire ties of necessary length to allow 75 mm to be bedded into concrete and 75 mm of the other end to be built into brickwork and evenly spaced 1 m apart to every third course and staggered.

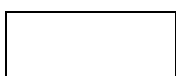
PB 5.1.6 Half Brick Thick Walls

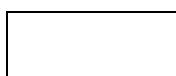
Half brick thick walls shall be built in 4:1 cement mortar and reinforced with 75 mm wide brick reinforcement, one row to every eighth course in height, and built 100 mm into main connecting walls. The reinforcement shall be lapped 150 mm at end joints, where these are necessary, and 75 mm at angles.

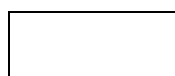
PB 5.1.7 Cavity Walls

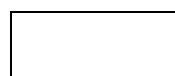
Cavity walls, unless otherwise specified, shall be built with two half brick thicknesses of brickwork in stretcher bond with 50 mm cavity between, and the two thicknesses tied together with 200 mm long metal wall ties of the butterfly type, spaced at not more than 1 m centres alternately to every third course of brickwork.

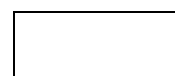
Unless otherwise specified, the brickwork shall be built in 4:1 cement mortar.

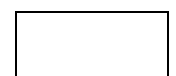

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The cavities shall be carried up from one course of brickwork below damp course level up to two courses below wall plate level, unless otherwise shown or specified. The brickwork above cavities shall be built solid, and where 270 mm thick shall be cut and well bonded where possible. Cavities in foundation walls of cavity walls shall be filled with Grade 15 MPa/19 mm up to 150 mm below the damp-proof course level.

The cavities shall be kept free of all rubbish, mortar droppings and projecting mortar.

The tops of walls shall be covered with planks or sacking during wet weather to prevent rain from entering the cavities.

The cavities shall not be ventilated.

At door, windows and other openings, the cavities shall be stopped 110 mm back from jambs of openings with the inner thickness of brickwork returned and stopped against the outer thickness and not bonded to same. A 110 mm wide strip of damp-proof sheeting as described for damp-proof course in clause PB 3.15 shall be built in between the two thicknesses in the joint formed by the return and the outer thickness. The damp-proof strip shall be lapped at least 50 mm on to the sheeting between the two thicknesses of sills and between the two thicknesses of lintels.

Sills to windows shall be divided into external and internal thicknesses with strips of damp-proof sheeting as above, built in line with the damp-proof sheeting in jambs and extending 100 mm beyond the jambs of openings.

The lintels shall be provided with damp-proof sheeting as described under lintels.

Unless otherwise specified, cavities shall be stopped one course below and one course above and 110 mm from sides of openings for air bricks and the like.

PB 5.1.8 Reinforced Brick Lintels

Reinforced brick lintels shall be built with sound machine made bricks, in 3:1 cement mortar, with all vertical and horizontal joints filled solid with mortar throughout the required number of courses and to a distance of at least 330 mm on either side of the clear opening.

The number of courses in lintels over the various size openings shall be as specified in table hereunder, and reinforcing steel wires or rods shall be built into the first horizontal joint over the bottom course as laid down therein, viz.:

| LINTEL SPAN | NUMBER OF COURSES | REINFORCEMENT |
|----------------------|--------------------------|---|
| Not exceeding 1 m | 4 | One row of 75 mm wide brick reinforcement for each half brick width soffit. |
| Over 1 m tot 1,5 m | 6 | One row of 75 mm wide brick reinforcement for each half brick width soffit. |
| Over 1,5 m tot 2,1 m | 7 | Three 6,3 mm diameter mild steel rods for each half brick width of soffit. |

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The reinforcing wires and rods shall be of length at least equal to the width of the clear opening plus 330 mm at each end. The reinforcement shall be evenly spaced in the brick joints, with the outer wires or rods having at least 20 mm cover from face of brickwork.

Brick lintels in 270 mm thick cavity walls shall be built in two half brick thicknesses in stretcher bond, with inner face of outer thickness for a depth of three courses above soffit, covered with sheeting as for damp-proof course, the full length of lintels, and space between the two thicknesses for the depth of the sheeting filled in solid with Grade 15 MPa/19 mm concrete. Where cavities continue above lintels, the sheeting shall be taken up and turned on to top of first course of brickwork to inner thickness of wall, above the concrete filling in lintels.

The lintels, except where built over pressed steel door frames and the like, shall be supported on temporary formwork left in position for at least fourteen (14) days.

PB 5.1.9 Beam Filling

Beam filling, unless otherwise specified, shall be half brick thick, built in similar mortar as used in the walls below, cut in between roof timbers and carried hard up to underside of roof covering, and flushed up in mortar.

PB 5.1.10 Bagged Finish To Brickwork

Bagged finish to brickwork, if done whilst the mortar in joints is still soft, shall be formed by rubbing over the wall surfaces with wet rough sacking, until all joints and crevices are filled up and an even surface is obtained. Mortar, as used for building the brickwork, shall be added as may be necessary.

If bagging to walls is done after the mortar in joints has set the wall surfaces shall be rubbed over with wet rough sacking as above, but cement grout shall be added as necessary to fill up the joints and crevices and to obtain an even surface.

PB 5.1.11 Building In Inbrick Work

Ends of timbers, hold-fasts, cramps, gratings, air bricks, dowels, etc., shall be built-in in cement mortar.

Door and window frames and the like shall be set up in positions for building in and securely strutted to prevent distortion whilst the brickwork, lintels, etc., are being built.

Pressed steel door frames shall be grouted in solid at back with cement mortar as the work proceeds.

Wood slips, fixing bricks, hoop iron, roof ties, etc., shall be built in as the work proceeds.

Ventilators shall be built into openings formed in the walls, in 3:1 cement mortar, and grouted in solid with similar mortar and wall finishes made good if disturbed.

Wood frames to doors, windows, etc., shall be set up in position for building in as described and built in as the work proceeds with cramps to jambs of 1,6 mm thick galvanised hoop iron, 32 mm wide, with ends turned 50 mm up against stiles of frames and each twice screwed to frame, and built 450 mm into wall with end turned up into brickwork joint. Cramps shall be built in approximately 0,3 m up from bottom and approximately 0,3 m down from head of frames and intermediately at not

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exceeding 0,85 m apart. No frame shall have less than two cramps to each jamb irrespective of height.

Cramps to frames in 270 mm thick cavity walls shall be cranked as necessary and built into inner and outer thicknesses of walls alternately.

The stiles of wood door frames, and similar frames not having sills framed in, shall be doweled to concrete, brick, stone and similar thresholds with 10 mm diameter mild steel dowels 75 mm long, one to each stile.

PB 5.1.12 Securing Of Roofs

Roof trusses shall be fixed at each support to walls with ties of 1,2 mm thick galvanised hoop iron, 30 mm wide, built 750 mm deep into brickwork or embedded 300 mm deep into concrete or wrapped around bottom layer of reinforcing in a reinforced concrete beam and, unless otherwise specified, wrapped over truss and fixed with four galvanised nails, 60 mm long and taken up to and lapped round the nearest purlin and well spiked thereto.

PB 5.1.13 Bedding And Pointing

All door, window and similar frames shall be bedded and pointed in 3:1 cement mortar. All wall plates shall be set true and level and bedded in 4:1 cement mortar.

Steel door and window frames shall be carefully pointed all round and made perfectly watertight.

Where steel door and window frames are specified to be pointed with mastic compound they shall be pointed all round externally with an approved waterproof compound, of such composition that it will not stain surrounding surfaces, and that it will adhere tenaciously, remain plastic without sagging or running, be capable of accommodating any normal movement of the joint sealed, and will receive paint without "bleeding". The pointing material shall be forced into the joints, which shall have been previously prepared to receive same, by means of a pressure gun, or by other suitable method, all in accordance with the manufacturer's instructions.

PB 5.1.14 Faced Brickwork

Faced brickwork shall be built fair and the joints shall be square recessed to a depth of approximately 6 mm, formed with a square jointing tool well pressed into the joints as the work proceeds.

The Contractor shall construct a test section of 10 m² which shall be approved by the Engineer, before continuing with faced brickwork.

Face bricks shall be sorted by the brick manufacturer at his yard or by the Contractor on the site, to ensure that proper mixing of the bricks within the colour range of each type of facing brick being used is obtained; sudden changes in the general colour of face work in any one type of facing brick will not be acceptable.

Sand in mortar for all faced brickwork shall all be from one source.

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Faced brickwork shall be kept perfectly clean and rubbing down of the brickwork shall not be allowed. Scaffold boards shall be turned back during rain to avoid splashing. Soiled brickwork shall be cleaned at the Contractor's expense, and the cleaning method shall be approved by the Engineer.

PB 5.1.15 Fibre Cement Sills

Sills shall be in single lengths cut between reveals, fitted with fixing lugs and solidly bedded in 3:1 cement mortar with a slight projection beyond the finished wall face below.

Internal sills shall be level. External sills shall be set sloping on cut brickwork or on fine concrete filling under.

PB 5.1.16 Laying Of Quarry Tiles

Joints to paving shall be continuous in both directions.

Tiles shall be solidly bedded and jointed in 3:1 cement mortar with joints, unless otherwise specified, 6 mm wide and slightly pointed with a round jointing tool. Tiles shall be well soaked in water before fixing and thoroughly cleaned off after fixing.

Tiles in sills, copings, etc., shall be set with slight projection over finished wall face, and where full tiles do not fit into the length, two cut tiles shall be used, symmetrically placed as directed.

PB 5.1.17 Installation Of Electrical Service

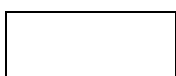
The Contractor shall embed in the concrete and/or brickwork, as the work proceeds, all conduits, boxes, etc., which will be fixed in position by the electricians, and must cut all necessary chases and holes in walls for conduits and form recesses in walls for distribution boards, all in the positions directed, notwithstanding whether the installation of the electrical service is carried out by the Contractor or under a separate contract. Alternatively, distribution boards may be built into walls as the work proceeds, providing prior approval is obtained from the Engineer.

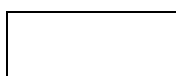
The Contractor shall afford every facility and shall render reasonable assistance to the electricians in carrying out their work, and shall make good where necessary, in all trades, after installation has been completed.

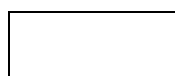
PB 5.1.18 Installation Of Mechanical Equipment

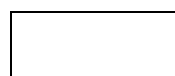
Where the installation of mechanical equipment is carried out under a separate contract the Contractor shall arrange for the building in of special fittings, leaving holes and openings or forming chases in floors, walls, etc., for pipes, cables etc., and for the building in of pipes, sleeves, pipe clips, bolts, etc., as required or directed.

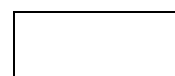
All cutting of holes through finished floors, walls, etc., after the concrete or mortar has set, must be avoided as far as possible, and the Contractor must give ample notice to the Engineer who will ascertain the exact positions where pipe sleeves, pipes, pipe clips, etc., are to be built in.

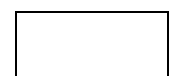

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PB 5.1.19 Protect And Clean Down Brickwork, Etc.

Angles of face brickwork, reveals, steps, etc., liable to damage shall be covered up and protected during the progress of the remaining work, and any damage done shall be made good at the Contractor's expense and to the satisfaction of the Engineer.

Face brickwork and brick and tile sills, copings, etc., shall be cleaned down as the work proceeds, and surfaces liable to be soiled by mortar or plaster splashes during the progress of the remaining work shall be covered with paper, pasted on, or by other approved means. At completion of the works the coverings shall be removed and the surfaces again cleaned down to the satisfaction of the Engineer.

Any detergent or other materials used in the cleaning down of face brickwork, etc., shall be of such nature that will not harm adjoining paint and other finishings in any way.

All tile and other pavings shall be thoroughly cleaned off after laying to remove all traces of mortar and other substances, covered up and protected from damage during the progress of the works, and again cleaned off at completion.

PB 5.2 TILER

PB 5.2.1 Laying Of Glazed Ceramic Wall Tiles

The tiles shall be fixed direct to walls in 3:1 cement mortar with horizontal and vertical joints continuous, and shall have all joints rubbed in solid with neat white cement grout. Tiles shall be well soaked in water before fixing and thoroughly cleaned off after fixing.

Unless otherwise specified, the wall tiling shall project approximately 4 mm beyond face of adjoining plaster with all exposed edges finished with glazed rounded edge tiles.

Tiling shall be returned into reveals of openings and on to window sills, and shall be butted at internal angles and provided with glazed rounded edged tiles to external angles, unless otherwise specified.

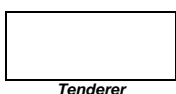
All necessary cutting to tiles shall be properly performed.

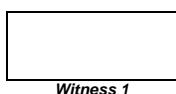
Walls shall be well wetted before tiling is commenced.

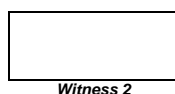
PB 5.2.2 Laying Of Ceramic Floor Tiles

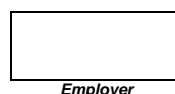
Ceramic tiles shall be bedded to a true and even surface on 3:1 cement mortar and with joints not exceeding 2 mm wide.

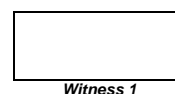
After the tiles have been allowed to set for a period of not less than twenty four hours the joints shall be grouted in to with approved epoxy compound, or acid proof cement mortar.

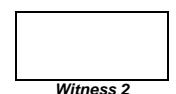

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PB 5.3 PLASTERER AND PAVIOR

PB 5.3.1 Cement Plaster

Cement plaster for one coat work on walls shall be composed of four parts of sand and one part of cement for internal work, and five parts of sand and one part of cement for external work, all by volume, and mixed as described for cement mortar in clause PB 5.1.1.

Cement plaster on concrete surfaces shall be composed of three parts by volume of sand and one part by volume of cement.

PB 5.3.2 Forming Key To Concrete For Plaster Finish

All surfaces of concrete receiving plaster, or similar finishings, shall be well wetted and wire brushed immediately after the formwork is removed and slushed over with 2:1 cement grout to form key for the finish, to the approval of the Engineer. The slushing to be allowed to set hard before the finish is applied.

Other methods may be used if approved by the Engineer.

Particular care shall be taken in forming the key for plaster where steel shuttering is used, and if considered necessary the surface of the concrete shall be hacked.

PB 5.3.3 Thickness Of Plaster

Plaster on walls shall be not less than 12 mm or more than 20 mm in thickness, and plaster on concrete ceilings and beams shall be not less than 9 mm or more than 16 mm in thickness, unless otherwise specified.

PB 5.3.4 Application Of Plaster

Walls shall be well wetted before plastering is commenced.

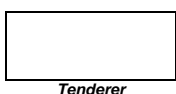
The surfaces of internal plaster shall be steel trowelled to a smooth, even and true finish. External plaster shall be finished to a true and even surface with a wood float. All plaster surfaces shall be free from blemish.

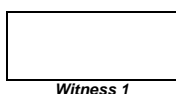
Plaster shall be returned into reveals and soffits of openings, and all angles shall be true and straight with salient angles slightly rounded.

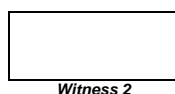
The rendering coat of plaster in two coat work shall be approved by the Engineer before the setting coat is applied, and notice shall be given to the Engineer when it is ready for inspection.

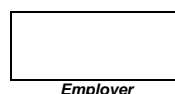
All cracks, blisters and other defects shall be cut out and made good and the whole left perfect at completion.

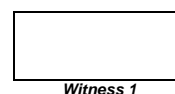
NB - See clause PB 5.3.2 for forming key for plaster on concrete.

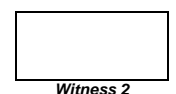

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PB 5.3.5 Normal Screeds To Floors

Concrete sub-floors finished with wood mosaic, vinyl sheeting and tiles, and similar finishings, shall be screeded with 3:1 cement mortar, of thickness required, but in no case less than 12 mm, and steel trowelled to a true and smooth surface suitable to receive finishings.

The screeding shall be laid before the concrete sub-floors have matured otherwise the exposed surfaces of concrete shall be thoroughly cleaned with a wire brush, and a coat of neat cement grout applied immediately before the screeding is laid.

The screeding shall be laid in good time to allow of it being perfectly dry when the finishings are laid.

No traffic shall pass over nor shall any building operations take place on the screeding without proper covering first being provided.

PB 5.3.6 Granolithic Screeds

Granolithic screeds shall be composed of two parts by volume of cement and three parts by volume of aggregate with sufficient water added to obtain a consistency as dry as may be practicable. The screed shall be rendered with a wood float and struck off with a steel trowel after set has commenced.

Granolithic screeds to floors, treads of steps, thresholds, and similar horizontal surfaces unless otherwise specified, shall be not less than 25 mm thick. Granolithic screeds to stair risers, sides of kerbs, and other vertical surfaces, shall, unless otherwise specified, be not less than 20 mm thick. Exposed salient angles of granolithic screeds shall be neatly rounded to approximately 20 mm radius, unless otherwise specified.

The granolithic screeds shall be laid before the concrete sub-floor has matured otherwise the exposed surface of concrete shall be thoroughly cleaned with a wire brush, and a coat of neat cement grout applied immediately before the granolithic screed is laid.

The granolithic screeds shall be laid in panels not exceeding 9 m² in area, and joined to lines of panels and lined into smaller squares as directed with sunk V-joints. The joints between the panels shall coincide with joints in the concrete sub-floor where possible.

Where granolithic screed is to be tinted it shall be laid in two layers, a lower layer laid to within 6 mm of the finished level, and an upper layer into which the requisite quantity of approved colouring pigment shall have been mixed. **No dusting on of colouring material will be allowed.**

All granolithic work shall be done by experienced workmen, and shall be protected from injury caused by rain or other extreme weather for twelve hours after being laid, and against too rapid drying whilst hardening, by being covered with wet sacks, or other suitable material, and shall be protected from injury and discolouration during the progress of the remaining work.

Edges of granolithic floors butting against different floor finishings, and edges of margins, etc. shall be true and sharp, and shall be protected by fixing temporary wood strips, which shall remain, in position until the commencement of the laying of the adjoining flooring material.

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**PB 5.3.7 Readings To Steps, Etc.**

The treads of granolithic finished steps and upper surfaces of granolithic finished external thresholds shall be rendered non-slip by reeding same near front edges for a width of 100 mm stopped 100 mm from ends.

PB 5.3.8 Power Floated Finish

Power floated finish to floors etc., unless otherwise specified, shall be floated mechanically to smooth and even surfaces before the concrete has set. Small surfaces and inaccessible places to be floated by hand in a similar way. Under no circumstances is cement mortar to be added while floating the concrete.

PB 5.3.9 Laying Of Concrete Paving Slabs And Paving Bricks

Concrete paving slabs and paving bricks shall be bedded and jointed on a layer of 30 mm clean dry river sand. Joints shall be 6 mm wide, continuous in both directions, filled solidly with 3:1 cement mortar and slightly pointed with a round jointing tool. Lengths in excess of 10 metres shall be provided with expansion joints.

PB 5.4 WATERPROOFING**PB 5.4.1 Damp-Proof Course In Walls**

The damp-proof course shall be the full thickness of walls above foundations and shall be laid without longitudinal joints. At end joints, angles and intermediate junctions the sheeting shall be lapped 150 mm.

Where so specified all laps in the damp-proof course shall be sealed over the whole area of laps, to an approved method. Care shall be taken not to tear or otherwise damage the sheeting.

PB 5.4.2 Damp-Proof Membrane

The damp-proof membrane under floors, etc., shall be laid in the widest practical widths to minimise joints and shall be turned up, dressed to load bearing walls and if applicable lapped with the damp-proof course in the walls. All joints shall be sealed with pressure sensitive tape applied over the leading edge of the joint.

PB 5.4.3 Expansion Joints

Expansion joints shall be at least 10 mm wide and filled in with approved bitumen impregnated soft board or closed cell expanded polyethylene strip. Expansion joints shall be sealed with a two component poly-sulphide joint sealer, 12 mm deep, according to instructions of the manufacturers.

PB 5.5 CARPENTER AND JOINER**PB 5.5.1 Protection Of Timber On Site**

Timber stored on site shall be properly stacked when received, and adequately protected against extremes of weather and exposure to the sun, until required for use.

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**PB 5.5.2 Wrought Faces**

Exposed woodwork, unless otherwise specified, shall be wrought to a smooth surface, and properly sand-prepared to remove all machine or other tool marks.

For each wrought face on structural timber, an allowance will be made off the "nominal" dimensions specified or stated on the drawings, as follows:

- (a) 2,5 mm for "nominal" dimensions up to and including 76 mm;
- (b) 3,5 mm for "nominal" dimensions over 76 mm.

For each wrought face on joinery timber, an allowance will be made off the "nominal" dimensions specified or stated on the drawings, as follows:

- (a) 3 mm for "nominal" dimensions up to and including 76 mm;
- (b) 5 mm for "nominal" dimensions over 76 mm.

The above will be the nett allowances permitted off the "nominal" dimensions specified or stated on the drawings and will not be additional to the tolerances specified for sawn timbers.

All exposed angles of wrought woodwork, unless otherwise specified, shall be arris rounded. The term "arris rounded" denotes that the angles shall be rounded off to approximately 3 mm radius.

Angles of wrought woodwork specified to be angle rounded shall be rounded off to 6 mm radius, unless otherwise shown on the drawings, and shall include, in framed joinery, for housed and mitred joints.

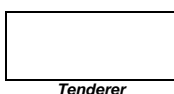
PB 5.5.3 Lengths Of Timbers And Methods Of Jointing

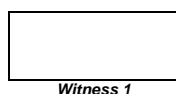
Plates, purlins, battens, laths, slats, etc., shall be in single lengths, but where this is not possible the end joints will be formed as described below. The jointing of plates, battens, etc. at junctions and angles shall also be formed as stated hereunder, viz:

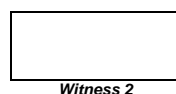
- (a) Wall plates shall be halved at joints and well spiked together, and also at junctions and angles;
- (b) Purlins shall be splayed or spliced at joints and, unless otherwise specified, using timber side plates of the same dimensions as purlins, not less than 600 mm long and four times bolted with M10 mild steel bolts, with two washers each. Adjacent purlins shall not be splayed or spliced in the same bay or on the same rafter;
- (c) Sawn battens, laths, slats, etc., shall be butt jointed at heading joints and angles, and wrought battens, laths, slats, etc., shall be splayed at heading joints and mitred at angles, all over points of support and where adjacent, shall not be jointed on the same rafter.

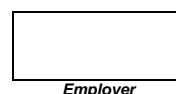
PB 5.5.4 Joints In Roof Trusses

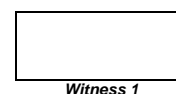
- (a) The number of connecting devices to be used at each intersection between two members at any heel joint or any splice in a truss shall be determined from the following table:

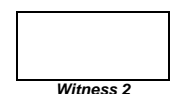

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| SPAN m | 3 (90 x mm) NAILS PLUS M10 BOLTS AS SPECIFIED BELOW | M16 BOLTS ONLY | 50 mm TOOTHED RING CONNECTIONS |
|--------|---|-------------------|--------------------------------------|
| 3 | 2 | 2 | 1 |
| 4 | 3 | 2 | 1 |
| 5 | 3 | 2 | 2 |
| 6 | 4 | 3 | 2 |
| 7 | 5 | 3 | 2 |
| 8 | 5 | 3 | 2 |
| 9 | 6 | 4 | 3 |
| 10 | 6 | 4 | 3 |

- (b) In the case of any joint other than a heel joint or splice, one M10 bolt plus three 90 x 4 mm nails shall be used.

PB 5.5.5 Prefabricated Roof Trusses

Prefabricated timber roof trusses shall be constructed of South African pine as described in clause 3.17 to the designs shown on the detail drawings. The timber shall be of cross-sectional dimensions shown, cut to correct lengths with ends square or cut to the required angle, and shall be assembled in truss fabricating jigs with the truss having the proper camber, and tightly clamped together and joints secured with approved connector plates of galvanised steel sheet, pressed into the timber simultaneously on both sides of the truss with hydraulic press capable of exerting such pressure as will ensure complete penetration of the teeth into the timber. The connector plates shall be of such size as will ensure that the joints so made will adequately withstand the forces exerted on the joints, and to have at least two coats Epoxy Tar finish for coastal areas.

PB 5.5.6 Valleys In Roofs

Valleys in roofs covered with galvanised steel or fibre roofing sheets or with roofing tiles shall each be formed with two 228 mm x 25 mm sawn boards, spiked down to roof timbers, and purlins fixed along outer edges where in galvanised steel and fibre sheet covered roofs and battens along outer edges where in tile covered roofs.

PB 5.5.7 Purlins

Unless otherwise specified, purlins shall be 50 mm x 76 mm and shall be securely nailed to roof timbers at not exceeding 1,14 m centres, ranging perfectly straight and square to the roof with but joints at heading joints and angles and in the case of wrought purlins splayed joints at heading joints and mitred joints at angles.

PB 5.5.8 Brandering To Ceilings

The brandering shall be 38 mm x 38 mm, securely spiked up to the supporting timbers with 88 mm wire nails at 380 mm centre-to-centre. Cross brandering shall be cut in between the longitudinal brandering and securely skew nailed to same with 75 mm wire nails at joints in ceilings and at edges where required for fixing of cornices.

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PB 5.5.9 Steel Roofing Sheets

The sheets shall be secured to wood purlins with approved galvanised iron roofing screws each provided with a plastic or asphalt felt washer and a galvanised steel cup washer over the plastic or felt washer and secured to steel purlins with M6 galvanised hook bolts, provided with similar washers under nut.

Screws and bolts at ends of sheets and at end laps shall be spaced at not exceeding two corrugations apart wherever possible, but in no case more than three corrugations apart, and at intermediate purlins at not more than four corrugations apart; screws or bolts shall, in all cases, be provided in the outermost corrugations of the upper sheets.

All necessary cutting to sheets shall be properly performed. Cut edges at sides of valleys, and elsewhere exposed, shall be perfectly straight.

At exposed verges of roofs the iron shall be finished with neatly formed rolls.

The sheets shall have side laps of not less than one and a half corrugations. The minimum roof slopes and sheet end laps shall be, unless otherwise specified, as prescribed in Table 2 of Schedule 2 of Part L of the National Building Regulations and Building Standards Act, 1977.

PB 5.5.10 Metal Ridging For Steel Covered Roofs

The ridging shall be 450 mm girth with roll top and bent down edges, and shall be lapped 225 mm at end joints, cut and properly lapped and fitted at intersections of ridges, hips and valleys, and close beaten into corrugations of roofing iron. Roll shall be closed at feet of hips and at end of ridging.

Ridging shall be fixed with screws to wood purlins and hook bolts to steel purlins, with washers under heads and nuts, respectively, all as described for fixing roofing sheets, and spaced at not exceeding 300 mm centres.

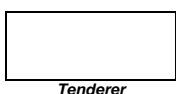
PB 5.5.11 Fibre Cement Roofing Sheets

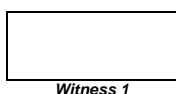
The sheets shall be mitre-cut at corners as necessary and laid with smooth surface on top, and shall be secured to wood purlins with 7 mm diameter galvanised drive screws not less than 114 mm long, and to steel purlins with M8 galvanised hook bolts, each provided with a plastic or asphalt felt washer and a galvanised steel cupped washer over the plastic or felt washer.

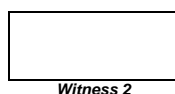
Screw and bolt holes in sheets shall be drilled (not punched), and shall be 0,2 mm larger than the diameter of screws and bolts.

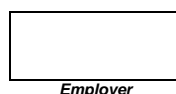
The fixing screws, and nuts on fixing bolts, shall not be tightened more than is necessary for the holding down of the sheets and for the proper seating of the washer over the corrugations, so as to allow for slight movement between the sheets and the supporting structure. On no account shall sheets be deflected at the intermediate purlins in an attempt to make the sheets bear on such purlins.

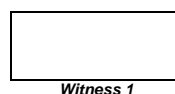
The side laps of sheets shall be sheltered from the prevailing wind by laying the sheets from left to right, or from right to left, depending on the direction of the prevailing wind, the sheets being laid in the opposite direction to that of the wind.

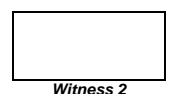

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All necessary cutting to sheets shall be properly performed. Cut edges at sides of valleys, and elsewhere where exposed, shall be perfectly straight.

The minimum roof slopes and sheet end laps shall be, unless otherwise specified, as prescribed in Table 1 of Schedule 2 of Part L of the National Building Regulations and Building Standards Act, 1977.

The manufacturer's instructions regarding laying and fixing of sheets, including side laps, mitring of corners and spacing of screws or bolts, shall be followed in all cases.

One month after fixing, the roof covering shall be thoroughly examined, any defects made good and loose screws or bolts tightened.

Roof boards shall be used by all workmen for safety and to avoid damage to the sheeting.

PB 5.5.12 Adjustable Fibre Cement Ridging

The ridging shall be secured to wood purlins with screws and to steel purlins with hook bolts, passed through the roofing sheets, and provided with plastic or felt and steel washers, all as described for fixing fibre cement roofing sheets.

The manufacturer's instructions regarding laying and fixing of the ridging, including spacing of screws or bolts, shall be followed in all cases.

PB 5.5.13 Fascias And Barge Boards

Fascias and barge boards of pressed fibre cement boards shall be butt jointed with 75 mm wide x 3 mm thick galvanised steel plates four times bolted with M6 galvanised bolts over joints.

PB 5.5.14 Fibre Cement Flashings

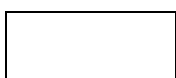
Fibre cement flashings shall be secured to wood purlins with screws and to steel purlins with hook bolts, passed through the roofing sheets, and provided with plastic or felt and galvanised steel cupped washers, all as described for fixing fibre cement roofing sheets.

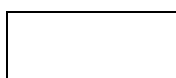
The manufacturer's instructions regarding fixing of the flashings, including spacing of screws or bolts shall be strictly adhered to.

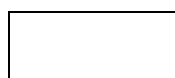
PB 5.5.15 Fibre Cement Gutters

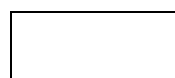
Fibre cement gutters shall be bedded in approved bituminous mastic compound and secured with M6 galvanised gutter bolts with heads of bolts on inside of gutters and each bolt provided with asphaltic felt and galvanised steel washer under head and nut, all in accordance with the manufacturer's instructions. The inside surfaces of sockets and the outside surfaces of spigot ends shall be coated with a thin solution of bitumen to enable the compound to adhere fast when applied, and surfaces of washers in contact with each other and with gutters shall be coated with bitumen. After tightening the bolts, all surplus compound from the joints shall be removed, and the joints externally finished with neatly trowelled fillets of 2:1 cement mortar.

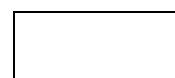
The spigot ends of gutters shall be lapped on to the socket ends in the direction of the flow wherever possible.

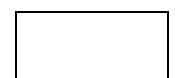

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The gutters shall be fixed with proper falls on gutter brackets of the fascia type where fixed to fascia boards and of the purlin type where fixed to purlins. Brackets shall be securely screwed to the roof timbers, at not exceeding 1 m centres, and with extra brackets at angles and outlets.

Gutters shall be provided with all necessary angles, stopped ends, outlet nozzles, etc., jointed to gutters as described above.

PB 5.5.16 Fibre Cement Rainwater Down Pipes

Fibre cement rainwater downpipes shall be jointed with tarred hemp rope gasket caulked into each joint, and the joint filled with a suitable bitumen compound and finished off with neatly trowelled fillet of 2:1 cement mortar.

The pipes shall be fixed to walls with holderbats, bolted around pipes immediately below the socket, and with tails builds into walls in 3:1 cement mortar.

Rainwater downpipes shall be provided with all necessary swan necks, branch pieces, plinth bends, radius bends, shoes, etc., jointed to pipes as described above.

PB 5.5.17 Concrete Roofing Tiles

Tiling shall be "straight or broken bond", and vertical joints between tiles and bottom edge of each course of tiles shall range perfectly straight. Unless otherwise specified, interlocking tiles shall be laid to a lap of at least 100 mm and plain tiles to a lap of at least 62 mm.

Half tiles in the case of interlocking tiles, and tile and a half in the case of plain tiles, shall be provided as required at abutments and at verges of roofs. Plain tile roofs shall be provided with double course at eaves.

Unless otherwise specified, each tile in every third course in the case of interlocking tiles, and in every fifth course in the case of plain tiles; all tiles in eaves courses and ridge courses; end tiles in every course at each side of hips and valleys; all tiles adjoining bonnet hip tiles in plain tile roofs; half tiles, full tiles and tile and a half at verges, and all tiles to open eaves and open overhanging verges, shall be fixed to the battens with galvanised nails of such length as will penetrate the battens to a depth of at least 25 mm.

Tiling shall be carefully cut and dressed at hips and valleys and, where necessary at abutments, etc. Mitred portions of tiles at hips and valleys shall be holed and properly secured.

Hip and ridge tiles for interlocking tile roofs shall be socketed V-type, shall match general tiling, and shall be bedded solid in 3:1 cement mortar with strip of approved bituminous sheeting laid under the mortar bedding, of such width as will give a lap of at least 25 mm on to the roof tiling at each side, and lapped not less than 75 mm at end joints. Socketed joints of hip and ridge tiles shall be bedded in mortar as above and pointed with neatly recessed joints, and hip iron of 25 mm x 4,5 mm mild steel 300 mm long, suitably bent, twice holed and securely nailed to hip rafter, shall be provided at foot of each hip. The mortar bedding shall be trowelled smooth at open ends of ridges.

Ridge tiles for plain tile roofs shall be as above but half-round and but jointed and neatly pointed in tinted 3:1 cement mortar, and hip tiles shall be round pattern bonnet type, to course and bond in with

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general tiling, and with each tile bedded and neatly pointed in mortar as above and nailed to hip rafter with galvanised nail.

Hip and ridge tiles shall be neatly cut and fitted together at junctions between ridges and hips or valleys, and shall be bedded solid and neatly pointed in tinted 3:1 cement mortar with approved bituminous sheeting under the mortar bedding, cut to shape required and with lap of 25 mm on to the roof tiling.

PB 5.5.18 Covering To Ceilings

(a) Gypsum plasterboard ceilings with plaster finish

The ceiling boards shall be in 900 mm or 1 200 mm widths, with board at ends of ceilings of widths required to suit length of ceilings. Ceiling board shall be in single lengths to the width of ceilings wherever possible.

The boarding shall be nailed to the brandering, with GREY surface to underside, with 2 mm diameter galvanised or cadmium plated clout headed nails, 38 mm long, spaced at not more than 100 mm apart at edges of boards and 150 mm apart along the intermediate brandering.

The joints between boards shall be loose butt joints and covered with wire gauze strips nailed through the boarding to the brandering at 400 mm centres with 38 mm galvanised clout headed nails.

The bonding plaster shall be applied in two layers by the trowel-float-method to a total thickness of not less than 6 mm, and well pressed into the wire scrim over the joints between the ceiling boards, and finished smooth, even and true.

(b) Fibre cellulose board ceilings

The ceiling boards shall be in the same widths, and fixed as specified for gypsum plasterboard ceilings in paragraph (a).

The joints between the boards shall be covered with 25 mm half-round wood cover beads fixed with 38 mm long nails spaced at not exceeding 300 mm.

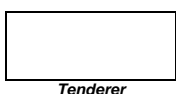
PB 5.5.19 Cove Cornices To Ceilings

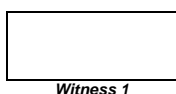
(a) Gypsum plasterboard cornices

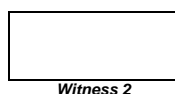
Cove gypsum plasterboard cornices shall be nailed through the ceiling boards to the brandering and to wall plugs, at not exceeding 200 mm centres, with 2 mm diameter galvanised or cadmium plated clout headed nails, 38 mm long, or fixed to walls with hardened steel nails driven into the brickwork. Cornices shall be scribed at internal angles and mitred at external angles and shall be in long lengths with splayed heading joints where necessary.

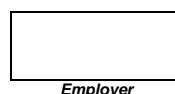
(b) Timber cornices

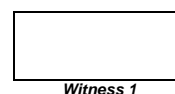
Scotia's shall be fixed to walls with hardened steel nails driven into the brickwork.

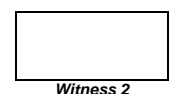

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PB 5.5.20 Trapdoors In Ceilings

Openings for trapdoors in ceilings shall be formed with 38 mm x 38 mm brandering all around each opening, spiked together and to bottom edge of the supporting timbers. Size of opening, unless otherwise specified, shall be 650 mm x 650 mm.

Trapdoor shall be formed with skeleton frame of 50 mm x 38 mm brandering, covered on underside with boarding as for ceiling, and hung on a pair of 75 mm steel butts and fitted on underside near closing edge with 100 mm brass bow handle. Soffit of trapdoor shall be flush with soffit of ceiling when closed, and trapdoor shall flap back on to top of the brandering, between tie beams or ceiling joists when open.

When trapdoor is closed it shall rest on 50 mm x 19 mm fillets, fixed on soffit of ceiling all around opening, mitred at angles and securely screwed up to the trimmers. Fillets shall project 12 mm into the opening to carry the trapdoor.

Trapdoors larger than 650 mm x 650 mm shall each be provided with 38 mm x 38 mm brandering across centre, spiked to the skeleton frame.

PB 5.5.21 Ceiling Insulation

Ceilings shall be insulated, where so specified, with approved resin bonded or stitched fibre glass or mineral wool insulation blanket 38 mm thick, cut to size and laid over brandering between ceiling joists and tie beams, etc.

Where insulation is to be in two thicknesses a total thickness of 76 mm is required and the joints shall be staggered.

PB 5.5.22 Framed Joinery

Where the word "Framed" is used it is to include for all mortice and tenon joints, dovetail joints, grooves, stop grooves, rebates, stop rebates, housings, notchings, etc., including housing ends of shelves, divisions, etc.

PB 5.5.23 Joinery

Joinery work shall be put in hand immediately after the order has been given to commence work, or after the receipt of detail, where such are to be supplied, and shall not be wedged or glued up until just before fixing in the building.

No framed joinery for services situated inland shall be manufactured in the humid coastal belt, and no framed joinery for the services situated in the coastal belt shall be manufactured inland. This applies to both purpose made and stock joinery.

All exposed softwood timber in joinery which is not to be painted shall be free from large, loose or dead knots, knot holes, checks, splints, wane or other defects, and in joinery which is to be painted shall be free from all defects other than those which can be filled or otherwise made good in such a way as will not impair the paint finish. All exposed hardwood joinery timber shall be free from all knots, knot holes, checks, splints or other defects and, unless otherwise specified, shall also be free of sapwood.

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Purpose made joinery shall be manufactured strictly in accordance with detail drawings.

Stock joinery shall be of approved quality. Joinery shall not be primed until it has been inspected and approved.

Skirting, rails and the like shall be in long lengths. Heading joints where necessary shall be splayed. Counter tops, table tops, drainers, and the like, shall be formed with wide boards, jointed with grooved, cross-tongued and glued joints or with grooved rebated and glued joints of approved type; cross-tongues shall be stopped 25 mm back from ends where ends are exposed to view. The boards shall be in single lengths to top, etc., but where this is not possible the heading joints shall be staggered and jointed as above.

Skirting, rails, angle moulds and beadings of all kinds, shall be close fitted, mitred or scribed at angles, and securely fixed; skirtings, rails and the like shall be fixed with hardened steel or other suitable nails driven into the brickwork or shall be nailed to wall plugs spaced at not more than 700 mm apart. Glazing beads and the like shall be mitred at angles and, unless otherwise specified, shall be fixed with panel pins.

PB 5.6 METALWORK

PB 5.6.1 Manufactured Steelwork Generally

Welding is to be done electrically in the most up to date manner by skilled workmen and cleaned off on completion.

All welds are to be welded with welding rods of the same chemical composition as the tubes, rods, bars, etc., to be welded and all external welds are to be filed clean and smooth.

Welding to be continuous fillet welding to all exposed edges unless otherwise described.

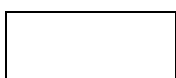
No scaffolding shall be allowed to rest on or fixed to steel windows, doors, frames, etc., in any way.

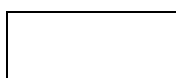
PB 5.7 RESILIENT FLOOR FINISHINGS

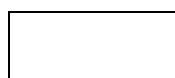
PB 5.7.1 Laying And Fixing

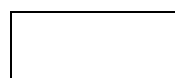
Vinyl sheeting and tiles and such like floor finishings shall be laid in strict accordance with the manufacturer's instructions, on a perfectly dry and clean screeded surface, using an adhesive supplied or recommended by the manufacturer of the flooring material, and rolled with a suitable roller to ensure complete adhesion of the material. The flooring shall be cut where required and neatly fitted against adjoining floors, thresholds, etc. Vinyl skirtings shall be close fitted to floors and walls, butted at end joints, neatly mitred at internal angles and dressed round external angles, and fixed with adhesive as for flooring.

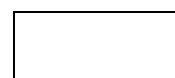
Unless otherwise described, sheet flooring shall be in standard widths with cut sheets at sides of floors as necessary.

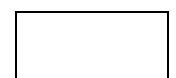

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PB 5.8 GLAZIER

PB 5.8.1 Fixing Of Glass

Glass fixed with glazing beads in unpainted hardwood doors shall be bedded on strips of rubber, velvet, leather, or felt turned over on to both sides of glass in the rebates to form a soft packing between the glass and the woodwork. In all other cases the glass shall be well bedded in back putty in the rebates.

Glass rebates, other than in unpainted hardwood doors, shall be primed before glazing.

Glass panes exceeding 0,5 m² in surface area and fixed with putty only in wood doors, sashes and the like shall be secured in addition with glazing sprigs, and in steel windows and doors with glazing pegs or clips inserted in holes in the steel framing.

Glass panes shall have adequate clearance between the edges of glass and the rebates.

Putty shall be carefully trimmed and cleaned off with front putty worked to within 3 mm of the sight lines.

PB 5.9 PAINTER

PB 5.9.1 Preparatory Work

(a) **General**

All floors must be swept clean and walls dusted down, and surfaces not being painted such as face brickwork, sills, floors and stained woodwork covered up and protected against spotting, before any painting is commenced.

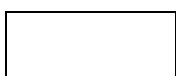
No sweeping or dusting shall be done whilst painting is in progress or whilst paint is still wet.

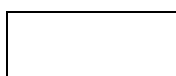
(b) **On woodwork**

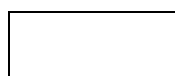
Woodwork being painted shall be well brushed down, knots treated with knotting, and all surfaces primed, stopped with hard stopping and rubbed down to an even surface ready to receive the paint. Woodwork being oiled or stained shall have all plaster stains, pencil marks and other surface discolourations and blemishes carefully removed, and stopped with tinted stopping and well rubbed down.

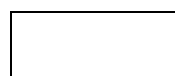
(c) **On metalwork**

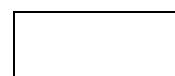
All metal surfaces being painted, except steel structures shall be cleaned of all rust, scale and dirt by scraping or by means of steel wire brushes; also all oil and grease shall be removed and a perfectly clean surface obtained. If necessary the surface shall be decreased immediately before applying the priming coat, by the use of a suitable grease-removing solvent; any salt deposits on the metal surfaces as may occur in industrial and marine atmospheres shall be removed by the use of a suitable detergent and the surface then thoroughly rinsed and allowed to dry.

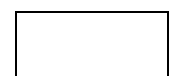

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New galvanised metal surfaces and surfaces of all non-ferrous metals, which are to be painted, shall be cleaned down as above and given one coat of wash primer (metal etch primer).

Protective coatings on new galvanised metal surfaces, applied by the manufacturers to prevent storage stain and white rust, shall be completely removed by the use of a suitable cleaning agent and the surfaces thoroughly rinsed and allowed to dry, before the surfaces are primed or painted.

After cleaning off rust on metalwork those portions so affected shall be treated with an approved rust inhibitor.

(d) On plaster

All plastered wall, ceiling and such like surfaces being painted or distempered shall be filled where necessary with suitable stopping or patching plaster and the whole rubbed down ready to receive the finishings.

(e) On ceilings

Boarded ceilings, cover strips and cornices being painted or distempered, shall be filled where necessary with suitable stopping and all nail heads in ceilings, cover strips and cornices being distempered shall be primed with flat paint.

PB 5.9.2 Surfaces To Be Dry

All plastered wall, ceiling and similar surfaces shall be perfectly dry and in a fit state to receive the finishings, before the work is put in hand.

PB 5.9.3 Priming

Wood, metal and other surfaces normally primed before being painted shall be prepared and primed as before described in readiness to receive the specified paint system.

Backs of wood door and similar frames and surfaces of other new or re-fixed joinery in contact with brickwork, etc., and built in as the work proceeds, shall be primed before building in whether the articles are to be painted or not, to prevent moisture seeping into the wood from the mortar bedding.

Wood surfaces shall be knotted, primed and stopped before being coated with emulsion paint or distemper.

Tongued and grooved and rebated edges of boards in batten doors, and other suchlike inaccessible parts of joinery shall, before the joinery is assembled, be primed or where the joinery is to receive a finish other than paint, be given one coat of such other finishing material.

Priming to external structural timbers shall be applied before the timbers are fixed in position and shall include all wrought surfaces, such as backs of fascia and barge boards.

PB 5.9.4 Application Of Paint

All coats of paint shall be thoroughly dry before subsequent coats are applied and rubbed down where necessary.

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All work shall be finished to colour approved by the Engineer. The tints of undercoats shall approximate those of the finishing colour and in order to indicate the number of coats applied and to avoid misses when applying a succeeding coat, a slight difference shall be made in tint of each coat.

Priming on wood surfaces shall be by brush application. Priming on surfaces other than wood shall be by brush application or if in the opinion of the Engineer, the primer and the surfaces are considered suitable for roller application, the primer may be so applied. Priming applied by brush application shall be well brushed in to obtain maximum penetration.

Undercoat and finishing coats may be applied by brush or roller.

The use of spray gun on site for application of paint will not be permitted, except in the case of cellulose and other special cases where spraying is the accepted method of application; in cases where spraying is permitted all surrounding surfaces shall be properly masked.

The finishing coat on woodwork and metalwork, unless otherwise specified, shall be of high gloss paint. All materials shall be used in strict accordance with the manufacturer's instructions.

PB 5.10 PROTECTION AND CLEANING OF WORKS

The Contractor shall provide all necessary dust sheets, covers, etc., and shall exercise all necessary care to prevent marking surfaces of walls, floors, ceilings, glass, electrical fittings, etc., and shall keep all parts of the works perfectly clean and free at all times from spotting, accumulation of rubbish, debris or dirt arising from the operations. Any surface disfigured or otherwise damaged shall be completely renovated or replaced as necessary, to the Engineer's approval, by the Contractor at his own expense.

The Contractor shall test all doors, fanlights and windows and all other fittings for proper operation and effect the required rectification prior to the handing over of the building.

The premises shall be left clean and fit for occupation at the completion of the work.

PB 6 TOLERANCES

PB 6.1 BASIS OF MEASUREMENT

PB 6.1.1 General

Permissible deviations will apply in the case of linear dimensions, position, and level. The Contractor shall construct each of the various parts of the works within the limits of the applicable permissible deviations set out in clause 6.2 unless some other degree of accuracy is required in terms of the project specification or is shown on the drawings.

PB 6.1.2 Methods Of Measurement Of Deviations

Certain deviations will be measured as set out below:

- (a) Any deviation from flatness of a plane surface, will be measured as the maximum deviation of the surface from any straight line of length 3 m joining two points on the surface, determined

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by means of a straight edge the ends of which are supported on identical blocks of suitable thickness placed one over each of the points.

- (b) Any abrupt change in a continuous surface, including a local depression or peak in a floor or wall, will be measured as specified in (a) above.
- (c) Out-of-squareness of a corner or an opening or an element such as a column will be measured by taking the longer of two adjacent sides as the base line, and determining any departure from the perpendicular of the side at either end of this base line.

PB 6.2 PERMISSIBLE DEVIATIONS

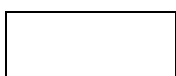
The permissible deviations for elements or components shall be as follows:

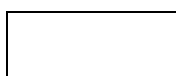
- (a) Position on plan of any edge or surface measured from the nearest grid line or agreed centre line ± 25 mm
- (b) Linear (other than cross-section) dimensions ± 30 mm
- (c) Cross-section dimensions -10 + 20 mm
- (d) Level (deviation from designed level with reference to the nearest transferred datum (TD) of the upper or lower surface, as may be specified, of any slab or other element or component) ± 10 mm
- (e) Out-of-squareness of a corner or an opening or an element such as a column (See clause 6.1.2(c)) for short side of length:
 - (i) up to and including 0,5 m ± 5 mm
 - (ii) over 0,5 m up to and including 2 m ± 15 mm
 - (iii) over 2 m up to and including 4 m ± 20 mm
- (f) Exposed surface (including floor slabs and paving):
 - (i) Flatness of plane surface ± 5 mm
 - (ii) Abrupt changes in a continuous surface ± 5 mm
- (g) Exposed surface to be plastered or receive normal or granolithic screeds:
 - (i) Flatness of plane surface ± 10 mm
 - (ii) Abrupt changes in a continuous surface ± 5 mm
- (h) Surface of plaster and normal or granolithic screeds ± 5 mm

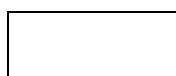
PB 7 TESTS

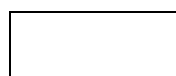
PB 7.1 GENERAL

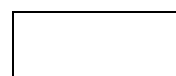
The Engineer shall have free access to the works for taking samples and carrying out tests. The Contractor shall render any assistance necessary. If so required, the Contractor shall provide storage and protection of such samples on site.

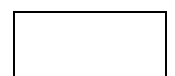

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PB 8 MEASUREMENT AND PAYMENT

PB 8.1 GENERAL

PB 8.1.1 All items in this section will be measured by number, square metre or linear metre completed and the tendered rates shall include full compensation for the supply, delivery, handling and installation of all materials, the provision of all necessary labour and supervision, transport, plant, equipment and incidentals necessary to complete, protect and maintain the works as specified or as shown on the drawings.

PB 8.1.2 Where a lump sum is required for a complete structure the tendered rate shall include all items and contingencies, as specified in this section or as shown on the drawings.

PB 8.2 SCHEDULED ITEMS

PB 8.2.1 Brickwork Unit : m²

Brickwork will be measured on the centre line of the walls. Areas occupied in walls by windows and doors will be excluded from the areas measured, and corners and intersections common to more than one brick wall will be measured once only.

The rate shall cover the cost of brickwork complete as specified, including test sections where specified, pointing, providing brick lintels, brick reinforcement and ties, etc., the building in of conduits, beams, pipe sleeves, doors and windows, the raking out of joints and the filling of cavities in cavity walls and walls constructed of hollow concrete masonry units, below floor level and elsewhere where specified.

The test section for faced brickwork as specified in clause 5.1.14 shall only be paid for if approved by the Engineer and, if rejected, shall be removed at the Contractor's expense.

PB 8.2.2 Air Bricks

(a) External air bricks Unit : No

(b) Internal air bricks Unit : No

The rate shall cover the cost of providing and building in the air bricks as specified.

PB 8.2.3 Bagged Finish To Brickwork Unit : m²

The rate shall cover the cost of providing rough sacking, additional cement grout as required and finishing the bagging as specified.

PB 8.2.4 Window Sills

(a) External (describe) Unit : m

(b) Internal (describe) Unit : m

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The rate shall cover the cost of providing and building in face bricks, fibre cement sheets or any other material prescribed, as well as all accessories specified.

PB 8.2.5 Tiling Unit : m²

The rate shall cover the cost of providing all material and the laying and grouting of tiles, complete as specified.

PB 8.2.6 Plaster Work Unit : m²

The rate shall cover the cost of the construction of the plaster work, including the supply of all materials, mixing, applying, finishing, forming reveals, joints, etc., complete as specified.

PB 8.2.7 Floor Screeds

(a) Normal screeds Unit : m²

(b) Granolithic screeds Unit : m²

The rate shall cover the cost of the construction of the floor screeds, including the supply of all materials, mixing, laying, finishing, the forming of nosings, reedings, skirtings, etc. and, where the concrete sub-floor has matured, of the brushing and applying a cement grout, complete as specified.

PB 8.2.8 Paving Unit : m²

The rate shall cover the cost of providing paving slabs or bricks, sand bedding and joint filling and expansion joint material and of constructing the paving.

PB 8.2.9 Waterproofing

(a) Damp-proof course in walls Unit : m

(b) Damp-proof membrane under floors Unit : m²

The unit shall be the net length or area of waterproofing installed. The length or area of overlaps shall not be measured for payment.

The rate shall cover the cost of providing and laying all material as specified, including the sealing of all laps and joints, complete as specified.

PB 8.2.10 Expansion Joints Unit : m

The rate shall cover the cost of providing and installing all filling and sealing material and of the forming of expansion joints, complete as specified.

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PB 8.2.11 Structural Timber

- (a) Wall plates (indicate size) Unit : m
- (b) Beams (indicate size) Unit : m
- (c) Joists (indicate size) Unit : m
- (d) Rafters (indicate size) Unit : m
- (e) Purlins (indicate size) Unit : m
- (f) Brandering (indicate size) Unit : m
- (g) Roof trusses complete (indicate drawing number) Unit : No

The rate shall cover the cost of the supply of all materials, manufacture, cutting, waste, laps, joints and fixing of the timber as indicated, including nails, bolts, nuts, washers, hoop irons, ties and other fixtures required, complete as specified.

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PB 8.2.12 Roof Covering Unit : m²

The rate shall cover the cost of providing and fixing all roof covering material as prescribed, including all flashings, soakers, valleys, ridge coverings, roofing screws and all other fixtures required to complete the work, as specified.

PB 8.2.13 Fascias And Barge Boards Unit : m

The rate shall cover the cost of providing and fixing of all material, fixtures, screws, bolts, nuts, washers and other accessories required to complete the work, as specified.

PB 8.2.14 Gutters And Rain-Water Down pipes

(a) GuttersUnit : m

(b) Rainwater downpipes Unit : No

The rate shall cover the cost of supply and building in of all material including angles, stopped ends, outlet nozzles, gutters, gutter brackets, etc. for gutters and swan necks, branch pieces, plinth bends, radius bends, shoes, brackets, etc. for rainwater downpipes, including all bolts and sealants, complete as specified.

PB 8.2.15 Ceilings

(a) Ceilings Unit : m²

(b) Cornices to ceilings Unit : m

The rate shall cover the cost of supply and installation of all material including cover strips to joints, nails, trapdoors and gypsum plaster where prescribed, complete as specified.

PB 8.2.16 Ceiling Insulation Unit : m²

The rate shall cover the cost of supply and installation of all material, as specified.

PB 8.2.17 Joinery

(a) Doors (type and size indicated) Unit : No

(b) Skirtings (size indicated) Unit : m

(c) Other items (describe or indicate drawing number) Unit : No or m

The rate shall cover the cost of the supply of all material, manufacture, cutting, waste, fixing and installation of the joinery items, complete as specified.

The rate for doors shall also cover the cost of the door frames and all accessories, such as hinges, hooks, bolts, locks, latches, etc., and of damp-proof course on both sides and above door frames in cavity walls, as specified.

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PB 8.2.18 Metalwork Unit : No

The rate shall cover the cost of supplying all material, manufacture, applying priming coat of paint or galvanising, as specified, delivery and building in of units, including burglar proofing where specified, locks, catches, glazing, etc., and of damp-proof course under all windows and on both sides and above frames in cavity walls, as specified.

PB 8.2.19 Resilient Floor Finishings

(a) Vinyl-fibre, PVC, or thermoplastic floor tiles (specify) Unit : m²

(b) Vinyl cove skirting Unit : m

The rate shall cover the cost of supplying all material and adhesives required and the laying of the floor finishings.

PB 8.2.20 Painting Unit : m² or Sum

Only the surface covered by the final finishing coat shall be measured.

The rate shall cover the cost of surface preparation, supplying and applying all the coats of paint, repairing any damaged surfaces, and all materials necessary for completing the work.

PB 8.2.21 Electrical Installation Unit : Sum

The rate shall cover the cost of supplying and building in of all equipment such as switchboards, conduits, wires, cables, sockets, light fittings, etc., cutting recesses, chases and holes in walls as required and repairing any damaged surfaces after installation, including testing of the installation.

PB 8.2.22 Miscellaneous Unit : No, Sum or m

The rate shall cover the cost of all workshop detail drawings, where prescribed, material, plant, tools and labour to complete the scheduled items complete, as detailed, including corrosion protection and/or painting, as specified, and building in.

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**SECTION PC: FENCING****PC 1 SCOPE**

This section covers the provision and erection of a security type fencing 3m in height. Where not herein specified, the materials to be used for corner, poles and gates shall be as specified in the BoQ.

PC 2 CONSTRUCTION / WORKMANSHIP**PC 2.1 PRELIMINARY**

Before the erection of any fencing, the line of the fence shall be cleared of all trees, bushes, etc. and graded so as to eliminate sharp humps and hollows.

PC 2.2 ERECTION**PC 2.2.1 HIGH SECURITY FENCE****Fence**

A “clear view” type fencing or approved equivalent 3m high supplied and installed complete with 4mm dia. high tensile wires. Aperture sizes: 76.2mm x 12.7mm c/c. Mesh coating: line galvanised with epoxy coating. Including all excavations and concrete for foundations.

Swing Gate

A “clear view” type or approved equivalent swing gate 6m wide 3m high supplied and installed complete with 4mm dia. high tensile wires. Aperture sizes: 76.2mm x 12.7mm c/c. Mesh coating: line galvanised with epoxy coating.

Pedestrian Gate

A “clear view” type or approved equivalent pedestrian gate 3m high supplied and installed complete with 4mm dia. high tensile wires. Aperture sizes: 76.2mm x 12.7mm c/c. Mesh coating: line galvanised with epoxy coating.

PC 3 REPAIR OF DAMAGED GALVANISING

Should the galvanising of any post, stay or other galvanised item be damaged it shall be repaired as described in SABS 763 / 1971 Clause B-6-3.

PC 4 MEASUREMENT AND PAYMENT**PC 4.1 NEW FENCES**

Fencing shall be measured linear with deduction for gates. Gates shall be measured separately per unit. The rate for fencing shall be taken to include for preparatory clearing and grading, provision of all material, the excavation, placing of concrete and backfilling for post holes, the staying and supporting of corner, gate, straining posts and standards and the erection of all materials and fittings, complete as specified.

Gates shall be paid per item rate shall be taken to include for the costs of materials, cutting, welding, drilling and any other operations necessary for the work to be done to the satisfaction of the Engineer.

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SECTION PCY: STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT

PCY 1 SCOPE

Section PCY of the Specifications describes the structured engagement with project Stakeholders and affected Communities to the project. It also guides the selection and the enhanced utilisation and development of Targeted Labour and Targeted Enterprises.

PCY 2 DEFINITIONS AND APPLICABLE LEGISLATION

The definitions and legislation listed below informs the requirements of this Section PCY of the Specifications for Stakeholder and Community Liaison, Targeted Labour employment and Targeted Enterprise subcontracting.

PCY2.1 DEFINITIONS

Unless inconsistent with the context, in these Specifications, the following words, terms or expressions shall have the meanings hereby assigned to them:

a) **Business Coaching**

Business coaching establishes an atmosphere of mutual trust, respect, responsibility and accountability to motivate the emerging business owner and his team. To that end, the business coach must conduct an ethical and competent practice, based on appropriate professional experience and business knowledge.

b) **Community₁**

South African Citizens, as defined in terms of the South African Citizenship Act, 1995 (Act 88 of 1995), who permanently reside within the Target and Project Area(s) of the project.

c) **Contract Participation**

A process by which the Employer implements Government's objectives by setting targets to enhance Targeted Labour and Targeted Enterprises' utilisation and development, which the Contractor shall achieve as a minimum.

d) **Contract Participation Goal (CPG)**

The monetary value of the targets set by the Employer in the contract participation requirements as stated in the Contract Data.

e) **Contract Participation Performance (CPP)**

The measure of the Contractor's progress in achieving the CPG.

1 SANS 10845, Suite for Construction Procurement, 2015.

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f) Designated Group^{2, 3}

Unless otherwise permissible in terms of procurement regulations or the PPPFA, “Designated Group” means:

- i) black designated groups;
- ii) black people;
- iii) women;
- iv) people with disabilities; or
- v) small enterprises, as defined in Section 1 of the National Small Enterprise Act, 1996 (Act No. 102 of 1996);

g) Guidance

Guidance is anticipating where one might go wrong, or where one is doing a task in a complicated, inefficient or ineffective way, and giving help, advice and direction as to how to achieve a better result. Guidance is mostly given by a person in the direct reporting line but can be given by anyone. Guidance is not imparting skills but suggesting ways to improve performance.

h) Labour

Persons:

- i) who are employed by the Contractor or a Subcontractor in the performance of the Contract; and
- ii) who resides in the Target and Project Area(s); and
- iii) whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor’s or Subcontractor’s employment policies;
- iv) **but who are not Targeted Labour as stated in the Contract Data.**

The personnel employed by the suppliers of goods and material are not defined as “Labour” for the purposes of this Contract.

i) Mentoring

Mentoring is a professional relationship in which an experienced business person assists another by giving advice and imparting their knowledge in developing special skills and knowledge that will enhance the less experienced business person’s professional and personal growth. The objective is to equip the emerging business owner and his team to improve their decision-making skills, being focussed and make positive progress quickly.

j) Mobilisation Period

The period from the Contract Commencement Date up to just before the commencement of the Works, which period (duration) is stated in the Contract Data.

² Derived from Preferential Procurement Regulations, 2017. Government Gazette N. 40553, 20 January 2017.

³ Derived from Preferential Procurement Regulations, 2017. Implementation Guide.

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**k) Project Area**

The area through which the road under construction traverse or which is adjacent to and/or in proximity to project operations.

Based on market research and/or resources and skills audits, Project Areas other than defined above may be identified where preference would be given to Targeted Enterprises for subcontracting opportunities.

l) Project Liaison Committee (PLC)⁴

The Committee that represents the Employer, Employer's Agent, Contractor, project Stakeholders and the Communities affected by the project.

It is important to note that:

- i) elected and/or nominated political office bearers shall not be members of the PLC.
- ii) The Employer's Agent and Contractor become members of the PLC on their appointment and participate in the Committee within the scope of their respective roles and responsibilities.

m) Project Liaison Officer (PLO)⁵

The person who acts as the liaison officer for the project. The PLO facilitates the selection of Targeted Labour to be employed by the Contractor and attends to the day-to-day project, Stakeholder, and Community matters that impact on the parties to the PLC.

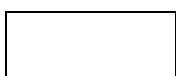
n) Stakeholders

Any Stakeholder listed in the Employer's Communication Policy who is affected by the Employer's operations in the Project Area(s) and/or who has an interest or concern in the project, either as a decision maker, participant or affected party and may include, amongst others, the following entities:

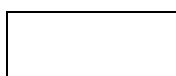
- i) Relevant Provincial departments;
- ii) Relevant Municipal departments;
- iii) Traditional authorities;
- iv) Community interest groups;
- v) Organised youth representation;
- vi) Organised women representation;
- vii) Organised disabled people representation;
- viii) Other structured community groups such as religion, education, farming, etc.
- ix) Local transport industry forums, e.g. Bus and taxi;
- x) Business sector forums;
- xi) Road user forums;
- xii) Environmental interest groups;
- xiii) Any other recognised relevant and representative structure.

⁴ Derived from CIDB Standard for Minimum Requirements for Engaging Contractors and Sub-Contractors on construction Works Contracts, 31 October 2017.

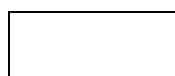
⁵ Derived from CIDB Standard for Minimum Requirements for Engaging Contractors and Sub-Contractors on construction Works Contracts, 31 October 2017; CLO definition.



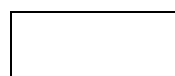
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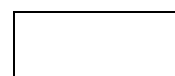
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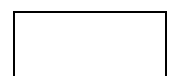
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o) Subcontractor

An entity appointed by the Contractor to execute a portion of the Works as defined in the Conditions of Contract.

p) Target Area

The geographic area defined in the Contract Data for Targeted Labour and which typically are:

- a. one or more Provinces;
- b. one or more Metropolitan or District Municipalities;
- c. one or more Local Municipalities;
- d. one or more Wards that are predominantly located within the Project Area;
- e. one or more of the areas listed in the definition of Designated Groups.

q) Targeted Enterprise⁶

A Targeted Enterprise is an entity to which the Contractor subcontracts a percentage of the contract value as a condition of contract and which is:

- i) **an EME or QSE which is at least 51% owned by black people; or**
- ii) **an EME or QSE which is at least 51% owned by black people who are youth; or**
- iii) **an EME or QSE which is at least 51% owned by black people who are women; or**
- iv) **an EME or QSE which is at least 51% owned by black people with disabilities; or**
- v) **an EME or QSE which is at least 51% owned by black people who are military veterans; or**
- vi) **an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships; or**
- vii) **a cooperative which is at least 51% owned by black people; or**
- viii) **more than one of the categories referred to in paragraphs i) to vii); and**
- ix) **which is tax and COID compliant; and.**
- x) **CIDB registered where applicable**

r) Targeted Enterprise Construction Manager (TE Construction Manager)

The full-time staff member or sub-service provider appointed by the Contractor to develop, implement and monitor the training, development and support of Targeted Labour and Targeted Enterprises. The TE Construction Manager also mentors, guides and coaches the Targeted Enterprises.

s) Targeted Enterprise Procurement Coordinator (TE Procurement Coordinator)

The staff member or sub-service provider appointed by the Contractor to facilitate the procurement of Targeted Enterprise subcontractors.

t) Target Group

It is a group of entities and/or persons selected from the Designated Group as defined in the Preferential Procurement Policy Framework Act Regulations, 2017, and may include both Targeted Enterprises and Targeted Labour.

⁶ Partially derived from SANS 10845-5:2015, definition 2.

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u) Targeted Labour

Persons:

- i) who are employed by the Contractor or a Subcontractor in the performance of the Contract; and
- ii) whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's or Subcontractor's employment policies; and
- iii) permanently reside in the Target Area(s) or who are recognized as being residents of the Target Area(s) based on identification and association with, and recognition by, the residents of the Target Area(s); and
- iv) who are stated as being Targeted Labour in the Contract Data.

v) Training

Training refers to the process of teaching a Trainee, usually in a classroom or simulated work environment situation where principles, theory, knowledge and skills are taught, and demonstrations are given. Assignments are set to ensure that the Trainee can apply what has been taught. Training is done by a specialist in the subject, and who is qualified and accredited to train. The objective is to improve the competency of the Trainee.

PCY3 APPLICABLE LEGISLATION, REGULATIONS AND STANDARDS

The following Acts, as amended from time to time, are predominant amongst those which apply to the Construction Industry and are listed here for reference purposes only:

- a) The Constitution of South Africa;
- b) Public Finance Management Act, 1999 (Act No. 1 of 1999);
- c) Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000) and its regulations;
- d) Construction Industry Development Board Act, 2000 (Act No. 38 of 2000);
- e) Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- f) The South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998);
- g) The Skills Development Act, 1998 (Act No. 97 of 1998); and
- h) The amended Construction Sector Codes published in Notice 931 of 2017 of Government Gazette No. 41287 on 1 December 2017 by the Department of Trade and Industry.

The following Standards and Practice Notes, as amended from time to time, are applicable in terms of Targeted Labour and Targeted Enterprises and are used fully or portions thereof in this Section PCY of the Specifications:

- i. SANS 10845: 2015, Parts 5, 7 and 8; and
- ii. CIDB Standard for Contract Participation Goals for Targeted Enterprises and Labour through Construction Works Contracts, 31 October 2017.

7 SANS 10845-7:2015, definition 2.12

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PCY4 TARGET GROUP PARTICIPATION

This part of Section PCY of the Specifications describes the Employer’s requirements for the establishment of Target Group databases from which participants in the project will be selected for employment and subcontracting.

It also describes the measurement of, and penalties to be applied, with respect to the CPG as defined in the Contract Data.

PCY4.1 Objectives of Target Group Participation

Amongst others, the key objectives of Government are to extend economic opportunities and build entrepreneurial capacity in rural and underdeveloped areas and townships by:

- a) optimising the utilisation of local resources in the Project Area;
- b) developing these local resources in the execution of the project; and
- c) maximising the amount of funds retained within the Project Area.

To give effect to these objectives the Contractor shall:

- i) employ Targeted Labour from the Target Area(s) as stated in the location of the works in the Contract Data; and
- ii) subcontract Targeted Enterprises as stated in the Contract Data; and
- iii) give preference to Targeted Enterprises which are from rural and underdeveloped areas and townships within the Project Area(s).

PCY4.2 Targeted Labour Database

A Targeted Labour Database shall be compiled by the PLO, under the auspices of the PLC and with the inputs of the Department of Labour, for the Target Area(s) as stated in the Contract Data under location of the works. Once the Database has been signed off by the PLC, it shall be utilised to facilitate the selection of Targeted Labour as per the resources and skills required by the Contractor during the different construction stages.

The Targeted Labour Database shall be updated as and when required and as agreed with the PLC to reflect new employment seekers in the labour market.

Only Labour recruited from the Targeted Labour Database will be measured for Contract Participation Performance (CPP).

PCY 4.3 Targeted Enterprise Database

The Contractor shall, under the auspices of the PLC, compile a Targeted Enterprise Database from which Targeted Enterprises shall be subcontracted to construct portions of the work as described in this part of Section PCY of the Specifications.

a) Market Analysis and Resources and Skills Audit

Following a market analysis and a resources and skills audit of Targeted Enterprises in the Project Area, the Contractor shall apply the CPG Target Group criteria in the Contract Data to compile a **preliminary** Targeted Enterprise Database.

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To inform the market analysis and resources and skills audit, the Contractor shall use the National Treasury’s Central Supplier Database (CSD) which can be obtained from the Employer, as well as the CIDB contractor database.

b) Call for an Expression of Interest

In addition to the CSD and the CIDB database, the Contractor shall call for an expression of interest from Targeted Enterprises in the Project Area. The call for an expression of interest shall outline the anticipated eligibility, functionality, preference and compliance criteria, as well as the anticipated Works content.

c) Preliminary Targeted Enterprise Database

Based on the information obtained from the CSD, CIDB and the call for an expression of interest, the Contractor shall compile a Preliminary Targeted Enterprise Database.

The purposes of the Preliminary Targeted Enterprise Database are:

- i. for the Contractor to determine if the required resources and skills to execute the identified Targeted Enterprise work packages are available in the Project Area(s);
- ii. for the PLC to verify that Targeted Enterprises on the Preliminary Targeted Enterprise Database are authentic in terms of the Contract Data and other Database criteria agreed with the Contractor, and
- iii. for the PLC to alert prospective Targeted Enterprises that are not on the Preliminary Database of the opportunity.

Based on the market analysis and resources and skills audit, and the information obtained from the call for an expression of interest, additional criteria for the Preliminary Targeted Enterprise Database may be agreed between the Contractor and the PLC to ensure Target Group participation as intended by the Employer.

d) Final Targeted Enterprise Database

Once the Preliminary Targeted Enterprise Database has been accepted by the PLC, the Contractor shall invite Targeted Enterprises to tender for the Targeted Enterprise work packages. The Preliminary Targeted Enterprise Database shall remain a “live database” until the day of tender closure when a print-out of the CSD, based on the Database criteria, shall become the **Final** Targeted Enterprise Database for the tender and shall be signed off by the PLC.

Any Targeted Enterprise may respond to the invitation to tender, but preference shall be given to those Targeted Enterprises that satisfy the tender criteria.

The Targeted Enterprise Database shall be updated at every instance that a new subcontract tender or group of similar subcontract tenders are to be let for Targeted Enterprise work packages.

Targeted Enterprises within the Project Area shall be encouraged and assisted to register on the CSD and to become compliant with all other statutory requirements.

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PCY4.4 Contract Participation Goal (CPG)

The CPG is the monetary value of the participation targets set by the Employer and will be calculated as follows:

$$CPG = \text{Final Contract Value} \times (\% \text{ Targeted Labour} + \% \text{ Targeted Enterprise})$$

The CPG for Targeted Labour is: Minimum of 6% of the Final Contract Value by the end of the contract to Targeted Labour.

The CPG for Targeted Enterprise is: Minimum of 30% of the Final Contract Value by the end of the contract to Targeted Enterprises.

The Final Contract Value includes the total value of the Contractor’s final certified work measured at the date of issue of the Taking-Over Certificate. The Final Contract Value includes the value of scheduled work and extra work, but excludes Contract Price Adjustment and adjustments for reduced payments, Rise and Fall, Retention Money, Penalties and VAT.

Targeted Labour minimum contributions by the following Target Groups:

| | |
|---|-------------------------------|
| a. Black designated groups; | 30% of targeted labour value |
| (i) Black people who are youth | |
| (ii) Black people who are persons with disabilities | 0.5% of targeted labour value |
| b. Black women; | 30% of targeted labour value |

The value of the Provisional Sum scheduled under item PCY13.4 will not necessarily make up the full value of the work required to meet the minimum target set by the Employer for Targeted Enterprises. It is the Contractor’s responsibility to assess the work required to meet the targets and, if necessary, to engage additional Targeted Enterprises to execute work on the Contract as well as to ensure that the minimum targets are achieved.

PCY 4.5 Contract Participation Performance (CPP)

The CPP is the monetary value of the Contractor’s actual progress towards achievement of the CPG calculated as follows:

$$CPP = \text{total value (excluding VAT) of Targeted Labour contribution} + \text{total value of Targeted Enterprises contribution (excluding VAT)}.$$

The Contractor’s CPP shall be monitored monthly to determine the extent to which it is striving to achieve the CPG. The basis of monitoring shall be the levels of the individual contributions for Targeted Labour and Targeted Enterprises. Monthly returns, in the format required by the Employer, shall be submitted by the Contractor with each interim Payment Certificate.

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To assist in the measurement of the CPP the Contractor shall include in its contract programme details of how the CPG will be achieved. The detail shall be provided not later than 1 (one) month after the Employer's Agent has accepted the original construction programme and updated with every subsequent revision.

a) CPP Penalties

Failure to reach either the CPG or any individual Target Group targets shall render the Contractor liable for a penalty as prescribed in clause 5.13 of the unless there are compelling reasons why the target or sub-targets could not be achieved. Penalties for Targeted Labour and for Targeted Enterprises shall be calculated as follows:

$$\text{Penalty Targeted Labour} = 0.15 \times ((\text{TL} - \text{TG}) + \text{Sum} (\text{TL}_n - \text{TG}_n) - 1.2 \times \text{L dp})$$

Where:

- n = Each lowest order subgroup of Targeted Labour stipulated in the Contract Data.
 TL = Monetary value of the Targeted Labour calculated at the percentage stipulated in the Contract Data applied to the Final Contract Value (as defined in PCY 4.4).
 TG = Cumulative monetary value of Targeted Labour employed on the contract by the Contractor and all Subcontractors.
 L dp = Cumulative monetary value of black Disabled Persons employed on the Contract by the Contractor and all Subcontractors.
 $(\text{TL}_n - \text{TG}_n)$ = The monetary values calculated unless if any calculated value is negative, then it shall be a zero value.

$$\text{Penalty Targeted Enterprises} = 0.15 \times ((\text{TE} - \text{TGE}) + \text{Sum} (\text{TE}_n - \text{TGE}_n) - 1.2 \times \text{TE mv} - 1.2 \times \text{TE dp})$$

Where:

- n = Each lowest order subgroup of Targeted Enterprise stipulated in the Contract Data.
 TE = Monetary value (excluding VAT) of Targeted Enterprises calculated at the percentage stipulated in the Contract Data applied to the Final Contract Value (as defined in PCY4.4)
 TGE = Cumulative monetary value (excluding VAT) by Targeted Enterprises subcontracted to the contract by the Contractor and 50% of the cumulative monetary value (excluding VAT) by Targeted Enterprise suppliers of goods and/or services.
 TE mv = Cumulative monetary value (excluding VAT) by Targeted Enterprises being majority owned by black Military Veterans, subcontracted to the Contract by the Contractor.
 TE dp = Cumulative monetary value (excluding VAT) by Targeted Enterprises being majority owned by black Disabled Persons, subcontracted to the Contract by the Contractor.
 $(\text{TE}_n - \text{TGE}_n)$ = The monetary values calculated unless if any calculated value is negative, then it shall be a zero value.

The total Penalty value shall be the sum of the Targeted Labour and Targeted Enterprises Penalty values unless the total Penalty value is negative then it shall be a zero value.

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Interim penalty valuations should be calculated to interim Payment Certificate values (excluding VAT) to establish the anticipated outcome, and to plan corrective actions, but must not be applied to the interim certificate value.

Any Penalty payable shall be calculated on, and applied to, the Final Contract Value.

PCY 4.6 Accredited Registration

The CPP for Targeted Enterprises shall only be accepted if the respective Targeted Enterprises comply fully with the definition of a Targeted Enterprise, and documentary evidence to support the claim lodged with the Employer’s Agent before the work, goods or service may be considered as having been performed by a Targeted Enterprise. The responsibility for producing evidence of the respective documentation shall rest with the Contractor.

The Contractor shall assume responsibility for the compilation and maintenance of comprehensive records detailing each Targeted Enterprise’s progress.

PCY 4.7 Contractor’s Responsibility

In terms of the Conditions of Contract, all Targeted Labour recruitment and employment and Targeted Enterprises’ subcontracting, as well as its associated risks, shall remain the sole responsibility of the Contractor.

The Employer’s CPG requirements, and the compulsory utilisation of project specific Targeted Labour and Targeted Enterprises databases, shall not relieve the Contractor of its obligations under the Contract and shall not attract any liability to the Employer.

PCY 5 STAKEHOLDER AND COMMUNITY LIAISON AND SOCIAL FACILITATION

This part of Section PCY of the Specifications describes the Employer’s requirements with respect to Stakeholder and Community liaison and social facilitation. It also describes the roles and responsibilities of the Project Liaison Committee (PLC) and the Project Liaison Officer (PLO).

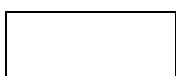
PCY 5.1 Purpose of Stakeholder and Community Liaison

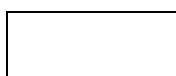
To give effect to the need for transparency and inclusion in the process of delivering services, the Contractor shall liaise with the project Stakeholders and affected Communities for the duration of the Contract’s life cycle. This shall be achieved through structured engagement with the PLC which was established by the Employer for this purpose.

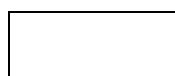
PCY 5.2 Contractor’s Responsibilities in Stakeholder and Community Liaison

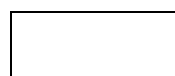
The Contractor shall have the following general responsibilities in the Stakeholder and Community liaison process:

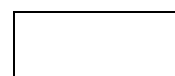
- a) Stakeholder and Community engagement shall be executed based on the Employer’s social facilitation principles and processes described in this Section PCY of the Specifications.
- b) The Contractor shall make use of the PLC as the official communication channel and utilise it to facilitate harmonious relationships with project Stakeholders and affected Communities.
- c) PLC members, to which the Contractor is a party, shall be held accountable to disseminate project information discussed at the PLC meetings to the entities they represent.

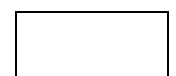

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- d) As a party to the PLC, the Contractor shall delegate from among his site personnel a responsible person to participate in the PLC and its business.
- e) The Contractor shall provide the PLC with any assistance and information that it requires to execute its duties, which amongst others, include training, providing a meeting venue on site, provide Target Group reports, etc.

It is important to note that in terms of the Conditions of Contract, all Targeted Labour recruitment and employment, and Targeted Enterprises' selection and sub-contracting, as well as its associated risks, shall remain the sole responsibility of the Contractor. The Employer's assistance in establishing a PLC and providing a PLO to the Contractor, shall not relieve the Contractor of its obligations under the Contract and shall not attract any liability to the Employer.

PCY 5.3 Project Liaison Committee (PLC)

The PLC is the official communication channel through which the Employer, Employer's Agent, Contractor and project Stakeholders and affected Communities communicates on project matters. This platform is also used to communicate the impact that the project has or may have on project Stakeholders and the affected Communities. This part of Section PCY of the Specifications describes the general processes pertaining to the PLC, as well as its role and responsibilities.

a) Establishment of the PLC

A PLC has either been established prior to commencement of the Contract or shall be established as soon as possible by the Employer. The PLC consists of the Employer, Employer's Agent, Contractor and representatives of project Stakeholders and affected Communities.

PLC meetings shall be chaired by the Employer which will typically be the Employer's Project Manager or a staff member with decision-making delegation. The Employer's Agent's staff shall provide a secretarial service to take minutes of PLC meetings.

Secretarial support other than taking minutes at PLC meetings shall be provided by the PLO.

b) Duties of the PLC

The Project Liaison Committee Guidelines requires of the PLC to execute specific duties during the design and construction phases of the project. Some of these duties overlap stages and hence, for completeness, a description of the PLC's duties in both project stages is provided here.

The PLC shall execute the following duties:

- i) Project Design Stage
 - a. Meet as often as required to discuss and resolve the project's design stage matters which are of interest or concern to the parties to the PLC.
 - b. Peruse Project Liaison Committee Guidelines and agree on the duties of, and procedures to be followed by, the PLC to fulfil its duties.

Note: The principles of the Guidelines shall not be amended, but duties and procedures may be altered to be project specific and to improve the functionality of the PLC.

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- c. Act in accordance to the agreed terms of reference for the PLC.
 - d. Inform the Employer of any training that project Stakeholder and affected Community representatives of the PLC require to execute their duties.
 - e. Assist the Employer’s Agent to source suitable candidates, based on the Employer’s qualifying criteria, for the position of PLO.
 - f. Observe and verify that the qualifying criteria and procedures applied by the Employer’s Agent to select and employ the PLO were executed in a fair and transparent manner and were within the prescripts of the relevant labour legislation and regulations.
 - g. Assist the Employer’s Agent to identify the project’s Target and Project Area(s), from which Targeted Labour and Targeted Enterprises could be employed and subcontracted respectively and sign off the identified Target and Project Area(s).
 - h. Assist the Employer’s Agent to identify the project’s Target Groups for inclusion in the Tender Documents and sign off the identified Target Groups.
- ii) Project Construction Stage
- a. Meet formally prior to the Employer’s monthly site meeting, or as may be required, to discuss and resolve project matters, which are of interest or concern to the parties to the PLC.
 - b. Assist the Contractor to establish the selection criteria and process to employ Targeted Labour and sign off the agreed criteria and process.
 - c. Assist the Contractor to identify the eligibility, functionality, preference and compliance criteria to select and subcontract Targeted Enterprises and sign off the identified criteria.
 - d. Sign off the Databases compiled by the PLO and the Contractor from which Targeted Labour will be selected and employed and Targeted Enterprises will be subcontracted respectively.
 - e. Verify that the criteria and methodologies applied by the Contractor to select and employ Targeted Labour and subcontract Targeted Enterprises are executed in a fair and transparent manner and are within the Government legislation and regulations and the Employer’s Policies.
 - f. Verify that the conditions of employment and the conditions of subcontracting, in the employment of Targeted Labour and subcontracting of Targeted Enterprises are applied in a fair and transparent manner and according to the Employer’s employment and subcontracting requirements.
 - g. Make recommendations to the Contractor on the training needs, eligibility criteria and selection criteria for the provision of training to Targeted Labour, Targeted Enterprises, Designated Groups, project Stakeholders and the affected Communities.
 - h. Verify that training and skills development programmes, which the Contractor committed to, are implemented and executed as approved and intended.
 - i. Inform the entities whom they represent of any project matters which the respective parties to the PLC wish to communicate with each other.
 - j. Inform the entities whom they represent of any project matters that are impacting or may impact, either positively or negatively, on the respective parties to the PLC.
 - k. Inform the Contractor of Stakeholder and/or Community requests and/or needs which could possibly be addressed within the project’s Scope of Work.
 - l. Inform the Employer, Employer’s Agent and Contractor of any road safety concerns within the Project Area(s) and advise them of possible mitigating measures and/or road safety programs that will be most suitable for acceptance by the affected Communities to promote road safety.

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- m. Agree on a dispute resolution mechanism to resolve any disputes that may arise between the parties to the PLC.
- n. Assist parties to the PLC to liaise with their respective entities to resolve any disputes amongst the parties which may occur due to the project.

PCY 5.4 Project Liaison Officer (PLO)

The PLO facilitates the selection and employment of Targeted Labour and coordinates communication between the members of the PLC to address the day-to-day project, Stakeholder, and Community matters that impact on the parties represented in the PLC.

a) Appointment of the PLO

The PLO is appointed by the Employer’s Agent under the auspices of the PLC and in accordance to the Employer’s criteria for a PLO.

Although the PLO predominantly provides social facilitation support to the Contractor, the PLO shall report to the Employer’s Agent or his delegated representative, e.g., the Resident Employer’s Agent.

b) Duties of the PLO

The Project Liaison Committee Guidelines requires of the PLO to execute specific duties during the design and construction phases of the project. These duties include the following:

- (i) Except for taking the minutes of PLC meetings, which is a duty of the Employer’s Agent, the PLO shall provide a secretariat function to the PLC which includes, amongst others, the following:
 - a. Schedule meetings;
 - b. Compile meeting agendas;
 - c. Compile document packages for meetings;
 - d. Distribute minutes of meetings;
 - e. Assist representatives of project Stakeholders and affected Communities to formulate their communication to the PLC in writing;
 - f. Distribute written communication between the parties to the PLC;
 - g. Keep records of all PLC correspondence and documentation; and
 - h. Provide any other reasonable secretariat function required by the PLC.
- (ii) Attend all PLC meetings to report on the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.
- (iii) Attend all monthly project site meetings to report on the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.
- (iv) Attend any other meetings related to the project and in which any of the project Stakeholders, affected Communities, Targeted Labour and Targeted Enterprises are involved.
- (v) Maintain a full-time presence on site to monitor and address the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.
- (vi) Maintain a full-time presence on site to assist the parties to the PLC in the day-to-day liaison with each other.
- (vii) Assist the Employer’s Agent and the Contractor to disseminate information to PLC members such as:

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- a. the basic Scope of the Works and how it will affect the Community;
 - b. the project programme and regular progress updates;
 - c. the anticipated employment and subcontracting opportunities;
 - d. the project programme as it pertains to the employment of Targeted Labour and subcontracting of Targeted Enterprises;
 - e. Occupational Health and Safety precautions; and
 - f. any other information relevant to project Stakeholders and the affected Communities.
- (viii) Be well acquainted with the contractual requirements as it pertains to Targeted Labour employment and training.
 - (ix) Assist the PLC to establish and agree the criteria to be followed when selecting and employing Targeted Labour.
 - (x) Assist the Employer’s Agent and the Contractor in their resources and skills audits by providing a coordinating function between the Employer’s Agent, the Contractor, project Stakeholders, and the affected Communities.
 - (xi) Ensure that Targeted Labour databases are compiled based on the agreed eligibility and selection criteria and that it is updated as and when required.
 - (xii) Coordinate the selection and employment of Targeted Labour based on the agreed eligibility and selection criteria and based on the Contractor’s labour and skills requirements.
 - (xiii) Ensure that each Targeted Labourer enters into an employment contract which adheres to current and relevant Labour legislation.
 - (xiv) Ensure that each Targeted Labourer understands the conditions of his/her employment contract with an emphasis on the employment start date, end date and wages payable.
 - (xv) Identify and inform the Contractor of any relevant training required by the Targeted Labour.
 - (xvi) Attend all disciplinary proceedings to ensure that hearings are fair and conducted in accordance to the current and relevant Labour legislation.
 - (xvii) Be proactive in identifying project Stakeholder and affected Communities’ (including Targeted Labour and/or Targeted Enterprise Subcontractor), requirements, disputes, unrest, strikes, etc. and bring it to the attention of the PLC.
 - (xviii) Assist the parties to the PLC to resolve any disputes, which may occur due to the project.
 - (xix) Other than the document records to be kept as mentioned above, keep record of all other documents and processes pertaining to the employment of Targeted Labour.
 - (xx) Produce and submit a monthly report to the PLC on PLC and other meetings attended by the PLO, as well as on Targeted Labour employment, and project Stakeholder, affected Community and any other project matters that impact on the parties to the PLC.

PCY 6 MOBILISATION PERIOD

The Mobilisation Period starts at the Contract Commencement Date and ends just prior to the Commencement of the Works. Its duration is defined in the Contract Data.

PCY 6.1 Purpose of the Mobilisation Period

The Mobilisation Period is introduced as an aid to the Contractor to:

- a) become acquainted with the Stakeholder and Community liaison requirements of the Contract as prescribed in this Section PCY;
- b) allow for the Contractor’s planning to obtain the CPG as required in the Contract Data;

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- c) follow the processes prescribed in this Section PCY to employ the initially required Targeted Labour and enter into the first subcontracts with Targeted Enterprises; and
- d) provide the training required by Targeted Labour and Targeted Enterprises to commence with the construction of the Works.

PCY 6.2 Duties of the Contractor

During the Mobilisation Period, the Contractor shall execute the following duties:

a) Compile a CPG Plan

The Contractor shall compile an acceptable CPG Plan, which sets out how he intends to achieve the various CPG targets as stated in the Contract Data, complete with dates, work packages and values of work.

The accepted CPG Plan and any amendments thereof shall be made available to the PLC for their monitoring purposes.

The Employer and the Employer’s Agent shall monitor progress and adherence to the CPG Plan in the same manner as they would monitor the Works Programme.

The Mobilisation Period shall only be concluded once the CPG Plan has been accepted by, and all the duties above have been executed to the satisfaction of, the Employer and the Employer’s Agent.

An extension of the Mobilisation Period will not form grounds for an extension of the Contract duration and hence, any costs incurred by the Contractor for an extension of the Mobilisation Period shall be for the Contractor’s cost. Should an extension of the Mobilisation Period result in a delay of the Contract, the Employer’s delay penalties shall apply.

b) Subcontracting of Targeted Enterprises

During the Mobilisation Period the Contractor shall execute the following duties with regard to the subcontracting of Targeted Enterprises:

- i) Liaise with the Employer, Employer’s Agent and PLC to structure and finalise the work packages to be subcontracted to Targeted Enterprises.
- ii) Liaise with the Employer, Employer’s Agent and PLC to determine the Targeted Enterprise Database criteria for the subcontracting of Targeted Enterprises.
- iii) Compile the Targeted Enterprise Database(s) for sign off by the PLC.
- iv) Undertake a skills audit of the Targeted Enterprises which appear on the Targeted Enterprise Database(s).
- v) Based on the skills audit, and in consultation with the PLC, identify the pre-tender training requirements of Targeted Enterprises.
- vi) Provide an opportunity to Targeted Enterprises to receive the identified pre-tender training.
- vii) Tender the initial work packages and subcontract the first group of Targeted Enterprises for commencement of the Works.

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c) Employment of Targeted Labour

During the Mobilisation Period the Contractor shall execute the following duties with regard to the employment of Targeted Labour:

- i) Liaise with the PLC and the PLO on the compiled Targeted Labour Database(s) for the employment of Targeted Labour.
- ii) Undertake a skills audit of the Targeted Labour which appear on the Targeted Labour Database(s).
- iii) Based on the skills audit, and in consultation with the PLC, identify the training requirements of Targeted Labour to enhance their employability.
- iv) Provide an opportunity to eligible Targeted Labour to receive the identified training to enhance their employability.
- v) Select and appoint the first group of Targeted Labour for commencement of the Works.

d) Training Requirements

The Contractor will not be able to address all the training requirements identified for Targeted Labour and Targeted Enterprises during the Mobilisation Period and it is accepted that training will take place over the duration of the Contract.

The training provided to both Targeted Enterprises and Targeted Labour during the Mobilisation Period shall focus on the activities and/or skills required for the commencement of the Works and shall include the mandatory Occupational Health and Safety training.

PCY 7 THE ROLE OF THE EMPLOYER’S AGENT

The role and responsibilities of the Employer’s Agent are clearly described in the Conditions of Contract. This section elaborates on the Employer’s Agent’s duties with respect to Stakeholder and Community liaison, Targeted Labour Employment and Targeted Enterprise subcontracting.

Together with the Employer and the Contractor, the Employer’s Agent is also a party to the PLC and hence, is co-responsible for successful project Stakeholder and Community liaison.

In addition, the Employer’s Agent shall play a supporting role to the Contractor in the successful implementation of the Employer’s Targeted Labour and Targeted Enterprise utilisation and development goals.

PCY 7.1 Duties During the Design Phase

During the design phase, the Employer’s Agent undertook a preliminary skills and resources audit of the Targeted Enterprises in the Project Area. The purpose of the audit was to:

- a) obtain an understanding of the Community’s skills, both academically and occupationally;
- b) obtain an understanding of the resources within the Community, i.e. Targeted Enterprise availability and capabilities;
- c) establish the CPG targets for Targeted Enterprises and Targeted Labour for inclusion of the Contract Data; and
- d) identify tender and other relevant training to be offered to Targeted Enterprises and Targeted Labour to prepare them for tendering and to enhance their employability.

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PCY 7.2 Duties During the Construction Phase

To implement the Employer's Targeted Labour and Targeted Enterprise goals, the Employer's Agent shall provide support to the Contractor by executing the following duties:

a) Targeted Enterprise Subcontracting

- i) Make recommendations to the Contractor in identifying and structuring the work packages to be subcontracted to Targeted Enterprises and approve the scope and extent of the work packages.
- ii) Verify that the Targeted Enterprise Database(s) has been updated prior to the letting of every new set of subcontracts.
- iii) Approve tender procedures, tender documents, tender submission requirements and adjudication processes for the subcontracting of Targeted Enterprises.
- iv) Review all tender adjudication reports and monitor that the criteria and procedures applied by the Contractor to subcontract Targeted Enterprises are executed in a fair and transparent manner and are within the Employer's and Government's Supply Chain Management Policies.
- v) Verify that subcontract agreements and the conditions of subcontracting with Targeted Enterprises are fair and transparent and within the prescripts of the Contract requirements.
- vi) Monitor the management of Targeted Enterprise subcontracts and ensure that conditions such as the application of penalties, the termination of contracts, etc. are applied in a fair and transparent manner and within the prescripts of the agreement.

b) Targeted Labour Employment

- i) Verify that the Labour Database(s) from which Targeted Labour will be employed is updated prior to every new Labour intake.
- ii) Monitor that the criteria and procedures applied by the Contractor to employ Targeted Labour are executed in a fair and transparent manner and is within the Contract requirements.
- iii) Monitor that the conditions of employment of Targeted Labour are applied in a fair and transparent manner and within the prescripts of the current and relevant Labour legislation.

c) Target Group Training Requirements

- i) Make recommendations to the Contractor in identifying the training requirements of Targeted Labour and Targeted Enterprises and approve the proposed training programmes.
- ii) Monitor that training programmes and support programmes, which the Contractor committed to, are implemented and executed as intended.

PCY 8 TENDER PROCESS FOR TARGETED ENTERPRISES

The Contractor will be required to utilise CIDB graded subcontractors selected in consultation with the Employer.

While the Contractor may utilise service providers and suppliers of its choice and selected via its own internal processes, for the subcontracting of Targeted Enterprises based on the Employer's Contract Participation Goals, the Contractor shall follow the prescripts of this Section PCY.

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PCY 8.1 Targeted Enterprise (TE) Procurement Coordinator

The Contractor shall appoint a TE Procurement Coordinator to facilitate the subcontracting of work to Targeted Enterprises as defined in the Contract Data. For Contracts with a value of less than R100 million the Contractor may appoint a TE Procurement Coordinator from its site staff. For Contracts with a value of more than R100 million the Contractor shall employ or subcontract a dedicated TE Procurement Coordinator, whose sole responsibility will be the management of Targeted Enterprise procurement and sub-contracting matters.

The TE Procurement Coordinator shall be knowledgeable of, and have experience in, the management of road construction and ancillary works, National Treasury supply chain management legislation and regulations, and stakeholder relations management.

Under the auspices of the PLC, the TE Procurement Coordinator shall conduct the tender processes and procedures for Targeted Enterprise subcontracting as prescribed in this Section PCY and shall adhere to the Employer’s and Government’s Supply Chain Management Policies and requirements as set out in the Contract Data.

PCY 8.2 Procedures for Targeted Enterprises Subcontracting in consultation with the Employer

The identification and application of the eligibility and functionality criteria, and conducting the tender processes and procedures for subcontracting include, amongst others, the following tasks all of shall be undertaken in consultation with the Employer:

a) Tender Preparation

- i) Compile preliminary list of subcontracting work packages.

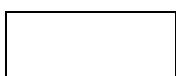
Based on the Contract Data and the Scope of the Works, the Contractor shall compile a preliminary list of the work packages (scope of work and number of packages) that are anticipated to be subcontracted to Targeted Enterprises.

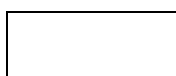
The Contractor shall refer to the construction activities that have been identified as being suitable for construction by Targeted Enterprises as listed in Section PCY8.4 of these Project Specifications, and to any other construction activities which are required to execute the Works in terms of this Contract, to determine how to unbundle or package subcontracts for Targeted Enterprises.

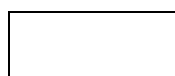
- ii) Conduct a market analysis and resources and skills audit

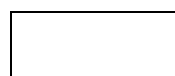
Based on the preliminary list of work packages, the Contractor shall conduct a market analysis and resources and skills audits to determine the availability of the required resources and skills in the Project Area to execute the anticipated subcontractor work packages. The Contractor shall consult the following databases as a minimum:

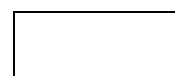
- a. Construction Industry Development Board (CIDB)’s contractor database.
- b. National Treasury’s Central Supplier Database (CSD) to be obtained from the Employer.

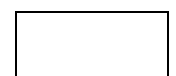

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iii) Call for an expression of interest

In addition to consulting the CIDB contractor database and National Treasury's CSD, the Contractor shall call for an expression of interest, which shall be published in newspapers and at locations as agreed by the PLC.

For each group of work packages, the call for an expression of interest shall outline:

- a. evaluation and selection criteria such as eligibility, preference and functionality.
- b. compliance requirements such as CSD and CIDB registration, tax clearance and COID.
- c. the anticipated scope of the works to be undertaken.

iv) Establish a Targeted Enterprise Helpdesk

Other than informing the Contractor's market analysis and resources and skills audits, the purpose of the call for an expression of interest is to alert Targeted Enterprises of the subcontracting opportunities and inform them of the anticipated eligibility, preference and functionality criteria, as well as of the compliance requirements.

The Contractor shall enhance the readiness of Targeted Enterprises to participate in the subcontracting opportunities by establishing a helpdesk at a suitable and easily accessible location in the Project Area.

The Contractor shall provide guidance to Targeted Enterprises in getting their statutory requirements in order in anticipation of the subcontracting opportunities. The helpdesk shall assist with, or provide guidance in, registering with the CSD and the CIDB, obtaining tax clearance and COID compliance and any other relevant qualifying requirements.

v) Compile Preliminary Targeted Enterprise Database

Based on the CPG targets listed in the Contract Data and the information obtained from the activities described in paragraphs ii) and iii) above, the Contractor shall compile a Preliminary Targeted Enterprise Database.

In compiling the preliminary Targeted Enterprise Database, the Contractor must bear in mind that the benchmark for an adequate number of tenderers to ensure a competitive tender process is ten (10) tenderers that are able to achieve the functionality threshold during the tender evaluation.

vi) Identify Targeted Enterprises, Target Groups and Project Area(s)

Based on the CPG targets listed in the Contract Data and the Preliminary Targeted Enterprise Database, the Contractor shall identify the:

- a. Targeted Enterprises (CIDB grades and types); and
- b. Designated Groups (woman, youth, etc.) which are anticipated to benefit from the subcontracting opportunities; and
- c. Project Area(s) from which Targeted Enterprises will be given preference for subcontracting opportunities.

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vii) Compile a Contract Participation Goal (CPG) Plan

The Contractor shall utilise all the information gathered from the activities described in the paragraphs above to compile an acceptable CPG Plan. The plan shall contain:

- a. a list of work packages (scope of work and number of packages) to be subcontracted to Targeted Enterprises;
- b. the preliminary Targeted Enterprise Database(s) for each work package;
- c. the Targeted Enterprises (CIDB grades and types) and Designated Groups (woman, youth, etc.) which are to benefit from the subcontracting opportunities;
- d. the Project Area(s) from which Targeted Enterprises will be given preference for subcontracting opportunities; and
- e. the tender evaluation and selection criteria for the respective work packages.

viii) Approval and sign-off of the CPG Plan

The Contractor shall submit the CPG Plan to the Employer and the Employer's Agent for approval and table it to the PLC for sign-off.

The Contractor shall ensure that the tender requirements and the outcome of different tendering scenarios are explained to the PLC, specifically with respect to the outcomes of evaluating:

- a. Eligibility criteria;
- b. Functionality structuring and scenarios;
- c. Price and Preference;
- d. Compliance requirements; and
- e. Negotiation processes (if applicable).

If required, the Contractor shall make amendments to the CPG Plan based on the PLC's recommendations and the Employer's Agent's instructions.

ix) Compile tender documents

The Contractor shall compile the tender documents for each Targeted Enterprise subcontract work package. If the Employer has a proforma tender document available, the Contractor shall use this document.

In compiling the subcontract tender documents, the Contractor shall include in each tender document relevant Conditions of Tender and the *General conditions of subcontract for construction works, first edition (2018)*. The Contractor shall compile each subcontract tender document in a manner that facilitates the achievement of all objectives and principles pertaining to the development of the Targeted Enterprises.

The draft subcontract tender documents shall be approved by the Employer's Agent before letting the tender.

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b) Tender Process

i) Advertise the subcontract packages

The Contractor shall advertise and invite tenders from Targeted Enterprises for the respective subcontract packages. Advertisements shall be placed in local newspapers, on community notice boards and any other place or medium as agreed with the PLC.

If the Employer has a proforma Tender Notice available, the Contractor shall use this document.

ii) Conduct a tender briefing and tender training session

For each group of subcontract packages, the Contractor shall conduct a compulsory briefing session to explain the tender process, the evaluation and selection criteria and the scope of the works to the Targeted Enterprises.

An Attendance Register shall be completed by all attendees and Minutes shall be taken during the briefing session. The Minutes of the briefing session shall be distributed to all attendees as an Addendum to the Tender Documents.

The Contractor shall conduct a “how to complete a tender document” training session as a component of the tender briefing to interested Targeted Enterprises. The level of detail and hence the duration of the training session shall be informed by the findings of the resources and skills audit conducted during the Tender Preparation Phase.

Notes of this training session shall be distributed to all attendees of the briefing session as an Addendum to the Tender Documents, irrespective if they have attended the training session or not.

A separate Attendance Register shall be completed for the training session for future reference.

iii) Minimum tender submission documents

It shall be a condition of tender that Targeted Enterprises include in their tender submissions the following documentation (if applicable, based on the CIDB grade required):

- a. Proof of the Tenderer's B-BBEE contributor level.
- b. Proof that the Tenderer is an EME or QSE entity.
- c. Proof that the Tenderer is registered on National Treasury's CSD.
- d. Proof that the Tenderer is registered with the CIDB in the required grading and class (not applicable to suppliers).
- e. Proof that the Tenderer is compliant with the COID Act.
- f. Proof that the Tenderer is tax compliant.

iv) Tender closure and opening of tenders

Tenders for the subcontract packages shall close at a stipulated time and date. Tenders shall be submitted to the Contractor in the format and at the address prescribed by the Contractor in the subcontract Tender Data.

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The tender opening shall be conducted by the Contractor who shall publicly announce and record the names of all bidders and their tender prices.

v) Finalise Targeted Enterprise Database

The purposes of the preliminary Targeted Enterprise Database are described in paragraph (v) of the Tender Preparation phase above of which one is to alert Targeted Enterprises to assess their readiness to participate in the project’s subcontractor opportunities.

The period between the Contractor’s call for an expression of interest and the date of closure of the relevant subcontract tender allows for prospective Tenderers to become compliant to the database criteria. The preliminary database is thus a “live” database until the date of tender closure.

On the date of tender closure, the Contractor shall request the Employer to print out a list from National Treasury’s CSD, of entities that adhere to the Targeted Enterprise Database criteria. This list shall become the Final Targeted Enterprise Database for relevant subcontract tender and shall be submitted to the PLC for sign-off.

c) Tender Evaluation

The Contractor shall evaluate the tenders and it shall be a condition of tender that tenders will only be accepted from Targeted Enterprises that fully comply with the definition of a Targeted Enterprise as described in the Contract Data.

The Contractor shall evaluate the tenders based on (1) Eligibility, (2) Functionality, (3) Price and Preference, and (4) Compliance.

i) Stage 1 – Eligibility

Tenderers shall be checked for their eligibility to tender for the advertised subcontract packages based on the following eligibility criteria:

- a. Proof that the Tenderer is registered on National Treasury’s CSD (the Tenderer must be on the signed off Targeted Enterprise Database).
- b. The Tenderer’s B-BBEE contributor level; and
- c. The Tenderer’s entity status, i.e. being a EME or QSE.

Eligible Tenderers shall be further evaluated against the functionality criteria.

ii) Stage 2 – Functionality

No Targeted Enterprise may be prohibited from responding to the invitation to tender; however, preference shall be given to those Targeted Enterprises that adhere to the tender criteria which, amongst others, shall be measured by means of a functionality evaluation.

To ensure Targeted Enterprise participation as it is intended by the Employer and defined in the Contract Data, “locality”, “Designated Group” and “CIDB grading and class” shall form part of the functionality criteria and a higher weighting shall be allocated to these three criteria

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Functionality shall be scored based on:

- a. Locality (project area(s));
- b. CIDB grade and class (targeted entity); and
- c. Designated Groups e.g. woman, youth, etc.

Tenderers must score a minimum of 75% for functionality and Tenderers that do not obtain the threshold shall not be further evaluated.

The functionality matrixes below were developed as an **example** of the allocation of points for the respective functionality criteria:

Table PCY 8 (a) – Example of Maximum Points per Functionality Criteria

| CIDB Grade and Package Value | Points out of 100 | | | Total Points |
|------------------------------|-------------------|--------------|-------------------|--------------|
| | Locality | CIDB Grading | Designated Groups | |
| 1 - R 500 000 | 60 | 30 | 10 | 100 |
| 2 - R 1 000 000 | 60 | 30 | 10 | 100 |
| 3 - R 3 000 000 | 60 | 35 | 5 | 100 |
| 4 - R 6 000 000 | 60 | 35 | 5 | 100 |
| 5 - R 10 000 000 | 60 | 35 | 5 | 100 |
| 6 - R 20 000 000 | 60 | 35 | 5 | 100 |
| 7 - R 60 000 000 | 60 | 30 | 10 | 100 |

The above maximum points per functionality criteria must be further broken down as in the example matrix below:

Table PCY 8 (b) – Example of Allocation of Points for Functionality Criteria

| CIDB Package Category | | 1CE | 2CE | 3CE | 4CE | 5CE | 6CE |
|-----------------------|--|----------------|-----|----------------------|-----|-----------------------|-----|
| Typical Package Value | | Up to R 1 mill | | R 1 mill to R 6 mill | | R 6 mill to R 20 mill | |
| Locality | Tenderer is based in the Local Municipality(ies). | 60 | 60 | 60 | 60 | 60 | 60 |
| | Tenderer is based outside the Local Municipality(ies) but in the District Municipality(ies). | 45 | 45 | 40 | 40 | 40 | 40 |
| | Tenderer is based outside the District Municipality(ies), but in the Province. | 0 | 0 | 35 | 35 | 35 | 35 |

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| CIDB Package Category | | 1CE | 2CE | 3CE | 4CE | 5CE | 6CE |
|-------------------------------------|---|----------------|------------|----------------------|------------|-----------------------|------------|
| Typical Package Value | | Up to R 1 mill | | R 1 mill to R 6 mill | | R 6 mill to R 20 mill | |
| | Tenderer is based outside the Province, but in the RSA. | 0 | 0 | 0 | 0 | 30 | 30 |
| CIDB Grading | Tenderer is registered as a CIDB 1 | 30 | 30 | 0 | 0 | 0 | 0 |
| | Tenderer is registered as a CIDB 2 | 30 | 30 | 30 | 0 | 0 | 0 |
| | Tenderer is registered as a CIDB 3 | 0 | 0 | 35 | 30 | 0 | 0 |
| | Tenderer is registered as a CIDB 4 | 0 | 0 | 30 | 35 | 30 | 0 |
| | Tenderer is registered as a CIDB 5 | 0 | 0 | 0 | 30 | 35 | 30 |
| | Tenderer is registered as a CIDB 6 | 0 | 0 | 0 | 0 | 30 | 35 |
| | Tenderer is registered as a CIDB 7 and higher | 0 | 0 | 0 | 0 | 0 | 30 |
| Designated Groups (no max score) | Tenderer is 51%+ owned by black people who are youth. | 5 | 5 | 5 | 5 | 5 | 5 |
| | Tenderer is 51%+ owned by black people who are women. | 5 | 5 | 5 | 5 | 5 | 5 |
| | Tenderer is 51%+ owned by black people with disabilities. | 5 | 5 | 5 | 5 | 5 | 5 |
| | Tenderer is 51%+ owned by black people who are military veterans. | 5 | 5 | 5 | 5 | 5 | 5 |
| Maximum Total Points | | 100 | 100 | 100 | 100 | 100 | 100 |

iii) Stage 3 – Price and Preference

Tenderers that obtained the minimum threshold for functionality shall be further evaluated on their Price and Preference submissions, i.e.:

- a. Price = 80 / 90 %
- b. Preference = 20 / 10 %

The highest scoring tenderer for each subcontract package shall be checked for compliance.

The Contractor shall state in the tender advertisement and in the tender documents that only one subcontract package shall be awarded to an entity at any one time for this project,

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meaning that a Targeted Enterprise may be awarded a work package and on conclusion thereof may be awarded a subsequent work package, but more than one work package may not be awarded simultaneously for this project.

If a tenderer tendered for more than one subcontract package and scored the highest points in more than one package, the Contractor shall award to the tenderer the work package that has the most economic benefit to the Employer.

iv) Stage 4 – Compliance Check

The highest scoring tenderer for each subcontract package shall be checked for compliance with respect to the following criteria:

- a. Proof that the Tenderer is compliant with the COID Act (excluding CIDB 1 and 2 CE).
- b. Proof that the Tenderer is tax compliant.

If the highest scoring tenderer fails to meet any of the compliance criteria, he will be given seven (7) calendar days to become compliant.

If the highest scoring tenderer fails to submit the requested compliance information in the required timeframe, he shall be deemed non-compliant and the evaluator shall check the second highest tenderer for compliance. This process is repeated until a compliant tenderer has been identified.

d) Appoint successful Targeted Enterprises

i) Table the Tender Report to the PLC

The Contractor shall present the Tender Report for each subcontract package to the Employer and the Employer’s Agent and thereafter table it to the PLC prior to award of the subcontract.

ii) Negotiating tender sum and/or rates with Targeted Enterprises

a. Rates

If the Contractor chooses to include work for which he has tendered rates in the subcontract package and the tenderer who scored the highest points tendered higher rates than that of the Contractor, the Contractor may negotiate rates and the final sum with the tenderer.

If the Contractor fails to negotiate a reasonable tender sum or rates with the tenderer, he may:

- i. approach the second highest points scoring, compliant tenderer for negotiation. This process may be repeated up to the third highest points scoring compliant tenderer, whereafter the package shall be retendered. The Contractor shall be limited to negotiate down to 25% above his own rates (this process must be clearly explained prior to negotiation, when the tender report is tabled to the PLC); or
- ii. accept the highest points scoring tenderer’s higher rates and total sum and remunerate the sub-contractor at the sub-contractor’s tendered rates from the

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lump sum which the Contractor has tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors.

b. Provisional Sum

If the Employer has provided a provisional sum for the work items in the subcontract package, the Contractor shall report on the feasibility of the highest points scoring compliant tenderer's tender rates and tender sum to the Employer and the Employer's Agent.

- i. If the highest points scoring compliant tenderer's rates and tender sum are deemed market related by the Employer's Agent, the Contractor shall obtain the Employer's approval to utilise the provisional sum provided for the work items.
- ii. If the highest points scoring compliant tenderer's rates and tender sum are deemed not market related and the Employer does not approve the utilisation of the relevant provisional sum, the Contractor may negotiate with the tenderer for market related rates and tender sum.
- iii. If the Contractor fails to negotiate market related rates and a tender sum with the tenderer, he may:
 - (a) approach the next highest point scoring, compliant tenderer for negotiation. This process may be repeated up to the third highest points scoring compliant tenderer, whereafter the package shall be retendered; or
 - (b) accept the highest points scoring tenderer's rates and total sum and remunerate the sub-contractor from the lump sum which the Contractor has tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors. The Contractor shall not pay rates or tender sums that are more than 15% higher than what are deemed market related by the Employer's Agent.

iii) Low tender sums submitted by Targeted Enterprises

The Contractor shall report to the Employer and the Employer's Agent on the feasibility of tendered rates, sums or provisional sums of tenderers who tendered exceptionally low. Exceptionally low rates, sums or provisional sums are those that are more than ten percent (10%) less than what the Contractor tendered or, in the case of a provisional sum, what is deemed market related by the Employer's Agent.

- a. If the tendered rates, sums or provisional sums of those tenderers who tendered exceptionally low are deemed by the Employer's Agent to still be feasible, the Contractor may continue to include these tenders in his tender evaluation.
- b. If the tendered rates, sums or provisional sums of those tenderers who tendered exceptionally low are deemed by the Employer's Agent to not be feasible, the Contractor may disqualify these tenders from his tender evaluation.

The Employer strongly discourages the appointment of Targeted Enterprises that did not tender feasible rates, sums or provisional sums. If all prices submitted are deemed exceptionally low by the Employer's Agent, the subcontract package shall be retendered.

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The consequences of exceptionally low prices must be clearly outlined in the Tender Report and clearly explained to the PLC prior to award or retendering of the subcontract packages.

- iv) Payment to the Contractor
 - a. The Employer shall not remunerate the Contractor, other than what has been provided for in the payment items, for accepting higher tender sums tendered by Targeted Enterprises.
 - b. If the Contractor accepts tender sums that are higher than what have been provided for in the Contractor’s tendered rates or the Employer’s provisional and/or prime cost sums, the costs shall be paid by the Contractor from the lump sum which he tendered for the fluctuation between the Contractor’s rates and that of the Targeted Enterprise sub-contractors.

- v) Entering the Subcontract Agreement

The Contractor’s TE Procurement Coordinator shall assist successful Targeted Enterprises to enter into a subcontract agreement with the Contractor as described in this Specification.

PCY 9 GENERAL RESPONSIBILITIES OF THE CONTRACTOR TOWARDS TARGETED ENTERPRISES

The Contractor shall have the responsibilities described in this Section, PCY 9, towards all Targeted Enterprises subcontracted in terms of the CPG as stated in the Contract Data.

PCY 9.1 Targeted Enterprise (TE) Construction Manager

The Contractor shall appoint a dedicated TE Construction Manager whose sole responsibility shall be to assist the Contractor with the execution of his responsibilities towards Targeted Enterprises and Target Groups as prescribed in this Section PCY, with an emphasis on PCY 9 and PCY11.

Amongst others, the TE Construction Manager shall facilitate the training, mentoring, development and support of Targeted Enterprises as per the Contractor’s approved Training and Skills Development Programme (see Section PCY11).

a) TE Construction Manager’s Qualifications and Experience

The TE Construction Manager shall have, as a minimum, a National Diploma: Management of Civil Employer’s Agenting Construction Processes (NQF Level 5) or an equivalent qualification.

The TE Construction Manager shall have at least 5 years’ experience as a Site Agent, managing construction processes in the fields of roads maintenance, new roads construction, roads rehabilitation, roads structures, etc. In addition, he shall have ample knowledge of, and experience in, the requirements of training and mentoring in the road construction environment.

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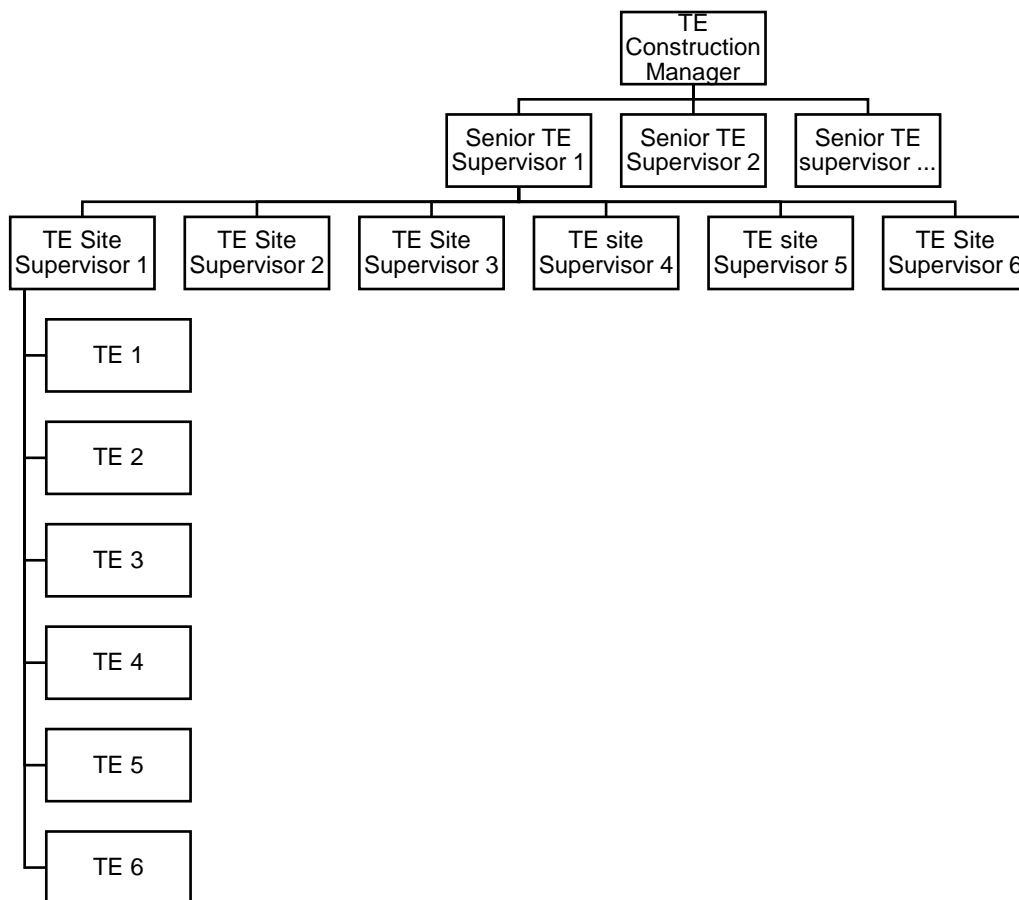
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b) TE Construction Manager’s Team

The TE Construction Manager shall have on his team one (1) TE Site Supervisor for every six (6) Targeted Enterprises which are in their respective construction phases and one (1) Senior TE Supervisor for every six (6) TE Site Supervisors.

The qualifications and/or experience of TE Site Supervisors and Senior TE Supervisors shall be relevant and of a suitable level to enable them to supervise the level of Targeted Enterprise and the specific works under construction. Below is an indicative organogram of the TE Construction Manager and his team.



PCY 9.2 General Obligations

The Contractor shall, with the assistance of the TE Construction Manager, comply with the following general obligations:

- a) Assist the Targeted Enterprises in instituting a quality assurance system;
- b) Provide adequate training, coaching, guidance, mentoring and any other identified and approved assistance to Targeted Enterprises;
- c) Provide support and any other identified and approved assistance to ensure that the Targeted Enterprises meet their obligations and commitments with respect to their subcontracts, and
- d) Ensure that the CPG objectives are achieved.

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PCY 9.3 Subcontract Agreements

The Contractor shall conclude subcontract agreements with each subcontracted Targeted Enterprise. The subcontract agreement shall be the *General conditions of subcontract for construction works, first edition (2018)* and shall be in accordance with the provisions of amended sub-clause 4.4 of the Conditions of Contract and shall be consistent with the terms and conditions of this Contract.

a) Special Conditions of Contract

The following Special Conditions of Contract shall be included in the subcontract agreement:

- i) The Targeted Enterprise’s entitlement to receive the training contemplated in this Contract;
- ii) The Targeted Enterprise’s obligation to participate and co-operate in the training provided for in this Contract;
- iii) The allowable sources from which Labour may be drawn in terms of the Contract;
- iv) The terms and conditions relating to the recruitment, employment and remuneration of Labour engaged on the Contract;
- v) The training to be provided to the Targeted Enterprise’s workforce;
- vi) The terms and conditions related to payment of the Targeted Enterprise;
- vii) Sanctions in the event of failure by the Targeted Enterprise to comply with the terms and conditions of the subcontract agreement; and
- viii) Dispute avoidance and resolution procedures.

Further Special Conditions of Contract shall only be included into the subcontract agreement once approved by the Employer’s Agent.

b) Monitoring of Subcontract Agreements by the PLC

The proforma subcontract agreement for each group of work packages shall be tabled to the PLC for their sign-off. Special Conditions of Contract, in addition to those listed in (a) above shall be developed under the auspices of the PLC.

The PLC may at any stage during the Contract request proof that subcontract agreements were entered into with the subcontracted Targeted Enterprises. The PLC may also request insight into the Conditions of Subcontract and Subcontract Data.

To protect Targeted Enterprises’ competitive advantage and/or tender strategy, only the subcontract agreement shall be available to the PLC for perusal and not the pricing structure and/or Schedule of Quantities.

A copy of each subcontract agreement shall be filed with the Employer’s Agent after confirming that it is in accordance with the provisions of this Contract.

PCY 9.4 Payment of Targeted Enterprises

Targeted Enterprises shall be paid the rates and/or provisional sums which they have tendered or which have been negotiated as described in this Section PCY of the Specifications.

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a) Payment of Provisional and General Obligations

Provision shall be made in the subcontract for the Targeted Enterprise’s preliminary and general obligations (P&Gs), which shall be calculated as a minimum of 15% of the value of the scheduled subcontract work items.

PCY 9.5 Quality of Work and Performance of Targeted Enterprises

a) Ensuring Quality of Work and Performance

The Contractor’s TE Construction Manager shall closely monitor and supervise all Targeted Enterprises and shall train, coach, guide, mentor and assist each Targeted Enterprise in all aspects of management, execution and completion of its subcontract. This shall typically include assistance with planning of the Works, sourcing and ordering of materials, labour relations, monthly measurements and invoicing procedures. The extent and level of such training, coaching, guidance, mentoring, and assistance to be provided by the Contractor shall commensurate with the level of subcontract applicable and shall be directed at enabling the Targeted Enterprise to achieve the successful execution and completion of its subcontract.

b) Failure by the Targeted Enterprise to Comply

If the Targeted Enterprise, in the opinion of the Employer’s Agent, fails to comply with any of the criteria listed below, the Employer’s Agent shall issue a written warning to the Contractor stating all the areas of non-compliance. A copy of the letter of warning shall be forwarded to the Employer. The criteria are as follows:

- i) Deliver acceptable standards of work as set out in the specifications;
- ii) Progress in accordance with the time constraints in the subcontract agreement;
- iii) Punctual and full payment of the workforce and suppliers;
- iv) Site safety; and
- v) Accommodation of traffic.

c) Assist the Targeted Enterprise to Make Good

The Contractor shall give reasonable warning to the Targeted Enterprise when any contravention of the terms and conditions of the subcontract agreement has occurred or appears likely to occur. The Contractor shall, whenever feasible, give the Targeted Enterprise reasonable opportunity to make good any such contravention, or to avoid such contravention, and shall render all reasonable assistance to the Targeted Enterprise in this regard.

PCY 9.6 Dispute Avoidance and Resolution Procedures

When any disputes arise, the Contractor shall explain fully to the Targeted Enterprise that such actions are provided for in the subcontract agreement. If such action is contemplated, it shall be discussed with the Employer’s Agent and tabled to the PLC before any action is taken.

The Targeted Enterprise shall have 21 calendar days from the date of receipt of the letter of warning by the Contractor to address and rectify the issues raised by the Employer’s Agent, except for issues pertaining to Site Safety and Accommodation of Traffic, for which the reaction time shall be in accordance with the relevant specifications for those aspects of the Works, but which shall not be longer than 24 hours.

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Failure by the Targeted Enterprise to comply with a deadline, will be sufficient grounds for the Contractor to apply a penalty or terminate the subcontract agreement provided that the Employer and the Employer’s Agent are satisfied that the Contractor has made every effort to correct the performance of the Targeted Enterprise.

The Targeted Enterprise shall have the right to dispute any ruling given or deemed to have been given by the Contractor or the Employer’s Agent. Provided that, unless the Targeted Enterprise shall, within 21 calendar days after his receipt of a ruling or after a ruling shall have been deemed to have been given, give written notice (hereinafter referred to as a Dispute Notice) to the Contractor, referring to the relevant clause(s) in the subcontract agreement disputing the validity or correctness of the whole or a specified part of the ruling, he shall have no further right to dispute that ruling or the part thereof not disputed in the said notice.

PCY 10 WORK SUITABLE FOR EXECUTION BY TARGETED ENTERPRISES

To assist the Contractor in achieving his CPG, the following work items have been identified as being suitable for execution by Targeted Enterprises:

- a. Excavation of pipe line trenches.
- b. Supply, delivery and installation of pipelines.
- c. Bedding, blanket and backfill of pipe lines.
- d. Construction of inlet, outlet, overflowing, scour and balancing chambers including the installation of pipework.
- e. Erection and maintenance of the Contractor’s camp site
- f. Site Security Services.
- g. Haulage of materials
- h. Supply of plant.
- i. Supply of fuel.
- j. Construction of buildings (Pump House and Guard House)
- k. Construction of apron around the reservoir
- l. Construction of fence at the reservoir site

From the above work items, the following have been identified as suitable for execution by CIDB CE graded Targeted Enterprise subcontractors:

- a. Excavation of pipe line trenches.
- b. Supply, deliver and installation of pipelines.
- c. Bedding, blanket and backfill of pipe lines.
- d. Construction of inlet, outlet, overflowing, scour and balancing chambers including the installation of pipework.
- e. Construction of buildings (Pump House and Guard House)
- f. Construction of apron around the reservoir
- g. Construction of fence at the reservoir site

The CIDB graded targeted subcontractors will be appointed as subcontractors selected in consultation with the Employer in accordance with clause 4.4.4 of the *General conditions of contract for construction works, 3rd ed. (2015)*. The work to be carried out by Targeted Enterprises is not limited to the work listed above and the Contractor may need to engage Targeted Enterprises on other aspects of the Works to achieve the CPG.

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



A Provisional Sum for the work by CIDB graded Targeted Enterprise sub-contractors is allowed under pay item PCY 13.4.

PCY 11 TRAINING, COACHING, GUIDANCE, MENTORING AND ASSISTANCE

The Contractor shall under the auspices of the PLC and in consultation with the Employer develop a Training and Skills Development Programme which shall be managed by the Contractor’s TE Construction Manager.

PCY11.1 Purpose of the Training and Skills Development Programme(s)

Skills development forms an integral part of the Employer’s Transformation and Community Development Policies and hence, it is important to the Employer that Targeted Labour and Targeted Enterprises be equipped with skills that can be used to gain meaningful future employment and secure subcontracting opportunities.

It is, therefore, a requirement of this Contract that the Contractor provide adequate training, coaching, guidance, mentoring and assistance to the Targeted Labour and Targeted Enterprises to ensure skills development within the Construction Industry.

PCY 11.2 Skills Audit and Analysis

Prior to developing the Training and Skills Development Programme(s), the Contractor shall conduct a skills audit and analysis of its own employees and those of its subcontractors to determine their levels of education, existing qualifications, and skills sets. The outcome of the skills audit and analysis shall be used to develop a Training and Skills Development Programme(s) that will benefit both the employee and the Construction Industry at large.

Included in the skills audit and analysis shall be a separate section, analysing the education, qualifications and skills sets of the Targeted Enterprise’s owners and supervisors subcontracted by the Contractor to develop a Training and Skills Development Programme that will develop and improve the ability of small business owners and their supervisory staff to better manage their enterprises.

PCY 11.3 Developing the Training and Skills Development Programme

The Employer shall be involved in the decision making and quality control pertaining to the development and implementation of the Training and Skills Development Programme facilitated through this Contract.

The Employer has no service agreement or memorandum of understanding with any education and training quality assurance body and, therefore, does not function as the “Employer” as defined under any three-party-agreement between the Trainee, the Training Provider and the Employer.

However, the Employer requires similar outcomes to that of formal learnership programmes and the Contractor shall structure a Training and Skills Development Programme in a manner that permits continued access to further learning and qualifications within a defined programme.

The complete Training and Skills Development Programme shall be approved by the Employer and Employer’s Agent and signed off by the PLC before any training commences.

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PCY 11.4 The Training Service Provider

While the Contractor's TE Construction Manager will manage the Training, Development and Support Programme and mentor Targeted Enterprise subcontractors from a practical point of view, the Contractor shall subcontract a Training Service Provider to implement the theoretical training components of the Programme by applying the Employer's Supply Chain Management Policy for second tier procurement.

a) Accreditation of the Training Service Provider

The Training Service Provider entity shall be accredited, and have in its employ Practitioners, Assessors and Moderators who are registered, with the Construction Education Training Authority (CETA). Proof of accreditation and registration shall be current, valid and list the NQF levels and Unit Standards for which the entity and its staff are accredited.

b) Qualifications and Experience of the Training Service Provider

The training and competency levels required of the Training Service Provider and his staff are outlined in the table below:

TABLE PCY11.4/1: QUALIFICATIONS FOR TRAINING STAFF

| Designation | Title and Unit Standard No. | NQF Level | Credit |
|--------------|---|-----------|--------|
| Practitioner | Train the trainer; No 7384 | 4 | 16 |
| Assessor | Conduct outcome base assessment; No 115753 | 5 | 15 |
| Moderator | Conduct moderation of outcome-based assessment; No 115759 | 6 | 10 |

In addition to the above qualifications, and in keeping with current CETA practical experience requirements for registration as a Practitioner, NQF Level 4 Unit Standards shall only be presented by Practitioners with NQF Level 5 (one level up) credentials.

The Employer further requires that Assessors and Moderators shall have at least 5 years' experience as a Site Agent, managing construction processes in the fields of roads maintenance, new roads construction, roads rehabilitation and structures.

Elective Unit Standards are typically more vocational orientated and may require specialist input. It is thus not a requirement that individual Practitioners and Assessors shall have all the necessary skills for all the different categories of Unit Standards. The Training Service Provider may and shall therefore, when necessary, appoint Practitioners and Assessors on an ad hoc basis with the levels of experience which are required for the Unit Standards to be presented.

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PCY 11.5 Training and Skills Development Programme: General Requirements

The Training and Skills Development Programme shall consist of Learnerships that include multiple, but related Unit Standards which are (1) relevant to the Works to be constructed, (2) aimed at achieving the skills development objectives of the Programme, and (3) lead towards a formal qualification in the Construction Industry.

Learnerships shall include both the theoretical and practical components of each Unit Standard and shall be in accordance with the various laws and regulations contained in the South African Qualification Authority (SAQA) statutes.

a) Training Programme: Requirements and Considerations

The Skills Audit and Analysis shall inform the Contractor of every employee’s Recognised Prior Learning (RPL) skills and competencies, which shall be taken into consideration in the development of the Training and Skills Development Programme so that the RPL skills and competencies, together with the Training Programme Unit Standards offerings, will lead to a full Learnership outcome and hence a formal qualification. In addition the Employer may also provide candidates for training.

It is recognised that the Training and Skills Development Programme may consist of several Unit Standards but totalling insufficient credits for a full Learnership qualification. Nevertheless, the competencies and credits achieved in the Programme shall contribute to a full Learnership by a later acquisition of the outstanding Unit Standards required for the full Learnership.

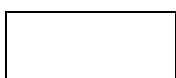
The Training and Skills Development Programme shall be structured in a manner to prioritise those Unit Standards that will equip Trainees with the minimum skills required to become economically involved in the execution of the Works as soon as possible.

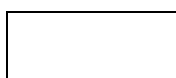
The Training Service Provider shall apply the SAQA Learnership criteria of which the basic elements are listed below to demonstrate the Employer’s requirements:

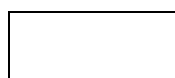
- i) Minimum credits for qualification;
- ii) Fundamental Unit Standards and credit values;
- iii) Core Unit Standards and credit values;
- iv) Elective Units Standards and credit values;
- v) Assumption that NQF Level 3 literacy, numeracy, and computer competencies exist;
- vi) RPL processes;
- vii) Exit level outcomes.

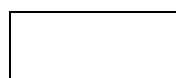
The above criteria are not exhaustive, and the Training Service Provider shall apply the systems and processes required by the relevant SAQA and other related legislation pertinent to training. The Training Service Provider shall regularly consult the SAQA website (www.saga.org.za) to ensure that the most current Unit Standards are presented. In the event of any conflict, the legislated requirements shall apply.

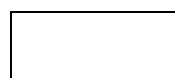
While structuring the Learnership offerings, the Training Service Provider shall distinguish between the levels of learning required. The bulk of the training shall focus on NQF Levels 4 and 3. NQF Level 5 training is not anticipated but may be suitable for qualifying staff of established small contractors. The qualification titles for the respective NQF Levels are:

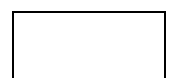

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Witness 2



- a. NQF Level 3 National Certificate: Construction Roadworks.
- b. NQF Level 4 National Certificate: Supervision of Construction Processes
- c. NQF Level 4 National Certificate: Business Management
- d. NQF Level 5 National Diploma: Management of Civil Employer’s Agenting Construction Processes

It may be necessary to include additional Core Unit Standards, e.g. “Tendering” or “Entrepreneurship” as an additional Unit Standard for NQF Level 4, to achieve the Contract’s development objectives. The identification of any additional Unit Standards shall be discussed with the Employer’s Agent and shall not be implemented without prior approval.

Before qualifying, Trainees will be expected to demonstrate competence in a practical situation that integrates the assessment of all specific outcomes, for all Unit Standards in the Learnership Programme.

All training shall take place within normal working hours, or as agreed with the trainees.

b) Selection of Trainees

To complete a Learnership successfully requires minimum literacy and numeracy competencies as defined by SAQA. The Training Service Provider shall utilise the skills audit and analysis and conduct additional skills analysis to benchmark the literacy and numeracy levels of employees and subcontractors. This information shall guide the Training Service Provider in formulating the Trainee selection methodology(ies) and process(es). The Training Service Provider shall make provision for:

- i) baseline assessments, e.g. conducting RPL enquiries and tests; and
- ii) a gap skills programme consisting of Fundamental Unit Standards, to facilitate the selection process.

Trainees identified as having already acquired some tertiary training, particularly in the field of Civil Employer’s Agenting, may be suitable for a specialised Trainee programme or a higher NQF Level programme. The Training and Skills Development Programme shall, therefore, make provision for Trainees with a variety of competency levels and shall make provision for different levels of training.

It should be noted that where this section refers to the selection and training of Trainees, any person, employed by any national, provincial or local authority, being it full time or part time, is expressly excluded from being considered for this training.

c) Learning Material

Learning material is required for each Unit Standard. This learning material is the equivalent of prescribed textbooks for other qualifications. Each Trainee shall receive a copy of the learning material to learn the contents and to use it as a reference source after obtaining the qualification.

The SAQA Unit Standard curriculums define the contents of the learning material. The learning material shall not only comply with the SAQA and CETA guidelines but shall be technically and practically aligned to road construction and/or road maintenance. Any input from a subject matter expert required to ensure the appropriateness of learning material contents shall be included in the Training Service Provider’s costs.

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



The requirements to be addressed in learning material as outlined by the SAQA Unit Standard curriculums are, amongst others, the following:

- i) purpose of the Unit Standard;
- ii) specific outcomes (typically 4 per Unit Standard);
- iii) assessment criteria (typically 4 per specific outcome);
- iv) range as is defined for each specific outcome;
- v) critical cross-field outcomes for the Unit Standard;
- vi) Unit Standard essential embedded knowledge.

d) Student Experiential Training or Learnerships or Internships

The Employer may deploy students to the construction site to obtain experiential training. The Contractor shall provide experiential training to these students in accordance with the relevant academic institution's requirements, which is typically a university, a university of technology, or a TVET.

The Contractor shall also provide students with all the tools (including appropriate information technology hardware and software) and site office space necessary to carry out Employer's Agenting work as if they were the Contractor's own permanent staff.

Reporting on training progress of each student shall be compiled according to the formats and intervals set by the relevant academic institution.

(e) Keeping of Records

The Training Service Provider shall keep comprehensive records of the training provided to each Trainee and shall ensure that Trainees' successful completion of successive Unit Standards are entered onto the national SAQA database. After the successful completion of generic skills courses, each Trainee shall be issued with a certificate indicating the course contents as proof of attendance and completion. The Contractor shall keep a register of certificates issued. Whenever required, the Contractor shall provide copies of such records to the Employer's Agent.

(f) Skills Development Requirements

- b. Not applicable.

(g) Generic Skills Training

Generic skills shall be taught where the need has been identified and approved by the Employer and the Employer's Agent.

The Contractor shall make representation to the Employer and the Employer's Agent, who shall approve candidates that should attend such courses as they deem appropriate. Those selected shall receive formal generic skills training in a programmed and progressive manner. The PLC may also identify a need for generic skills training.

Typical training programmes could comprise some or all of the following modules:

- i) Basic hygiene and HIV/AIDS awareness;
- ii) Road safety;
- iii) Basic management of the environment;

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



- iv) Tourism awareness and opportunities;
- v) Managing personal finance;
- vi) Adult Basic Education and Training (ABET);
- vii) Community based training programmes (e.g. knitting, computer skills, plant/ machine operator, etc.).

All generic skills training shall be accredited by the relevant Sector Education and Training Authority (SETA) and shall be provided with accredited entities and/or individuals.

(h) Community Training

Community training shall be taught where the need has been identified.

Affected Communities may submit their training needs to the PLC for consideration and inclusion into the Training and Skills Development Programme. While considering the training needs of the affected Communities, the Employer’s Agent shall inform the PLC of the Contract’s training limitations, as well as of the training that could be undertaken through the Contract. Trainees from the Community shall be identified through the Community structures, but under the auspices of the PLC. Trainees selected from the Community shall receive formal skills training in a programmed and progressive manner in compliance with subclause PCY 11.4. Priority shall be given to training that will equip Community members with skills that will enhance their employability.

All community skills training shall be accredited by the relevant Sector Education and Training Authority (SETA) and shall be provided with accredited entities and/or individuals.

(i) Training Facilities

The Contractor shall be responsible for providing everything necessary to offer the various training workshops and modules including:

- i) a suitable venue with sufficient furniture, lighting and power,
- ii) all necessary stationery consumables and study material,
- iii) transport for attendees.

PCY 12 LABOUR ENHANCED CONSTRUCTION

The Contractor’s attention is drawn to the fact that it is an objective of the Contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former should generally be kept to the practical minimum.

Before commencing with any labour enhanced operations, the Contractor shall discuss his intentions with the Employer’s Agent and shall submit to the Employer’s Agent on a monthly basis, daily labour returns indicating the numbers of temporary personnel employed on the Works and the activities on which they were engaged.

It should be noted that activities that are conventionally done by labour methods, e.g., gabions, shall not qualify under this section.

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Witness 1

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Witness 2



PCY 13 MEASUREMENT AND PAYMENT

PCY 13.1 Stakeholder and Community Liaison

Item

| | | |
|-----|---|----------------|
| (b) | Project Liaison Committee | Prov.Sum |
| (e) | Overheads, charges and profits on the above | Percentage (%) |

The provisional sum for item PCY 13.1(b) shall cover the direct costs incurred by attending members of the PLC. The rate of compensation shall be fair and agreed by the Employer’s Agent in accordance with clause 16.6 of the *General conditions of contract for construction works, third edition (2015)*. The tendered percentage for sub-item PCY 13.1(e) shall include full compensation for all handling costs and profit of the Contractor associated with sub-item PCY 13.1(b).

The liaison with, and assistance provided by the Contractor to the PLC to perform its duties shall not be paid from the prime cost sum. The Contractor’s costs to liaise with the PLC and render such assistance shall be deemed to have been included in its rate offered for pay sub-item C1.3.1.3 Time Related Obligations.

PCY 13.2 Tender Process for Targeted Enterprises

The payment of the process should be included in the item 8.3.1 of SABS 1200A.

Each tendered rate shall be in full compensation for the management and execution of the Targeted Enterprise procurement process in the relevant CIDB contractor grading designation scheduled, including for the appointment of a TE Procurement Coordinator (if required), the pre-tender training of eligible Targeted Enterprises, the compilation, printing, binding and issue of the tender documents for each tender, for the advertising of each tender, for the provision of the venue and the conducting of each compulsory briefing session for tenderers, for the conducting of each tender opening process, for the adjudication of the tenders received for each tender, for the preparation of each tender adjudication report and the review thereof in conjunction with the Employer, Employer’s Agent and the PLC, for the award of each tender and for the conclusion of the subcontract agreement with each successful Targeted Enterprise tenderer, and any other relevant requirement described in this Section PCY.

PCY 13.3 Responsibilities of the Contractor towards Targeted Enterprises

The payment of this activities should include on the rate of item 8.4.3 SABS 1200A

The tendered rate for 8.4.3 PCY 13.3 shall include full compensation for the registration of all the subcontract agreements and the management of all the Targeted Enterprise subcontracts, including for the provision of the necessary management, support, coaching, guidance, mentoring and supervision of the Targeted Enterprise subcontractors.

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PCY13.5 Training, coaching, guidance, mentoring and assistance

- (a) Accredited and Approved training courses for selected local and other labours including wages during training Prov.Sum

- (b) Overheads, charges and profits on the above Percentage (%)

The provisional sums under sub-items PCY13.5(a) shall be paid in accordance with the provisions of sub-clause 13.5 of the *General conditions of contract for construction works, (3rd ed.), 2015*. The provisional sums shall include all charges for the provision and delivery of the service including an accredited Training Service Provider (if required), learning material and any other requirement as described in sub-clause PCY 13.5.

The rate tendered under sub-item PCY 13.5(a) shall be deemed to cover all costs required to organise accredited trainers to provide training and shall include the Contractor's handling cost, profit, record keeping, reporting and all other costs associated with sub-items PCY 13.5(a).

No payment, nor pro-rata payment, shall be made for trainees that, once selected, do not attend or only partially complete structured training courses. The Contractor's own staff may attend the courses provided. However, such attendants from the Contractor's staff shall not be considered for measurement and payment purposes unless they also qualify as Targeted Labour.

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2