



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

**NATIONAL CERTIFICATE
QUANTITY SURVEYING N6**

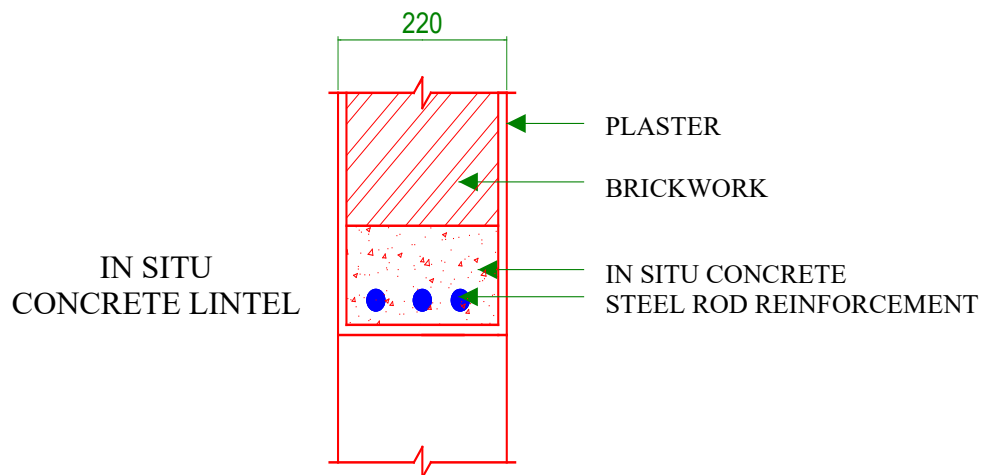
8 AUGUST 2018

This marking guideline consists of 10 pages.

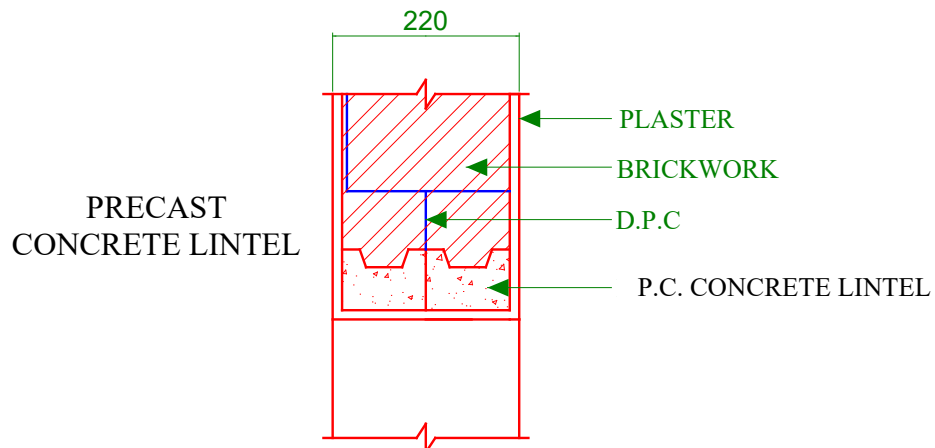
QUESTION 1

- 1.1 1.1.1
- To be measured in number
 - Girth to be stated 1 m above ground
 - To be grouped in sizes exceeding 200 mm not exceeding 500 mm girth
 - Thereafter in stages of 500 mm girth
 - Descriptions must state if the trees are to be removed with roots and should include the closing of holes. (Any 3 × 1) (3)
- 1.1.2
- To be measured in square metres.
 - Measure all sides of excavations whether working space is given or not.
 - Separate items for bulk and trenches and holes.
 - Item should state not exceeding 1,5 m from the ground level OR
 - exceeding 1,5 m from the ground level. (Any 3 × 1) (3)
- 1.1.3
- To be measured in cubic metres
 - Irregular shapes to be measured separately
 - No deductions for voids not exceeding 0,1 m² (3)

1.2 1.2.1



1.2.2



(2 × 3) (6)

- 1.3 The purpose of a contingency sum is to provide a reserve fund to cover costs for:
- Variations
 - Extras
 - Work not visible at tender stage (6)
- 1.4 1.4.1 An interim payment refers to money received by a contractor on a monthly basis for work that was successfully carried out during the preceding month.
- 1.4.2 The final account refers to the revised contract amount as drawn up by a professional quantity surveyor and agreed on by all concerned parties. (2 × 2) (4)
- [25]**

QUESTION 2

| | | | | |
|-------------|--------------|---|--------------|---|
| ✓ 2 ✓ | 1 | ✓ DOOR Solid meranti f.l. & b. dr. size 2100 x 1150 x 44 mm ✓ | 5,77 | ✓ 150 mm wide dpc shtg. around tbr. frame ✓ |
| | 2,10 1,19 | ✓ 2 cts. clear varnish to tbr. dr. flat surfaces. ✓ <u>Collections</u> 2,100 x 1,150 + 0,044 2,100 x 1,194 m ✓ | 5,77 | ✓ Prime backs of tbr. frame ✓ |
| | 3 | ✓ 100 mm wide brass heavy duty door hinges. ✓ | 5,35 0,26 | ✓ 2 cts. clr. varnish to exposed dr. frame surfaces. ✓ <u>Girth</u> 2 x 75 = 0,150 + 0,114 = 0,264 m ✓ <u>Length</u> 2 x 2,100 + 1,150 = 5,350 m ✓ |
| | 1 | ✓ Three-lever mortise dr. lock Inlc. furniture and 2 keys. ✓ | 2 3 | ✓ H.i. fixing lugs. ✓ |
| | 5,77 | ✓ <u>FRAME</u> 114 x 75 mm meranti solid dr. frame once rebated, incl. bldg. In. ✓ <u>Collections total length</u> <u>Stiles</u> 2 x (2100 + 55) = 4,310 m ✓ <u>Head</u> 1150 + (2 x 55) = 1,260 <u>Horns</u> 2 x 100 = 0,200 5,770 ✓ | 2 | ✓ 10 mm Dia. st. dowels @ bot. of stiles ✓ |
| | (1) | | | (2) |

| | | | | | | | |
|--|--------------|---|---|---|---------------------|---|---|
| | 2,34 1,26 | ✓ | <u>Ddt.</u> 220 mm thick bk. wl. ✓ a.b. ✓ <u>Height</u> $2100 + 2(55) + 30 + 100$ $= 2340 \text{ m}$ ✓ <u>Width</u> $2 \times 55 + 1150 = 1,260 \text{ m}$ ✓ & <u>Ddt.</u> E.o. plaster bks. for ✓ fcgs.e.m. ✓ Ddt. ✓ Vert. int. pls. to bk. wl. ✓ a.b. ✓ | | 126 0,27 0,10 | ✓ | <u>Threshold</u> <u>Add.</u> 15 MPa mass. conc. ✓ a.b. ✓ 30 mm thick c.m. ✓ scd. ✓ & Ceramic flr. tiles ✓ <u>Reveals</u> E.o. pls. bks. for fcgs. ✓ ✓ $0,270 - 0,114$ $= 0,156 \div 2 = 0,078 \text{ m}$ <u>Height</u> $2,100 + 0,055 = 2,155 \text{ m}$ & Pls. to vert bk. wl. n.e ✓ 300 mm wide ✓ & Pt. to vert. bk. wl. ✓ |
| | 2,24 1,26 | ✓ | Ddt. ✓ 2 cts. pva pt. a.b. ✓ <u>Height</u> $2340 - 0,100 = 2,240 \text{ m}$ ✓ Ddt. ✓ 100 mm meranti sktg. ✓ & Ddt. ✓ 2 cts. varnish to tbr. ✓ sktg. a.b. ✓ | 2 | 0,08 2,16 | ✓ | Head Extra for b.o.h. soldier ✓ arch over dr. opening. ✓ 160 x 75 mm p.c. conc. ✓ lintel. ✓ <u>Length</u> = $1260 + 2(100)$ $= 1,460 \text{ m}$ ✓ |
| | 1,26 | | (3) | | 1,26 | ✓ | |
| | | | | | 1,46 | ✓ | |
| | | | | | | | (4) |

(50 ÷ 2)

[25]

QUESTION 3

| | | | | | | | |
|---|---|---|---|-----|--|---|--|
| 3 | 0,68 0,22 3,70 0,45 0,22 | ✓ | <p>25 MPa reinf. conc. in cols. ✓</p> <p>$2 \times 0,450 = 0,900 - 0,220$ $= \underline{0,680}$ m</p> | 2 | 26,12 0,22 0,30 1,50 0,22 0,30 | ✓ | <p>25 MPa reinf. conc. in ring beam. ✓</p> <p><u>Centre line of ring beam</u></p> <p>$2 \times 4,500 = 9,000$ $2 \times 9,000 = \underline{18,000}$ 27,000 less $4 \times 0,220$ <u>0,880</u> <u>26,120</u> m</p> |
| 2 | 3,70 0,22 0,22 3,70 | ✓ | <p><u>Col. heights</u> 3,100 <u>0,600</u> <u>3,700</u> m</p> | 2 | 26,12 0,22 1,50 0,22 | ✓ | <p>Frmwrk. to soffits of bms. ✓</p> |
| 3 | 1,34 3,70 | ✓ | <p>Frmwrk. to sides of cols. ✓</p> | 2 | 26,12 0,22 1,50 0,22 | ✓ | <p>Frmwrk. to sides of bms. & slab. ✓</p> |
| 2 | 0,88 3,70 | ✓ | <p>$2 \times 0,450 = 0,900$ $2 \times 0,220 = \underline{0,440}$ <u>1,340</u> m</p> <p>$4 \times 0,220 = 0,880$ m</p> | 2 | 26,12 0,30 1,50 0,30 | ✓ | <p>-R.bm.</p> <p>-Overhang</p> <p>-Slab</p> <p>-Bm. ends</p> <p>$2 \times 6,000 = 12,000$ $2 \times 9,000 = \underline{18,000}$ <u>30,000</u> m ✓</p> |
| 2 | 0,90 3,70 | ✓ | <p>Ditto, but to L-shape cols. ✓</p> <p>$4 \times 0,450 = 0,900$ m</p> | 2 | 30,00 0,15 0,22 0,30 | ✓ | <p>Allow the prov. sum of R25,000 (twenty five thousand) for steel ✓ rod reinf. cut, bent, del. to site & fixed in position.</p> <p>&</p> <p>Add for attendance. ✓</p> <p>&</p> <p>Add. for profit. ✓</p> |
| | 6,00 9,00 0,15 | ✓ | <p>25 MPa. reinf. conc. in slab incl. s.o. & c. hor. top surfaces. ✓</p> <p>$4,500 + 1,500 = 6,000$ m $2 \times 4,500 = 9,000$ m</p> | ✓ | Item | | |
| | 4,06 8,56 | ✓ | <p>Frmwrk. to soffit of slab. ✓</p> <p style="text-align: center;">4,500 Less $2 \times 0,220 = \underline{0,440}$ <u>4,060</u> m</p> <p style="text-align: center;">9,000 Less $2 \times 0,220 = \underline{0,440}$ <u>8,560</u> m</p> | (1) | | | (2) |

[25]

QUESTION 4

QUESTION 4.1: SQUARING (ADDENDUM D)

| | | | | | | | |
|-------------|-----------------------|---------------|---|-------------|--------------|---------------|--|
| <p>2 /</p> | <p>11,22</p> | <p>22,44</p> | <p>38 x 114 mm S.S.A.P. w.p.</p> <p>11,660 – 2(0,220) = 11,220 m</p> | <p>17 /</p> | <p>4,35</p> | <p>147,90</p> | <p>Ditto. but exce 3,9 m n.e. 6,6 m long</p> |
| <p>2 /</p> | <p>11,22 0,30</p> | <p>6,73</p> | <p>Treat tbr. w.p. with carb. oil before fixing.</p> <p>2 x 114 = 0,228 2 x 38 = 0,076 0,304 m</p> | <p>17 /</p> | <p>6,21</p> | <p>105,57</p> | <p>rafter</p> |
| <p>2 /</p> | <p>11,22 0,30</p> | <p>6,73</p> | <p>2 x 114 = 0,228 2 x 38 = 0,076 0,304 m</p> <p>11,220 / 0,700 = 16,029</p> <p>16 + 1 = 17 no. trusses</p> <p>The following in measurement of 17 no. full trusses fixed 2,3 m above ground level</p> | <p>17 /</p> | <p>2</p> | <p>34</p> | <p>tie bm.</p> <p>Wrought ends of tbr. rafter approx. 783 mm long.</p> |
| <p>17 /</p> | <p>4,40</p> | <p>12,86</p> | <p>Marseil's roof tiles on 38 x 45 mm tile battens w. insulationshtg. under tile battens</p> <p>sloping length 3,562 + 0,783 = 4,345 + 0,050 4,395 m</p> <p>Length 2 x 0,600 = 1,200 12,860 m</p> | <p>2 /</p> | <p>4,40</p> | <p>113,17</p> | <p>Marseil's roof tiles on 38 x 45 mm tile battens w. insulationshtg. under tile battens</p> |
| <p>17 /</p> | <p>12,86</p> | <p>12,86</p> | <p>Ridge covering at apex.</p> | <p>17 /</p> | <p>12,86</p> | <p>12,86</p> | <p>Stopped ends to ridge cover.</p> |
| <p>17 /</p> | <p>1,86</p> | <p>31,62</p> | <p>38 x 114 mm S.S.A.P. Tbr. n.e. 2,4 m long.</p> | <p>17 /</p> | <p>1,80</p> | <p>61,20</p> | <p>-K.p.</p> |
| <p>17 /</p> | <p>0,94</p> | <p>31,96</p> | <p>-Diag. strut</p> | <p>17 /</p> | <p>0,94</p> | <p>31,96</p> | <p>-Vert. strut</p> |
| | | <p>124,78</p> | <p>(1)</p> | | | | <p>(2)</p> |

QUESTION 4.2: ABSTRACTING

| TIMBER ROOF CONSTRUCTION | | | |
|---|---|--|--|
| <u>Carpentry & joinery</u> | | | |
| <p>m</p> <p>38 x 114 mm S.S.A.P. tbr.</p> <p>22,44 1</p> <p>22 m</p> | <p>m</p> <p>38 x 114 mm but exce. 3,9 m n.e. 6,6 m long</p> <p>253,47 2</p> <p>254 m</p> | <p><u>Roof coverings</u></p> | |
| <p>m²</p> <p>Treat tbr. w.p. with carb. oil before fixing</p> <p>6,73 1</p> <p>7 m²</p> | <p>No.</p> <p>Wrought ends of tbr. rafter approx. 783 mm long.</p> <p>34 2</p> <p>2 no.</p> | <p>M²</p> <p>Marseil's roof tiles on 38 x 45 mm tile battens w. insulation shtg. under tile tile battens</p> <p>113,17 2</p> <p>113 M²</p> | |
| <p><u>The following in measure- ment of 17 no. full trusses fixed 2,3 m above ground level</u></p> | | | |
| <p>m</p> <p>38 x 114 mm S.S.A.P. tbr n.e. 2,4 m long.</p> <p>124,78 1</p> <p>125 m</p> | | <p>m</p> <p>Ridge covering at apex.</p> <p>12,86 2</p> <p>13 m</p> <p>No</p> <p>Stopped ends to ridge cover.</p> <p>2 2</p> <p>2 no.</p> | |

QUESTION 4.3: BILLING

| TIMBER ROOF CONSTRUCTION | | | | |
|---|---|----------------|-----|---|
| <u>Bill no. 1</u> | | | | |
| <u>Carpentry and joinery</u> | | | | |
| 1. | 38 × 114 mm sawn South African pine timber wall plate. | m | 22 | |
| 2. | Treat timber wall plate with carbolinium oil. | m ² | 7 | |
| <u>The following in 17 no. roof trusses fixed approximately 2,4 metres above ground level</u> | | | | |
| 3. | 38 × 114 mm sawn South African pine timber not exceeding 2,4 metres long. | m | 125 | |
| 4. | Ditto, but exceeding 3,9 not exceeding 6,6 metres long. | m | 254 | |
| 5. | Wrought ends of timber rafters approximately 783 mm long. | m | 34 | |
| Carried to summary | | | | |
| | | | | R |

| TIMBER ROOF CONSTRUCTION | | | |
|--------------------------|--|----------------|-----|
| <u>Bill no. 2</u> | | | |
| <u>Roof covering</u> | | | |
| 1. | Marseil's roof tiles on 38 × 45 mm tile battens with insulation sheeting under tile battens. | m ² | 113 |
| 2. | Matching ridge cover tiles. | m | 13 |
| 3. | Extra for stopped end. | no. | 2 |
| Carried to summary | | | |
| | | | R |

WORKING UP MARK ALLOCATION

| | | |
|---------------------------------|---|------|
| <u>Squaring</u> | | |
| Insert page numbers. | 1 | |
| Check side casts. (ticks) | 1 | |
| Check dimensioning. (ticks) | 1 | |
| Square dimensions. | 1 | |
| Check squaring answers. (ticks) | 1 | |
| Transfers to abstract. | 1 | |
| Check transfers. | 1 | (7) |
| <u>Abstracting</u> | | |
| Section of work | 1 | |
| Trades | 1 | |
| Units | 1 | |
| Page referencing | 1 | |
| Use of columns | 1 | |
| Reducing | 1 | |
| Transfers to bill | 1 | |
| Check transfers | 1 | (8) |
| <u>Billing</u> | | |
| Section of work | 1 | |
| Bill no's | 1 | |
| Trades | 2 | |
| Item no. | 1 | |
| Descriptions (No abbreviations) | 1 | |
| Units | 1 | |
| Quantities | 1 | |
| Summaries | 2 | (10) |

[25]

TOTAL: 100