T1460**(E)**(A14)T

NATIONAL CERTIFICATE

QUANTITY SURVEYING N6

(2050026)

14 August 2019 (X-Paper)
09:00–13:00

REQUIREMENTS: Dimension paper (OE 8/12)

Candidates must use their own unmarked *Standard System of Measuring Building Work.*

Calculators may be used.

This question paper consists of 5 pages and 5 addenda.

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
QUANTITY SURVEYING N6
TIME: 4 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1.   Answer ALL the questions.

2.   Read ALL the questions carefully.

3.   Number the answers according to the numbering system used in this question paper.

4.   QUESTION 1 must be done in the ANSWER BOOK.

5.   QUESTIONS 2, 3 and 4 must be answered on dimension paper.

6.   Candidates must apply the rules and methods of the *Standard System Of Measuring Building Work.*

7.   ALL loose sheets must be numbered correctly and placed in sequence in the ANSWER BOOK.

8.   Sketches must be large, neat and fully labelled.

9.   Red ink is not allowed.

10.   Work neatly.

QUESTION 1

1.1   State the unit of measurement for each of the following bill items:

      1.1.1   Nail-plated roof trusses

      1.1.2   Steel rod reinforcement

      1.1.3   Working space

      1.1.4   Mass brickwork

      1.1.5   Painted steel windows

      1.1.6   Structural timbers

                                            (6 × 1)   (6)

1.2   Explain each of the following quantity surveying terms:

      1.2.1   Measuring list

      1.2.2   Reducing

                                            (2 × 2)   (4)

1.3   Explain the difference between each of the following allowances made in bills of quantities:

      1.3.1   Provisional sums

      1.3.2   Prime cost sums

                                            (2 × 5)   (10)

1.4   Make a neat sketch of a vertical section through a brick manhole and clearly show the following details:

- Concrete base
- 220 mm brick wall
- Half-round channel
- Concrete benching
- Internal plaster   (5)
                                                        [25]

QUESTION 2

ADDENDUM A shows the plan and vertical sectional views of a carport extension to an existing dwelling. The sloping length of the roof sheeting is 3,605 m.

Measure ALL the work for the complete structure.

SPECIFICATIONS

Earthworks: - Excavations in firm ground
                     - Excavated materials to be used for filling and remainder to be
                       spread on site

Concrete: - 25 Mpa mass concrete

Masonry: - Ordinary plaster bricks built in stretcher bond
                     - 1:4 cement mortar mixture   **[25]**

QUESTION 3

ADDENDUM B shows the front, horizontal and vertical sections through a 3-panelled timber door and a solid timber door frame built into a 270 mm thick external cavity brick wall.

Measure the door and frame and all the adjustments to trades measured elsewhere.

SPECIFICATIONS:

Concrete: - 15 Mpa

Masonry: - Ordinary plaster bricks
                     - 1:4 cement mortar mixture
                     - External facings
                     - Brick reinforcement in building solid cavity over opening
                     - Build cavities solid to the sides of timber frame

Painting: - Two coats clear varnish to timber finishes
                     - Two coats pva paint to plastered wall

Ironmonger: - 3-lever mortise lock
                     - 3 no. 100 mm heavy-duty butt hinges   **[25]**

QUESTION 4

ADDENDUM C shows a section and a schedule of augured reinforced concrete piles. ADDENDA D and E show the measurements of these piles.

A variation order was issued before any of the measured work was carried out. The order reads that all the 450–755 mm diameter piles must be changed to 610–970 mm diameters. The reinforced concrete must change from 25 to 30 Mpa in ALL the piles.
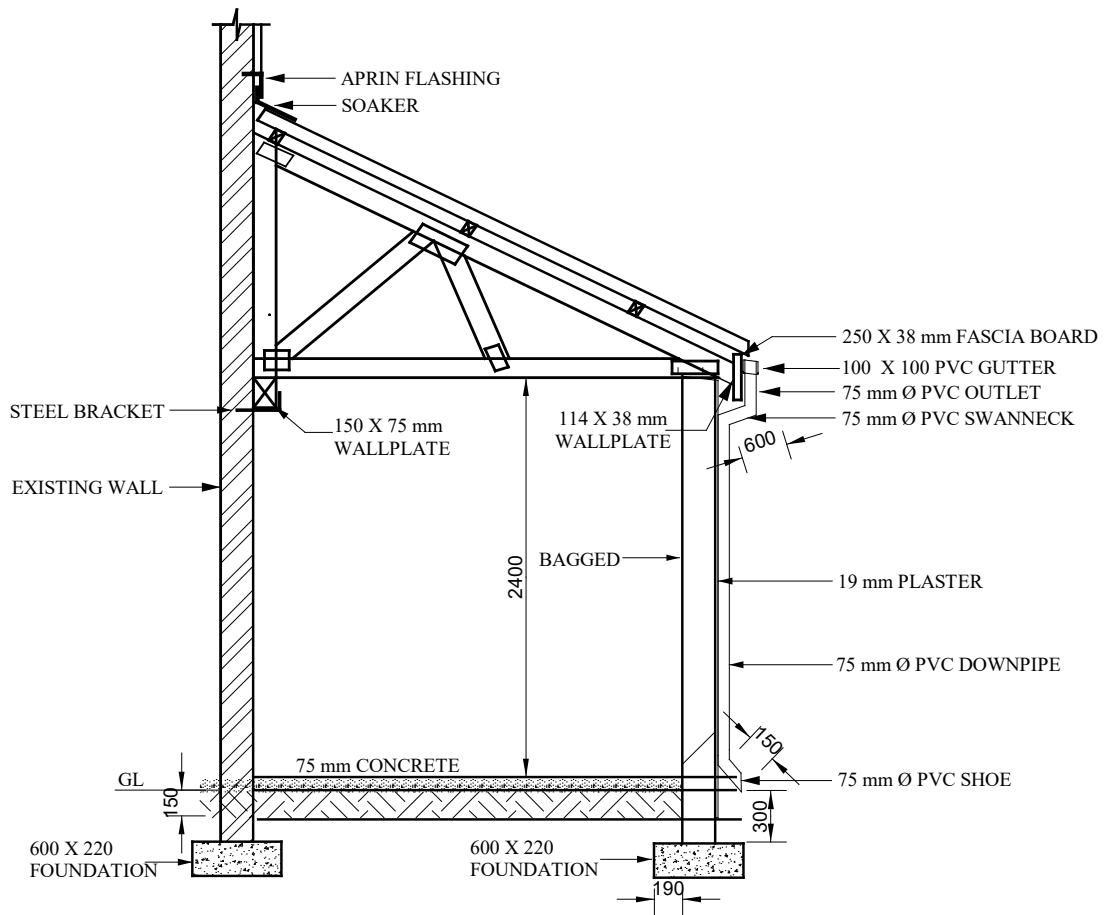
The above variation order affects items previously measured.

Copy items to be omitted in QUESTION 4.1, and measure the items to be added in QUESTION 4.2.

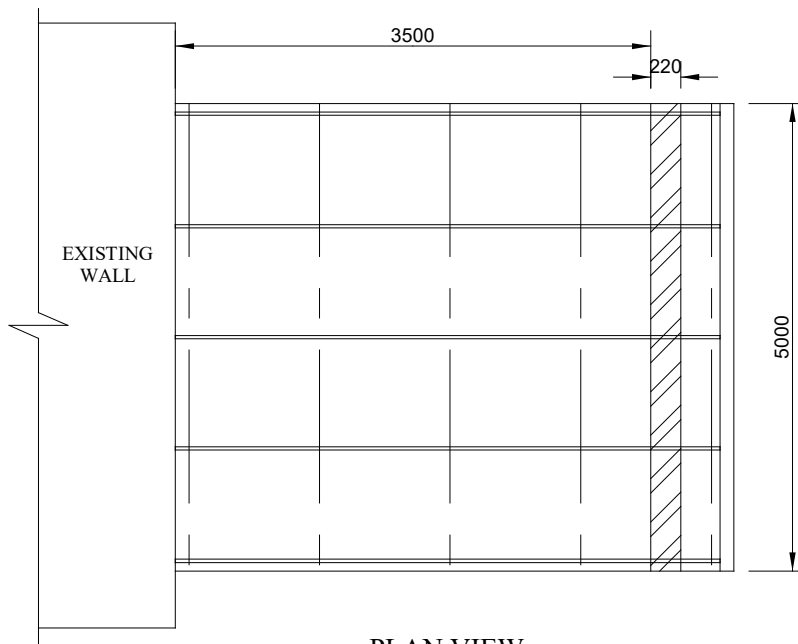4.1   Omissions   (10)

4.2   Additions   (15)
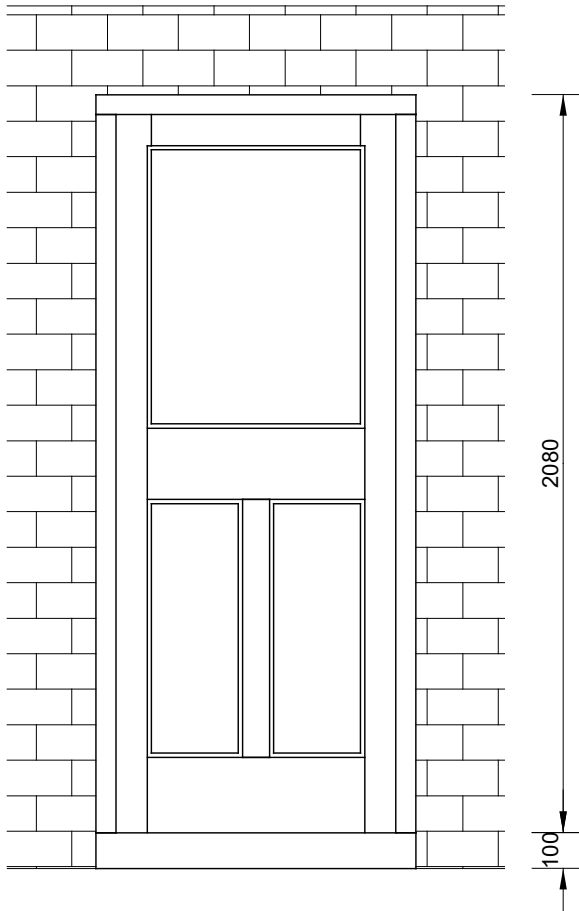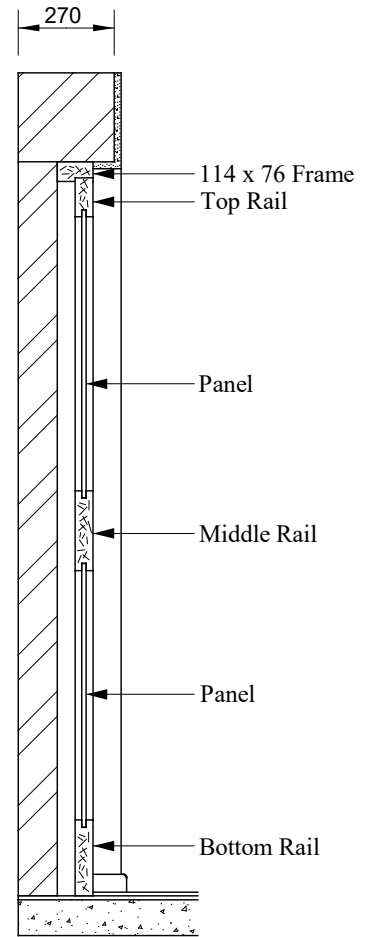   **[25]**

                                                                        TOTAL: 100

ADDENDUM A

APRIN FLASHING
SOAKER
STEEL BRACKET
EXISTING WALL
150 X 75 mm WALLPLATE
114 X 38 mm WALLPLATE
2400
BAGGED
600
250 X 38 mm FASCIA BOARD
100 X 100 PVC GUTTER
75 mm Ø PVC OUTLET
75 mm Ø PVC SWANNECK
19 mm PLASTER
75 mm Ø PVC DOWNPIPE
75 mm CONCRETE
GL
150
75 mm Ø PVC SHOE
150
300
190
600 X 220 FOUNDATION
600 X 220 FOUNDATION

SECTION THROUGH CARPORT

EXISTING WALL
3500
220
5000

PLAN VIEW

ADDENDUM B

Front View

Vertical Section

270

114 x 76 Frame
Top Rail

Panel

Middle Rail

Panel

Bottom Rail

2080

100

925
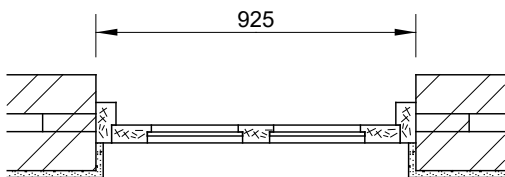
Horizontal Section

ADDENDUM C
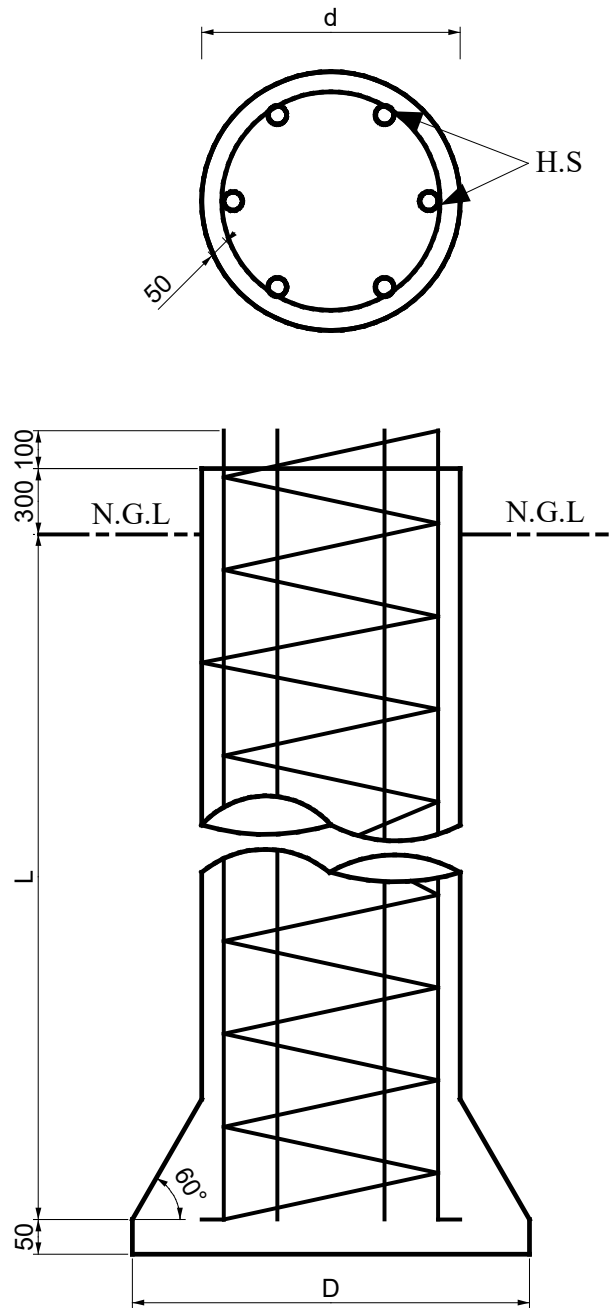
VERW REF	AANTAL NUMBER	d	D	L	HS dia.	HS LENGTE LENGTH
A	4	450	755	19.50	12	20.00
B	5	610	970	24.00	16	24.00

ADDENDUM D

	Item		Allow to establish plant on site. and Testing plant on site.		4 / 4,50 5 / 5,00		Ditto, but exce. 15 n.e. 20 m. Pile A Pile B 19,500 – 15,000 = 4,500	
	9		Setting up plant at pile positions 4+5+ = 9 No.		5 / 4,00		Ditto, but exce. 20 n.e. 25 m. Pile B 24,000 – 20,000 = 4,000	
4 / 6 /	20,00		12mm Dia. h.s. reinf. Pile A		9		E.o. drilling for under-reaming for piles 450 – 770 mm dia. Pile A,B,.	
5 / 6 /	24,00		16 mm Dia. h.s. reinf. Pile B.		4 / 19,80		25 Mpa reinf. conc. in 450 mm dia. pile. Pile A. 19,500 + 0,300 = 19,800 m	
9 /	10,00		Aug. drill 450 – 710 mm dia. in firm grnd. n.e 10 m. Pile A,B,		5 / 24,30		Ditto, but 710 mm dia. pile. Pile B. 24,000 + 0,300 = 24,300 m	
9 /	5,00		Ditto, but exce. 10 n.e. 15 m. Pile A,B,					

(1)   (2)

ADDENDUM E

	4		Add. Conc. in enlarged bulb 450 – 755 mm. Pile A.				
	5		Ditto, but 610 – 970 mm Pile B,				
4 5	0,45 0,45 19,50 0,61 0,61 24,00		E.o. drilling for c.a. (Cube × 0,25 × 3,143 = M³)			**[25]**	
	(3)						