

SULIT



**KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI**

**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN TINGGI**

JABATAN KEJURUTERAAN AWAM

PEPERIKSAAN AKHIR

SESI II : 2024/2025

DCQ10293: QUANTIFICATION OF BUILDING WORKS 1

TARIKH : 14 MEI 2025

MASA : 8.30 PAGI – 10.30 PAGI (2 JAM)

Kertas ini mengandungi **ENAM (6)** halaman bercetak.

Struktur (4 soalan)

Dokumen sokongan yang disertakan :

Lukisan, Kertas Dimensa, Kertas Billing, Malaysian Standard Method
Measurement of Building Works Second Edition (SMM2)

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

INSTRUCTION:

This section consists of **FOUR (4)** subjective questions. Answer **ALL** questions.

ARAHAN :

Bahagian ini mengandungi EMPAT (4) soalan subjektif. Jawab SEMUA soalan.

Notes:**Nota:**

1. Taking off refers to the rules stated in the Standard Method of Measurement of Building Works Second Edition (SMM2).

Pengukuran Kuantiti hendaklah kepada peraturan Kaedah Piawaian Pengukuran Kuantiti untuk Kerja-kerja Bangunan, Edisi Ke-2 (SMM2).

2. Candidate is allowed to make any assumptions if the information given in the drawing is inadequate.

Calon dibenarkan membuat andaian sekiranya maklumat yang diberikan tidak mencukupi.

3. Marks will be given for the knowledge of the subject and systematic setting of dimensions, adequacy and accuracy of description and dimensions.

Markah akan diberikan berdasarkan pengetahuan tentang subjek dan sistematik dimensi, kecukupan dan ketepatan penerangan dan dimensi.

QUESTION 1**SOALAN 1**

- CLO1 (a) Explain with a writing measurements example on a dimension paper to measure the number, length, area, volume and weight of items.

Terangkan beserta contoh penulisan dimensi pada kertas dimensi untuk kerja-kerja pengukuran bagi item bilangan, panjang, luas, isipadu dan berat.

[7 marks]

[7 markah]

- CLO1 (b) Interpret **FOUR (4)** objectives of Preambles.

Huraikan EMPAT (4) objektif Kehendak-kehendak Permulaan.

[8 marks]

[8 markah]

- CLO1 (c) Typically, the taker off will prepare a Taking Off List and Query List during the taking-off process. By using a suitable sketch, compare the differences between the two sheets.

Kelazimannya, pengambil ukuran akan menyediakan helaian Senarai Pengukuran dan Senarai Kemusykilan semasa proses mengambil ukuran. Dengan bantuan lakaran yang bersesuaian, bandingkan perbezaan penggunaan kedua-dua helaian tersebut.

[10 marks]

[10 markah]

QUESTION 2**SOALAN 2**

- CLO1 (a) Based on drawing no. **DCQ10293/EARTHWORKS/Q2/01**, prepare the schedule for the volume of cutting and filling using the weighted average excavation method between grid points **A2, A3, A4, B4, C4, D4, D3, C3, B3** and **B2**.

*Berdasarkan kepada lukisan no. **DCQ10293/EARTHWORKS/Q2/01**, sediakan jadual isipadu pemotongan dan penambakan dengan menggunakan kaedah penggalian purata berwajaran antara grid **A2, A3, A4, B4, C4, D4, D3, C3, B3** dan **B2**.*

[7 marks]

[7 markah]

- CLO1 (b) Referring to the answer given in Question 2 (a), calculate the volume of the cut, fill and disposal excavated materials in the earthworks.

Merujuk kepada jawapan yang telah diberi pada soalan 2 (a), kira jumlah isipadu pemotongan, penambakan dan pembuangan tanah yang digali dalam kerja-kerja tanah.

[8 marks]

[8 markah]

- CLO1 (c) Referring to the answer given in Question 2 (b), produce a bill of quantities (BQ) for item cut, fill and disposal of excavated material in the earthworks.

Merujuk kepada jawapan yang telah diberi pada soalan 2 (b), hasilkan satu senarai kuantiti untuk item pemotongan, penambakan dan pembuangan tanah yang digali dalam kerja-kerja tanah.

[10 marks]

[10 markah]

QUESTION 3**SOALAN 3**

- CLO1 (a) By referring to the Malaysian Standard Method of Measurement of Building Works Second Edition (SMM2), explain the rules for measuring concrete for ground beams by stating the relevant clauses.

Dengan merujuk kepada Kaedah Pengukuran Piawaian Malaysia Bagi Kerja-kerja Bangunan Edisi Kedua (SMM2), terangkan peraturan pengukuran konkrit untuk rasuk tanah dengan menyatakan klausa yang berkaitan.

[7 marks]

[7 markah]

- CLO1 (b) Based on drawing no. **DCQ10293/PKK/04**, prepare the quantity measurements for the formwork of pad footing F1.

*Merujuk lukisan no. **DCQ10293/PKK/04**, sediakan ukuran kuantiti kotak acuan untuk asas pad F1.*

[8 marks]

[8 markah]

- CLO1 (c) Based on drawing no. **DCQ10293/PKK/04-05**, produce a Bill of Quantities (BQ) complete with measurement for bar reinforcement in ground beam 4/A-A') only.

*Merujuk lukisan no. **DCQ10293/PKK/04-05**, hasilkan satu senarai kuantiti lengkap dengan pengukuran kuantiti untuk besi tetulang di dalam rasuk tanah 4/A-A' sahaja.*

[10 marks]

[10 markah]

QUESTION 4**SOALAN 4**

- CLO1 (a) By referring to the Malaysian Standard Method of Measurement of Building Works Second Edition (SMM2), explain the rules for measuring damp proof membranes by stating the relevant clauses.

Merujuk kepada Kaedah Pengukuran Piawaian Malaysia Bagi Kerja-kerja Bangunan Edisi Kedua (SMM2), terangkan kaedah mengukur lapisan kalis lembap dengan menyatakan klausa yang berkaitan.

[7 marks]

[7 markah]

- CLO1 (b) Based on drawing no. **DCQ10293/PKK/04**, prepare the quantity measurement of fabric reinforcement for ground floor slab (Grid 2-3/A-C) only.

Merujuk lukisan no. DCQ10293/PKK/04, sediakan ukuran kuantiti tetulang fabrik pada lantai bawah (Grid 2-3/A-C) sahaja.

[8 marks]

[8 markah]

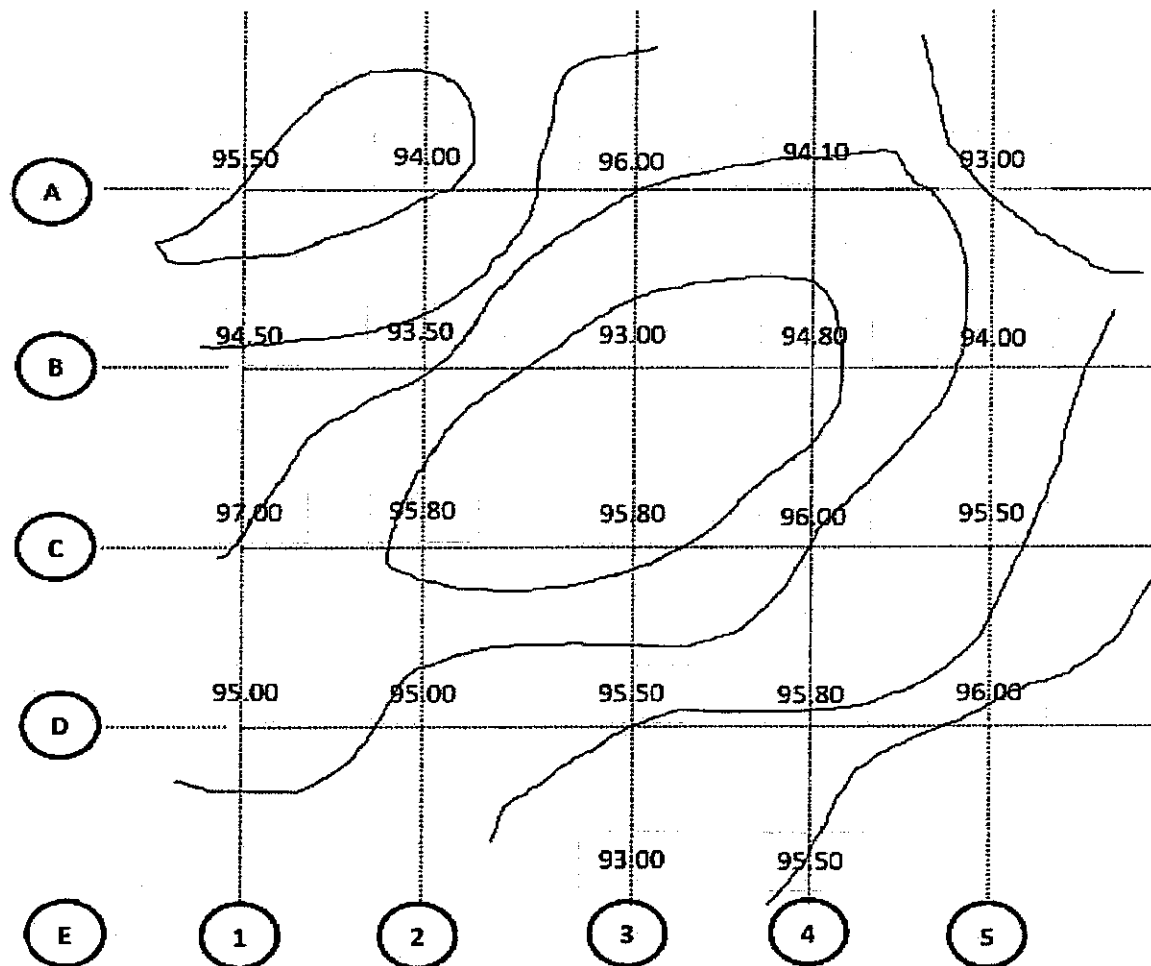
- CLO1 (c) Based on drawing no. **DCQ10293/PKK/02**, produce a Bill of Quantities (BQ) complete with measurements for the perimeter drain.

Merujuk lukisan no. DCQ10293/PKK/02, hasilkan satu senarai kuantiti lengkap dengan pengukuran kuantiti longkang keliling.

[10 marks]

[10 markah]

SOALAN TAMAT



NOTES :

1. All grid dimension 12m x 12m
2. Formation level : 94.50m
3. Excavate topsoil 150mm
4. Excavate material shall be reuse filling work after selected and treated.
5. All excavation strictly within the site boundry



PROJECT:

PROPOSED NEW EARTHWORKS PACKAGE, SEKSYEN 7, MAJLIS BANDARAYA SHAH ALAM, SELANGOR

DRAWING TITLE:

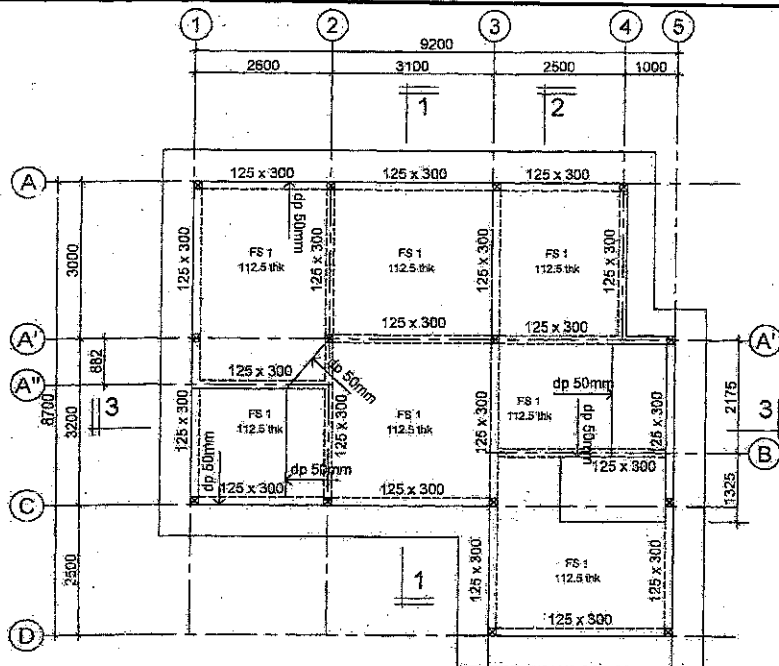
EARTHWORKS PLAN

DRAWING NO.:

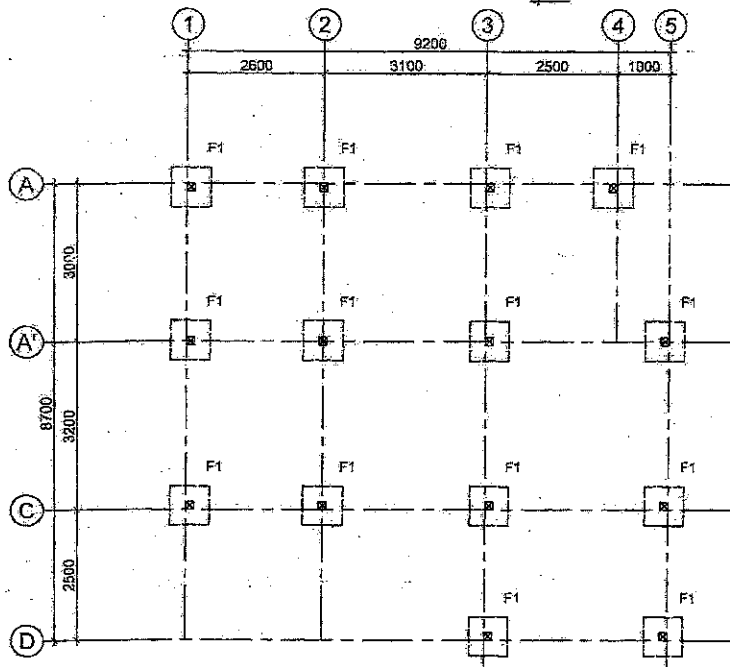
DCQ10293/EARTHWORKS/Q2/01

SCALE:

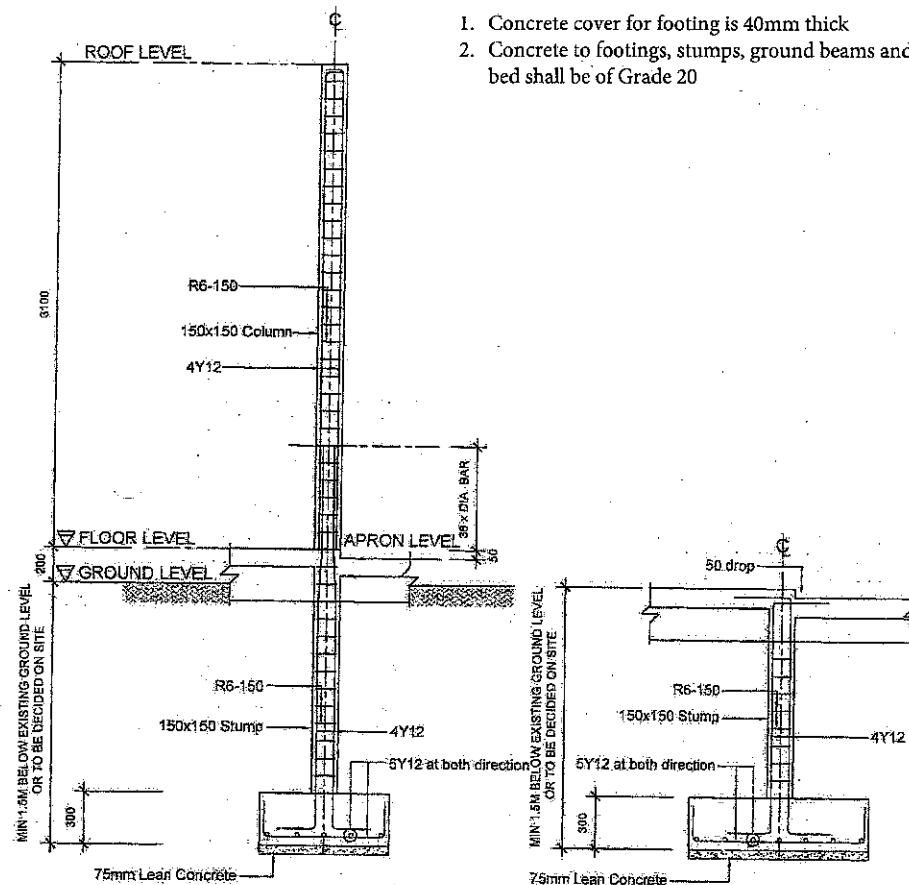
NOT TO SCALE



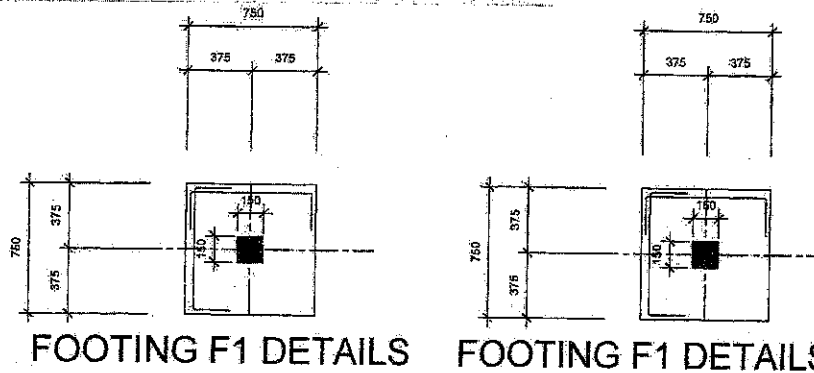
GROUND FLOOR PLAN



FOUNDATION PLAN



TYPICAL SECTION OF FOOTING F1



FOOTING F1 DETAILS

FOOTING F1 DETAILS

NOTES:

1. Concrete cover for footing is 40mm thick
2. Concrete to footings, stumps, ground beams and bed shall be of Grade 20

PROJECT:

RUMAH MESRA RAKYAT

DRAWING TITLE:

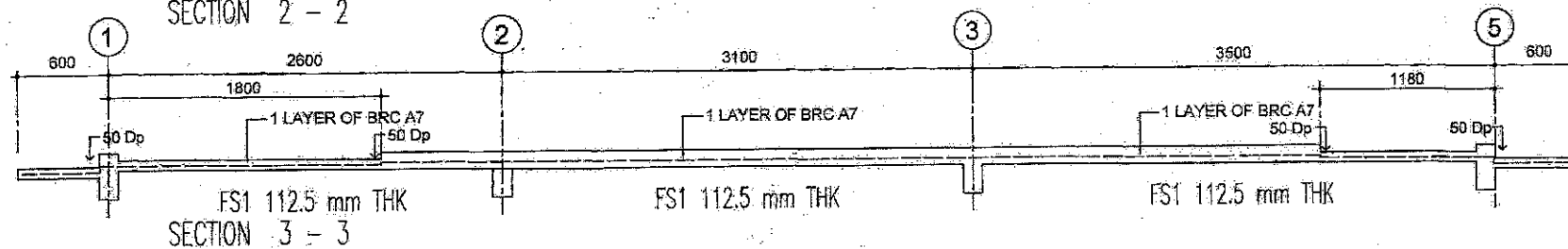
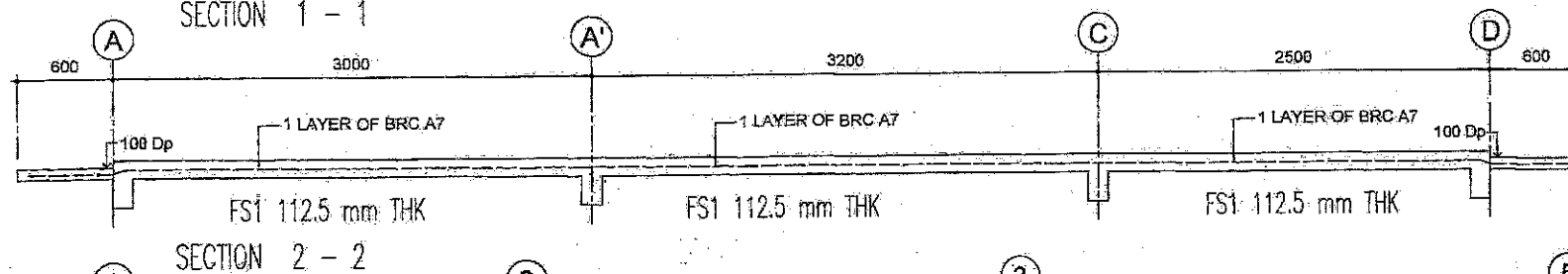
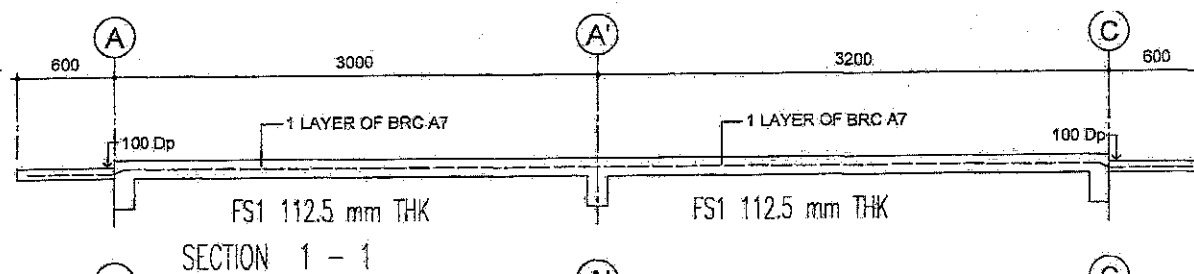
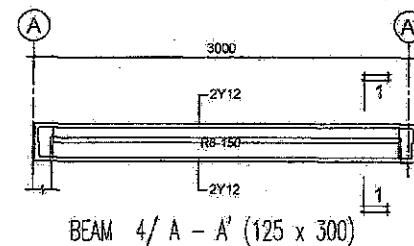
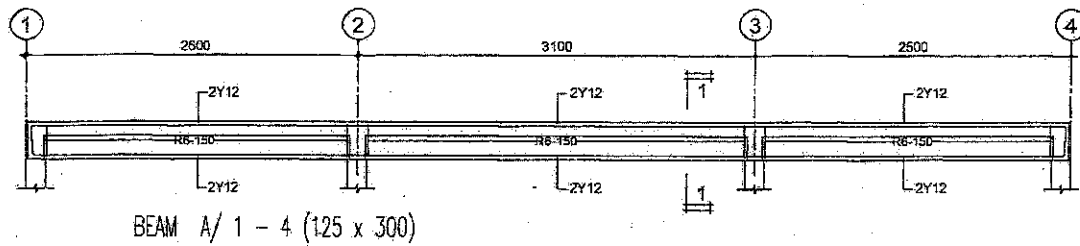
STRUCTURAL
DRAWING

DRAWING NO :

DCQ10293/PKK/04

SCALE:

1:100



NOTES:

PROJECT:

RUMAH MESRA RAKYAT

DRAWING TITLE:

STRUCTURAL
DRAWING

DRAWING NO :

DCQ10293/PKK/05

SCALE:

N.T.S

No.	COMPONENTS	SQM	SQFT
1	Ruang Tamu	18.78	180.62
2	Bilik Tidur Utama	9.89	106.45
3	Bilik Tidur 2	7.50	80.73
4	Bilik Tidur 3	9.30	100.10
5	Dapur & Ruang Makan	9.91	106.67
6	Verandah	3.90	41.98
7	Bilik Air	3.21	34.55
8	Tandas	2.71	29.17
	TOTAL	63.20	680.27

(D1)	0.821m(W) x 2.163m(H) SOLID TIMBER DOOR WITH GI FRAME
(D2)	0.821m(W) x 2.163m(H) TIMBER FLUSH DOOR WITH GI FRAME
(D3)	0.826 (W) x 2.153m (H) UPVC DOOR WITH GI FRAME
(W1)	1.20m (W) 1.20m (H) 2 BAYS ALUMINUM SLIDING WINDOW TO MANUFACTURER'S DETAIL
(W2)	0.45m (W) x0.35m (H) ALUMINUM WINDOW TOP HUNG TO MANUFACTURER'S DETAIL

NO.		DESCRIPTION	COMPONENTS	
1	TYPE OF PAINT	NIIPPON PAINT	CODE	
2	EXTERIOR WALL (Weathershield)	WHITE	145	
		DOLPHIN GREY	PRO 0492	
3	INTERIOR WALL	WHITE	145	
4	TIMBER DOORS	DOLPHIN GREY	EMULSION PAINT	
5	PVC DOOR	DOLPHIN GREY		
6	ROOFING	GREY AS REQUIRED		

1:100

