

SULIT



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

JABATAN KEJURUTERAAN AWAM

PEPERIKSAAN AKHIR

SESI I : 2022/2023

DCQ40204 : BUILDING WORKS MEASUREMENT 4

TARIKH : 13 DISEMBER 2022

MASA : 2.30 PM – 4.30 PM (2 JAM)

Kertas ini mengandungi **TUJUH (7)** halaman bercetak.

Bahagian A: Struktur (2 soalan)

Bahagian B: Esei (4 soalan)

Dokumen sokongan yang disertakan : Lukisan Pelan

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

Notes:**Nota:**

- (a) Measurement of work shall be based on the principles laid down in the Malaysian Standard Method of Measurement Works 2nd edition (SMM2)

Pengukuran kerja mesti berdasarkan prinsip-prinsip yang ditetapkan dalam Kaedah Standard Malaysia Pengukuran Kerja edisi ke-2 (SMM2)

- (b) Make assumption when details or specification are not provided or unclear. All assumptions shall be clearly stated in the answer scripts.

Buat andaian apabila maklumat atau spesifikasi tidak diperuntukkan atau tidak jelas. Semua andaian mesti dinyatakan dengan jelas di dalam kertas jawapan.

- (c) 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.

SECTION A : 50 MARKS
BAHAGIAN A : 50 MARKAH

INSTRUCTION:
ARAHAN :

This section consists of **TWO (2)** structure questions. Answer **ALL** questions.
 Seksyen ini mengandungi **DUA (2)** soalan berstruktur. Jawab **SEMUA** soalan.

QUESTION 1
SOALAN 1

Table A1/ Jadual A1

Type	No of pile caps	No of pile point	Estimate penetration depth	Others
P1	10	1	12.00 m	- Concrete grade 30 - Size of pile shall be 300mm diameter - Enlarged bases shall be maximum 500mm diameter - Casing shall be 25mm thick MS double-walled tube. - P6 ONLY shall be contiguous bored pile. - Allow 8% of boring through rock
P2	12	2		
P3	5	3		
P4	6	4		
P5	6	5		
P6	2	6		

Based on the Table A1, answer all the questions below.

Berdasarkan Jadual A1, jawab semua soalan di bawah.

CLO1
C2

- (a) Describe Clause E.5.1 for piling works.
 Huraikan Fasal E.5.1 untuk kerja-kerja cerucuk.

[5 marks]
 [5 markah]

CLO1
C3

- (b) Prepare the quantity measurement for piling works related to E.4 only.
 Sediakan pengukuran kuantiti bagi kerja-kerja cerucuk yang berkaitan dengan Fasal E.4 sahaja.

[10 marks]
 [10 markah]

CLO1
C3

- (c) Prepare the quantity measurement for piling works related to E.5.6.a only.
 Sediakan pengukuran kuantiti bagi kerja-kerja cerucuk yang berkaitan dengan Fasal E.5.6.a sahaja.

[10 marks]
 [10 markah]

QUESTION 2

SOALAN 2

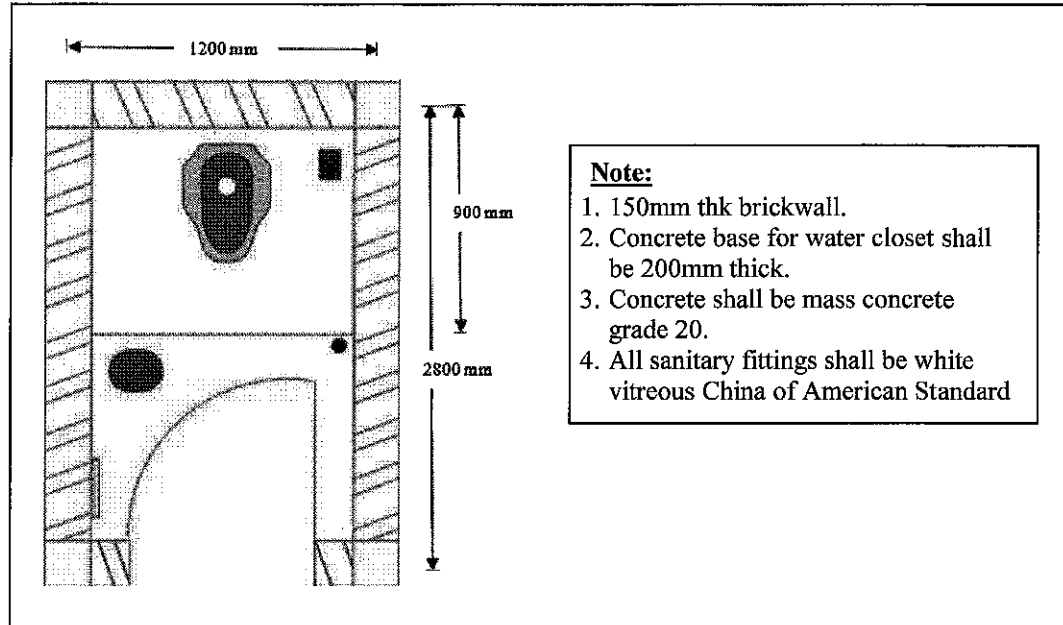


Figure A2/ Rajah A2

Based on the **Figure A2**, answer all the questions below.

Berdasarkan **Rajah A2**, jawab semua soalan di bawah.

CLO1
C2

- (a) Describe the items contained in the description for the measurement of sanitary fitting.

Terangkan item yang terdapat dalam penerangan kerja untuk pengukuran lekapan sanitari.

[5 marks]
[5 markah]

CLO1
C3

- (b) Prepare the quantity measurement for sanitary fittings.

Sediakan pengukuran kuantiti bagi lekapan sanitari.

[10 marks]
[10 markah]

CLO1
C3

- (c) Prepare the quantity measurement for concrete base and formwork to received water closet.

Sediakan pengukuran kuantiti bagi asas dan acuan konkrit untuk menerima mangkuk tandas.

[10 marks]
[10 markah]

SECTION B : 50 MARKS
BAHAGIAN B : 50 MARKAH

INSTRUCTION:
ARAHAN :

This section consists of **FOUR (4)** essay questions. Answer **TWO (2)** questions only.
Seksyen ini mengandungi EMPAT (4) soalan esei . Jawab DUA (2) soalan sahaja.

QUESTION 1
SOALAN 1

Based on Drawing No. **DCQ40204/SHEET PILE/01**, answer all the questions below.

Berdasarkan Lukisan No. DCQ40204/SHEET PILE/01, jawab semua soalan di bawah.

- CLO1
C3
- (a) Prepare the quantity measurement for Hat Type Sheet Pile 900 related to clause E.5.5 only.
Sediakan pengukuran kuantiti bagi Hat Type Sheet Pile 900 berkaitan dengan klause E.5.5 sahaja.

[8 marks]
[8 markah]

- CLO1
C4
- (b) Conclude the measurement as a bill of quantities for U-Wide Type Sheet Pile.
Rumuskan pengukuran sebagai senarai kuantiti bagi U-Wide Type Sheet Pile.

[17 marks]
[17 markah]

QUESTION 2**SOALAN 2**

Based on Drawing No. **DCQ40204/BUILDING SERVICES/01**, answer the questions below.

Berdasarkan Lukisan No. DCQ40204/BUILDING SERVICES/01, jawab semua soalan di bawah.

CLO1
C3

- (a) Prepare the quantity measurement for water tank support.
Sediakan pengukuran kuantiti untuk penyokong tangki air.

[8 marks]
[8 markah]

CLO1
C4

- (b) Conclude the measurement as a bill of quantities for supply pipe from meter to water tank only.
Rumuskan pengukuran sebagai senarai kuantiti bagi paip bekalan dari meter ke tangki air sahaja.

[17 marks]
[17 markah]

QUESTION 3**SOALAN 3**

Based on Drawing No. **DCQ40204/BUILDING SERVICES/01**, answer all the questions below.

Berdasarkan Lukisan No. DCQ40204/BUILDING SERVICES/01, jawab semua soalan di bawah.

CLO1
C3

- (a) Prepare the quantity measurement for excavation trenches to receive soil and waste pipe.
Sediakan pengukuran kuantiti bagi penggalian peparit untuk menerima paip najis dan air buang.

[8 marks]
[8 markah]

- (b) Conclude the measurement as a bill of quantities for waste pipe only.

Rumuskan pengukuran sebagai senarai kuantiti bagi paip air buang sahaja.

[17 marks]

[17 markah]

QUESTION 4

SOALAN 4

CLO1
C3

Based on Drawing No. **DCQ40204/ELECTRICAL/01**, answer all the questions below.

Berdasarkan Lukisan No. DCQ40204/ELECTRICAL/01, jawab semua soalan di bawah.

CLO1
C4

- (a) Prepare the quantity measurement for electrical signage and wall light gypsum board.

Sediakan pengukuran kuantiti bagi papan tanda elektrik dan papan gypsum lampu dinding.

[8 marks]

[8 markah]

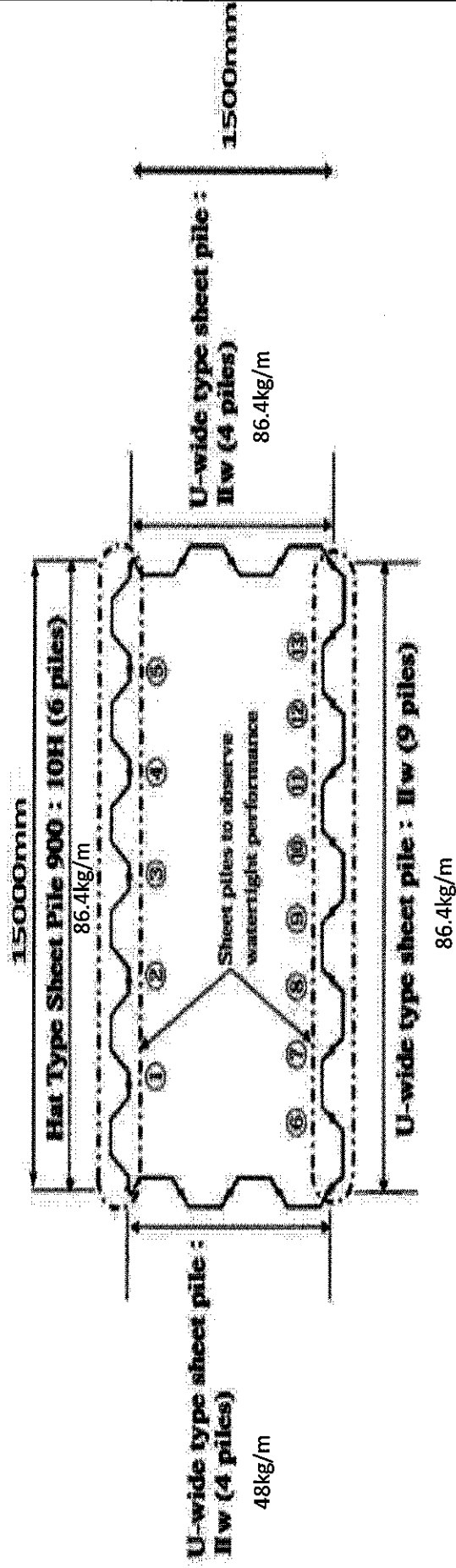
- (b) Conclude the measurement as a bill of quantities for electrical fittings only.

Rumuskan pengukuran sebagai senarai kuantiti bagi lekapan elektrik sahaja.

[17 marks]

[17 markah]

SOALAN TAMAT



PLAN OF SHEET PILE

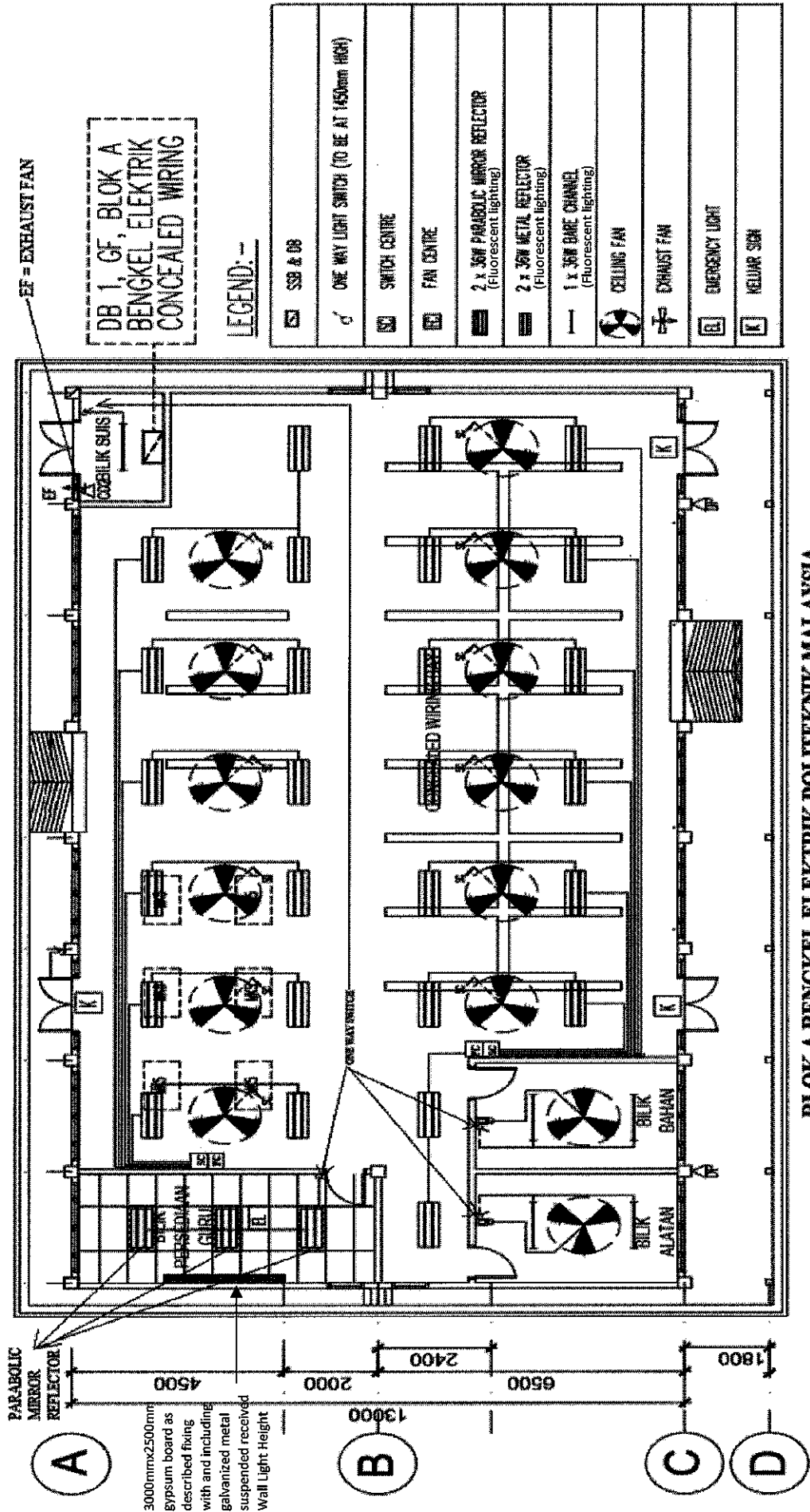
N.T.S

Proposed a construction of sheet pile to observe watertight performance at Jambatan Intan, Bandar Bertam, Pulau Pinang

Note: All piles shall be
1. Supply length: 13.00m
2. Driven depth: 10.00m
3. All piles shall be temporary

Drawn By:
Ebit
Check By:
Adie

Drawing No:
DCQ40204/SHEET PILE/01

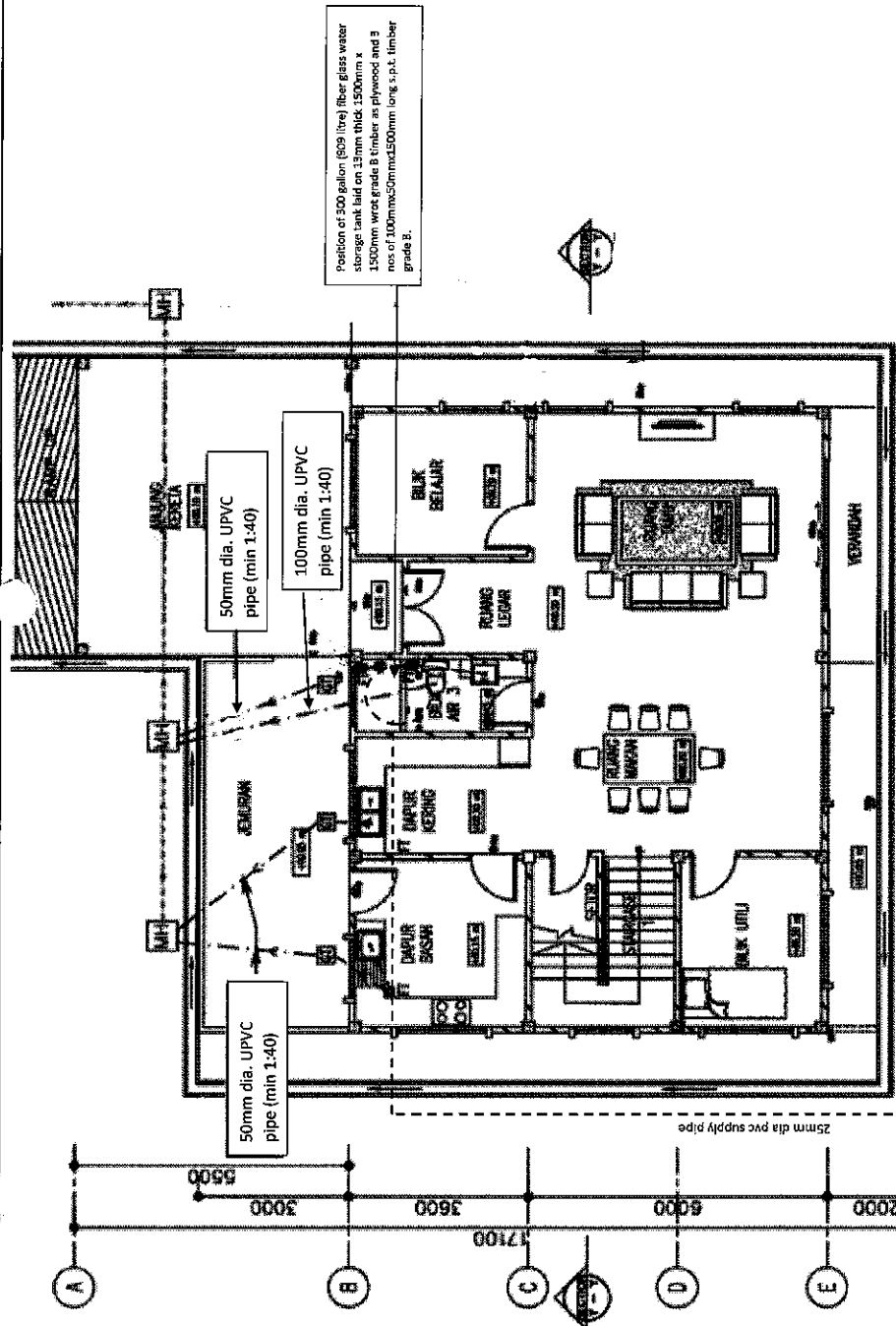
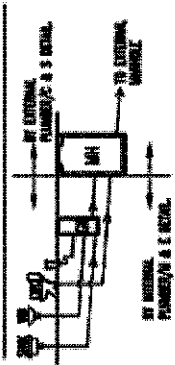


Proposed a construction of Bengkel Elektrik for Politeknik Malaysia	Note: All drawing shall be not to scale	Drawn By: Ebit Check By: Adie	Drawing No: DCQ40204/ELECTRICAL/01
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NOTES :-

- UPVC PIPE AND FITTINGS TO B.S. 4514:1989 (MS1063:1989) AS APPROVED BY JKR SHALL BE USED FOR INTERNAL SOIL AND VENT SYSTEM. WASTE PIPE SHALL BE UPVC TO B.S. 5255 (MS978:1990).
- METHOD OF JOINTING UPVC PIPE SHALL BE THAT OF SOLVENT WELDING USING THE MANUFACTURER'S APPROVED CEMENT.
- ALL BENDS, JUNCTIONS AND ETC SHALL BE HAS ACCESS DOOR IN ACCESSIBLE LOCATION.
- SOIL AND WASTE PIPE FOR UNDERGROUND SHALL BE UPVC (BROWN COLOUR).
- THE WHOLE OF SUPPLY PIPE, SOIL AND WASTE PIPE IS TO BE TESTED ON COMPLETION TO THE SATISFACTION OF THE ENGINEER AND LOCAL AUTHORITIES.
- PIPE GRADIENT FOR INTERNAL SANITARY INSTALLATION SHALL BE LAID NOT LESS THAN SHOWN BELOW

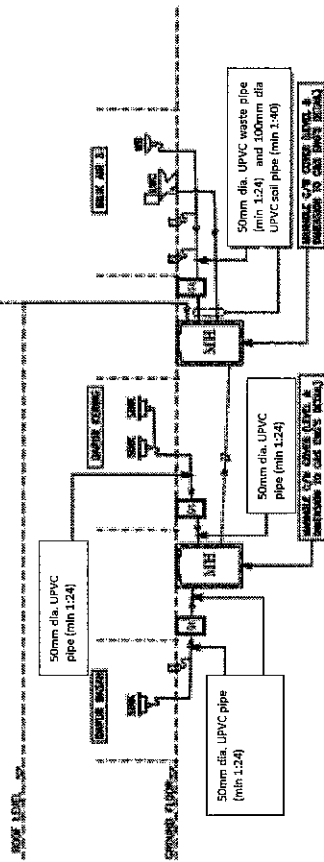
150mm DIA.	1:60
100mm DIA.	1:40
80mm DIA.	1:35
50mm DIA.	1:24
- ALL UNDERGROUND PIPE SHALL BE LAID 450MM DEPTH IN THE GROUND FROM ORIGINAL GROUND LEVEL.
- ALL THE GULLY TRAP SHALL BE 300MM X 300MM X 600MM DEEP. GULLY TRAP CONSTRUCTED OF HALF BRICK ALL SIDEWALL IN GAUGE MORTAR AS DESCRIBED AND 19MM THICK HIGH ALUMINA CEMENT AND SAND PLASTERING COMPLETE WITH 300MM X 300MM REINFORCED CONCRETE RECESSED COVER.
- THE HIGH OF BUILDING SHALL BE 3500MM.



GROUND FLOOR LAYOUT
scale 1:100

LEGEND			
	WASH BASIN		GULLY TRAP
	SINK		MANHOLE
	FLOOR TRAP		LOW WATER CISTERN (S. TRAP)

DWG NO.1 DCQ40204/BUILDING SERVICES/01
PROJECT: CADANGAN DAN MEMBINA SEBUAH RUMAH DI KAMPUNG SENTOSA, SARAWAK



SCHEMATIC DIAGRAM FOR INTERNAL SANITARY PLUMBING SERVICE
SCALE 1:100 TO 1:200