

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 I : 2024/2025

DCQ30154: BUILDING WORKS MEASUREMENT 3

TARIKH : 24 NOVEMBER 2024

MASA : 8.30 PAGI – 10.30 PAGI (2 JAM)

Kertas soalan ini mengandungi **SEBELAS (11)** halaman bercetak.

Bahagian A: Subjektif (2 soalan)

Bahagian B: Subjektif (4 soalan)

Dokumen sokongan yang disertakan : Kertas Dimensa, Kertas Billing, Jadual Cut & Fill, Lukisan dan Buku SMM2.

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

Notes:**Nota-nota:**

1. Work measurement must be based on the principles stated in the Malaysia Standard Method of Measurement of Building Works 2nd edition (SMM2).

Kerja-kerja pengukuran mestilah berasaskan prinsip-prinsip yang dinyatakan di dalam Malaysia Standard Method of Measurement of Buildings Works 2nd edition (SMM2).

2. Make assumptions when details or specifications are not provided or are unclear. All assumptions must be clearly stated in the answer scripts.

Andaian hendaklah dibuat jika spesifikasi atau perincian tidak disediakan atau kurang jelas. Semua andaian mestilah dinyatakan dengan jelas di dalam skrip jawapan.

3. Marks will be awarded for subject knowledge, clear and systematic dimension setting and the adequacy and accuracy of descriptions and dimensions.

Markah akan diberi untuk pengetahuan tentang subjek, tata atur yang sistematik, kecukupan dan ketepatan dimensi dan keterangan.

SECTION A : 50 MARKS**BAHAGIAN A : 50 MARKAH****INSTRUCTION:**

This section consists of **TWO (2)** subjective questions. Answers **ALL** of the questions.

ARAHAN:

Bahagian ini mengandungi DUA (2) soalan subjektif. Jawab SEMUA soalan.

QUESTION 1**SOALAN 1**

By referring to Drawing No: **DCQ30154/FLOOR_FINISHES/01**, answer **ALL** the questions below:

Dengan merujuk kepada Lukisan No: DCQ30154/FLOOR_FINISHES/01, jawab SEMUA soalan di bawah:

- CLO1 (a) By referring to the SMM2, interpret Clause S.6.1 and Clause S.8 regarding the measurement of quantities for finishing work.

Dengan merujuk kepada SMM2, tafsirkan Klausula S.6.1 dan Klausula S.8 mengenai pengukuran kuantiti di dalam kerja kemasan.

[5 marks]

[5 markah]

- CLO1 (b) Prepare the quantity measurement for Internal Floor Finishes for tiling work in the bedroom for the items below:

Sediakan pengukuran kuantiti bagi Kemasan Lantai Dalam untuk kerja-kerja Jubin di Bedroom untuk item di bawah:

Item	Description	Unit
1.	Floor Finishes / <i>Kemasan Lantai</i>	?
2.	Skirting / <i>Kambi</i>	?

[10 marks]

[10 markah]

- CLO1 (c) Prepare the quantity measurement for Internal Wall Finishes in the bedroom for the items below:

Sediakan pengukuran kuantiti bagi Kemasan Dinding Dalam di Bedroom untuk item di bawah:

Item	Description	Unit
1.	Plastering	?
2.	Painting	?

[10 marks]

[10 markah]

QUESTION 2**SOALAN 2**

By referring to Drawing No: **DCQ30154/RETAINING_WALL/01**, answer **ALL** the questions below:

*Dengan merujuk kepada Lukisan No: **DCQ30154/RETAINING_WALL/01**, jawab **SEMUA** soalan di bawah:*

CLO1

- (a) By referring to SMM2, interpret **TWO (2)** items involved in excavation for retaining wall works.

*Dengan merujuk kepada SMM2, tafsirkan **DUA (2)** item pengukuran yang terlibat dalam kerja-kerja pengorekan dinding penahan.*

[5 marks]

[5 markah]

CLO1

- (b) Prepare the quantity measurements for the retaining wall for the items below:

Sediakan pengukuran kuantiti bagi dinding penahan untuk item di bawah:

Item	Description	Unit
1.	Concrete blinding / <i>Konkrit alas</i>	?
2.	Weepholes / <i>Lubang leleh</i>	?

[10 marks]

[10 markah]

CLO1

- (c) Prepare the quantity measurements for the retaining wall for the items below.

Sediakan pengukuran kuantiti bagi dinding penahan untuk item di bawah:

Item	Description	Unit
1.	Concrete in Wall (Stem)/ <i>Konkrit pada Dinding</i>	?
2.	Concrete in Base (Toe and Heel) / <i>Konkrit pada Asas</i>	?

[10 marks]

[10 markah]

SECTION B : 50 MARKS**BAHAGIAN B : 50 MARKAH****INSTRUCTION:**

This section consists of **FOUR (4)** subjective questions. Answer any **TWO (2)** questions.

ARAHAN:

*Bahagian ini mengandungi **EMPAT (4)** soalan subjektif. Jawab **DUA (2)** soalan sahaja.*

QUESTION 1**SOALAN 1**

By referring to Drawing No: **DCQ30154/FURNITURE AND FITTINGS/01 - 02**, answer **ALL** the questions below:

*Dengan merujuk kepada Lukisan No: **DCQ30154/FURNITURE AND FITTINGS/01 - 02**, jawab **SEMUA** soalan di bawah:*

- CLO1 (a) Prepare the quantity measurements for the loose furniture listed below:

Sediakan pengukuran kuantiti bagi perabut yang disenaraikan di bawah:

Item	Description	Unit
1.	Discussion Table / <i>Meja Perbincangan</i>	?
2.	Students' Workstation / <i>Stesen Kerja Pelajar</i>	?

[8 marks]

[8 markah]

- CLO1 (b) Conclude a bill of quantities complete with quantity measurement for the loose furniture listed below:

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi perabut yang disenaraikan di bawah:

Item	Description	Unit
1.	Lecturer's Table / <i>Meja Pensyarah</i>	?
2.	Office Chair / <i>Kerusi Pejabat</i>	?

[17 marks]

[17 markah]

QUESTION 2

SOALAN 2

By referring to Drawing No: **DCQ30154/EARTHWORKS/01**, answer **ALL** the questions below:

*Dengan merujuk kepada Lukisan No: **DCQ30154/EARTHWORKS/01**, jawab **SEMUA** soalan di bawah:*

- CLO1 (a) Using the Weighted Average Excavation Method, prepare a table for the quantity measurement of cutting and filling works for grid points **B→C→D→E→F→M→L→K→J→H→B.**

*Dengan menggunakan Kaedah Pengorekan Purata Pemberatan, sediakan pengukuran kuantiti untuk kerja pengorekan dan penambahan untuk titik grid **B→C→D→E→F→M→L→K→J→H→B.***

[8 marks]

[8 markah]

- CLO1 (b) Conclude a bill of quantities complete with the quantity measurement for cutting and filling items prepared in question 2(a).

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti untuk item pengorekan dan penambakan yang disediakan pada soalan 2(a).

[17 marks]

[17 markah]

QUESTION 3

SOALAN 3

By referring to Drawing No: **DCQ30154/ROADWORK/01**, answer **ALL** the questions below:

*Dengan merujuk kepada Lukisan No: **DCQ30154/ROADWORK/01**, jawab **SEMUA** soalan di bawah:*

- CLO1 (a) Prepare the quantity measurements for the roadworks items listed below:

Sediakan pengukuran kuantiti bagi kerja jalan untuk item di bawah:

Item	Description	Unit
1.	Sub-grade layer / <i>Lapisan asas-dasar</i>	?
2.	Sub-base layer / <i>Lapisan asas-jalan</i>	?

[8 marks]

[8 markah]

- CLO1 (b) Conclude a bill of quantities complete with the quantity measurement for roadworks items listed below:

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi item kerja-kerja jalan yang disenaraikan di bawah:

Item	Description	Unit
1.	Binder Course / <i>Lapisan Ikat</i>	?
2.	Wearing Course / <i>Lapisan Haus</i>	?

[17 marks]

[17 markah]

QUESTION 4

SOALAN 4

By referring to Drawing No: **DCQ30154/BASEMENT/01-03**, answer **ALL** the questions below:

Dengan merujuk kepada Lukisan No: DCQ30154/BASEMENT/01-03, jawab SEMUA soalan di bawah:

CLO1

- (a) Prepare the quantity measurements for the basement items listed below:

Sediakan pengukuran kuantiti bagi item ruang bawah tanah di bawah:

Item	Description	Unit
1.	Lean Concrete under basement slab/ <i>Konkrit alas di bawah lantai bawah tanah</i>	?
2.	Hardcore under basement slab / <i>Hadkor di bawah lantai bawah tanah</i>	?

[8 marks]

[8 markah]

CLO1

- (b) Conclude a bill of quantities complete with the quantity measurement for basement items listed below:

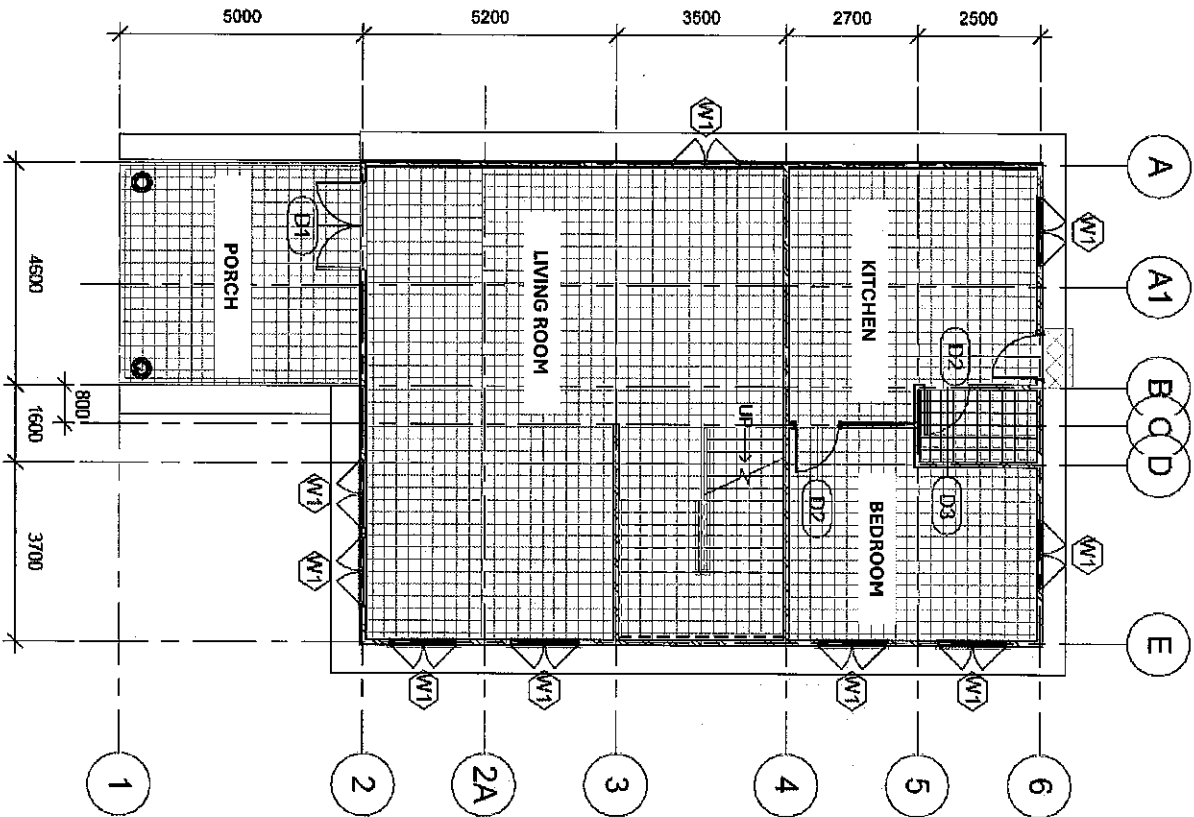
Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi item item ruang bawah tanah yang disenaraikan di bawah:

Item	Description	Unit
1.	Concrete in basement wall / <i>Konkrit di dalam dinding bawah tanah</i>	?
2.	Formwork for basement wall / <i>Kotak acuan untuk dinding bawah tanah</i>	?

[17 marks]

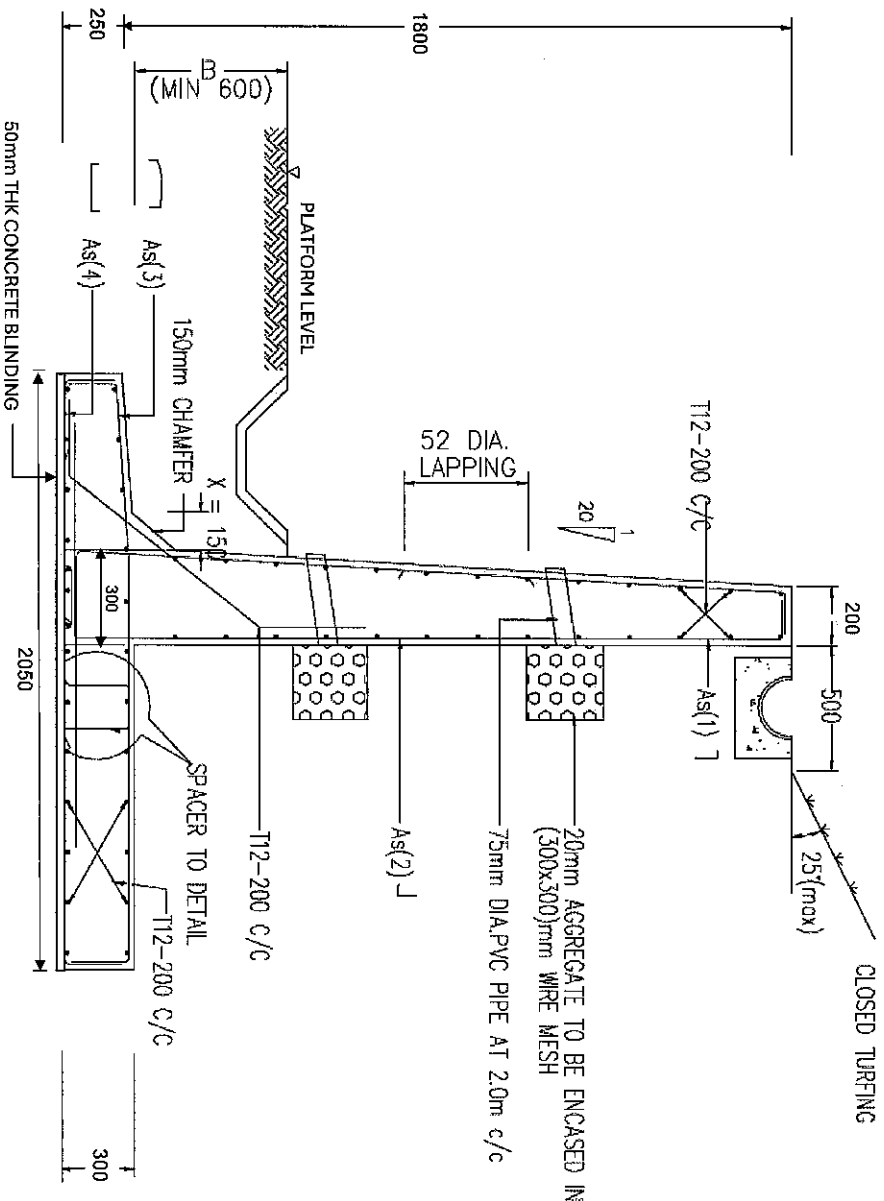
[17 markah]

SOALAN TAMAT



INTERNAL FINISHES DETAIL	
LOCATION	FLOOR FINISHES
Living Room	300mm x 300mm x 9mm thick ceramic tiles
Kitchen	300mm x 300mm x 9mm thick non-slip ceramic tiles
Bedroom	300mm x 300mm x 9mm thick ceramic tiles
Porch	300mm x 300mm x 9mm thick homogenous tiles
LOCATION	WALL FINISHES
Bedroom	16mm Thk. (1:6) cement plaster Painting: One coat alkaline resisting primer and two coats emulsion paint
DOORS DETAIL	
D1	Double Leaf Full Glass Door: 1800 x 2400mm
D2	Single Leaf Flush Door: 900 x 2400mm
D3	Single Leaf PVC Door: 900 x 2400mm
Drop for D1, D2 and D3	50mm
WINDOWS DETAIL	
W1	Aluminium Casement Window: 1400 X 1800mm
OTHERS DETAIL	
Height of Wall	4000mm
Thick of Wall	113mm thick
Height of Skirting	100mm

POLYCC POLITEKNIK DAN KOLEJ KOMUNITI		PROJECT: CADANGAN MEMBINA DAN MENYIAPKAN SEBUAH RUMAH DI BANDAR BENHURANG 2020	
DRAWING TITLE: FLOOR PLAN DETAILS		SUBJECT: BUILDING WORKS MEASUREMENT 3	
COUSE CODE: DCQ30154		DRAWING NO : AA	
		SCALE : NTS	
		DATE : OGOS 2024	
		DRAWING NO : DCQ30154/FLOOR_FINISHES/01	

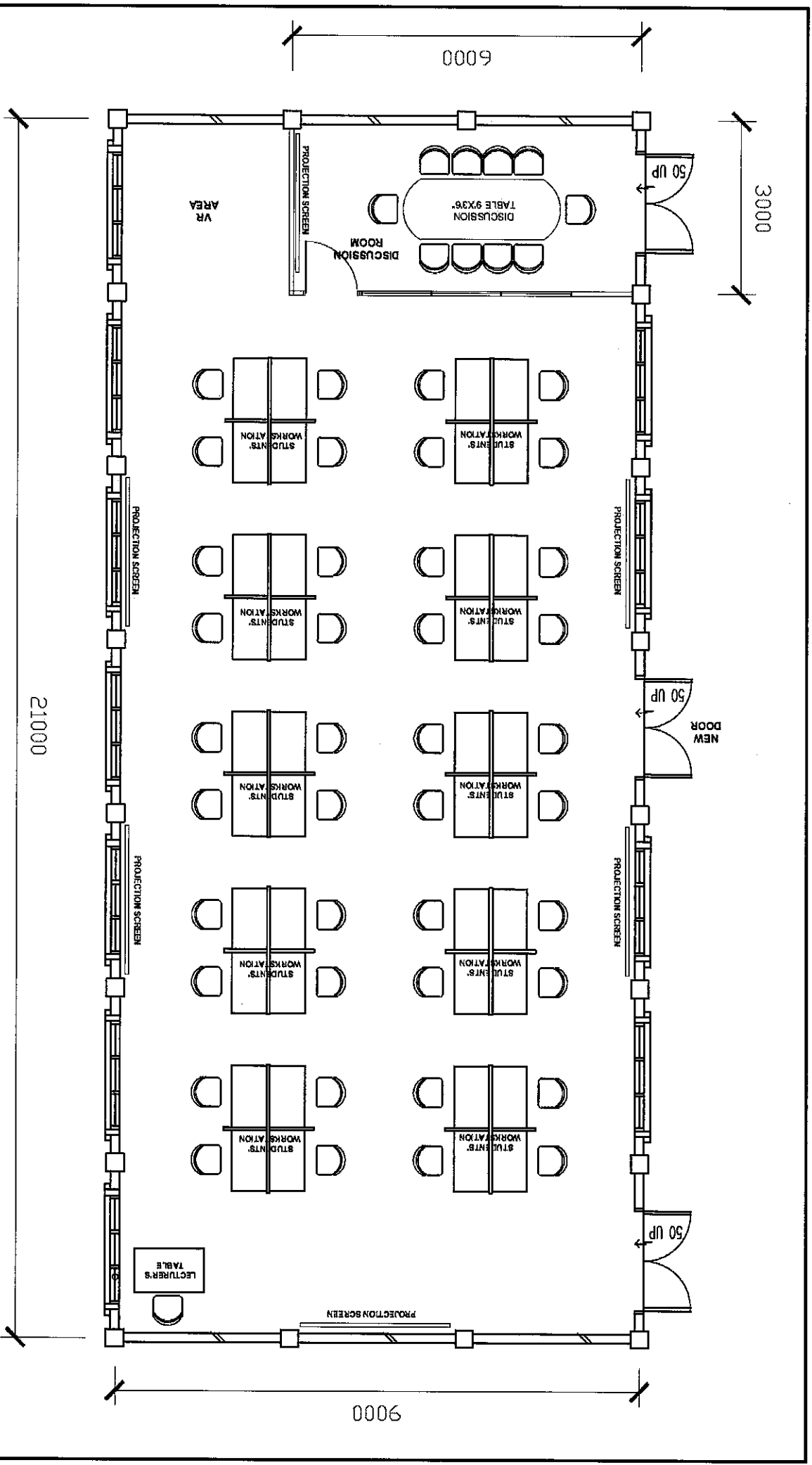


TYPICAL RETAINING WALL DETAIL

NOTES:

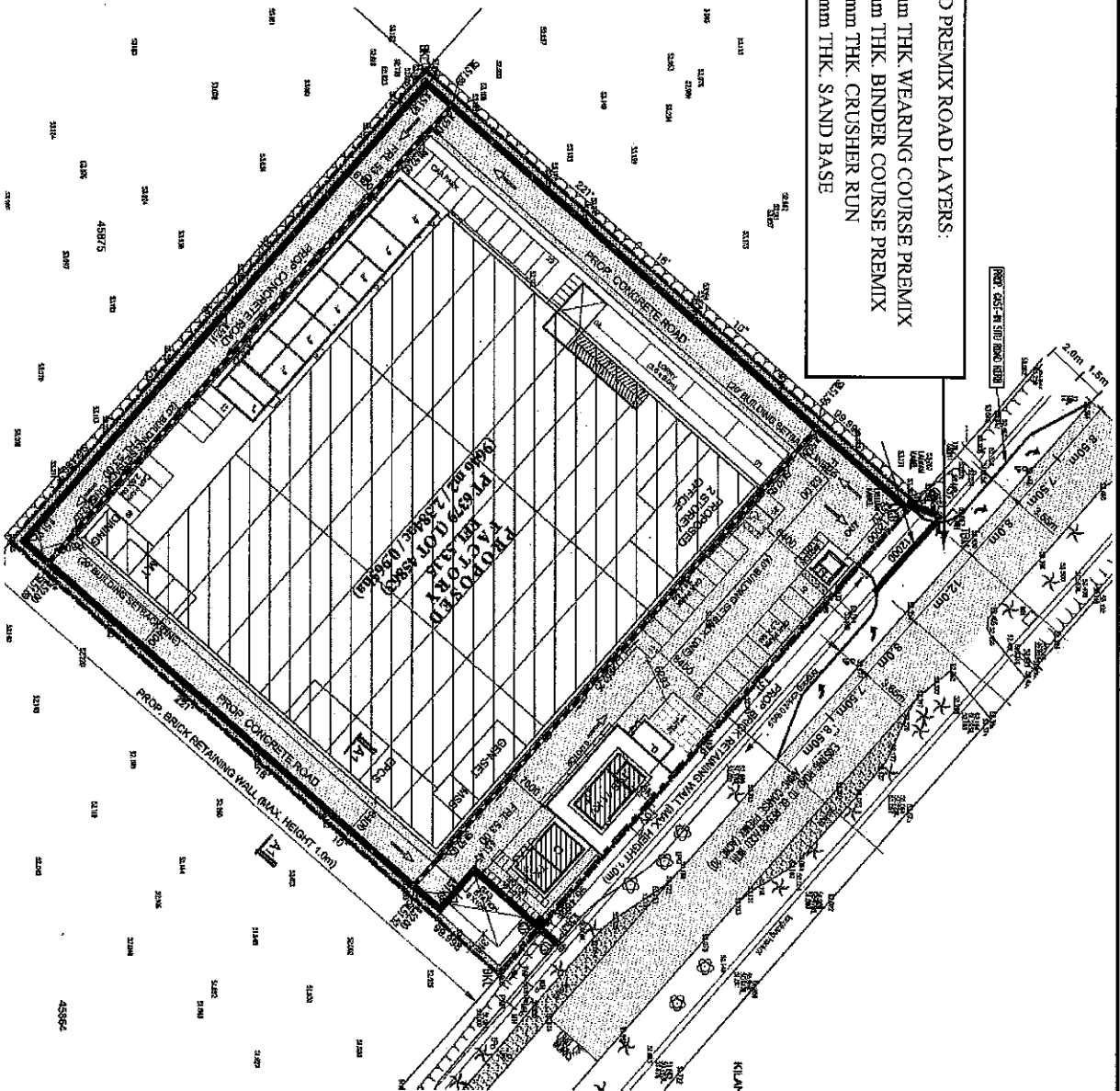
1. OVERALL LENGTH OF RETAINING WALL IS 30000MM
2. UNLESS OTHERWISE STATED ALL CONCRETE SHALL BE GRADE 30
3. SPACING COVER TO BE 75MM FOR REINFORCEMENT
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED
5. ALL BACKFILL MATERIALS SHALL BE FROM APPROVED SUITABLE SOIL FREE FROM VEGETATION AND ROOTS
6. ALL EXISTING SERVICES SHALL BE PROTECTED DURING OPEN EXCAVATION
7. ALL TEMPORARY SLOPES SHALL BE PROTECTED FROM EROSION

PROJECT:		DRAWING TITLE:		SUBJECT:	
POLYCC POLITEKNIK DAIRY KOLEJ KOMUNITI		CADANGAN MEMBINA DAN MENYAPKAN KOMPLEKS BOMBA DI BANDAR SLIM RIVER, PERAK		RETAINING WALL DETAILS	
COUSE CODE: DCQ30154		BUILDING WORKS MEASUREMENT 3		PREPARED BY : AA	
				SCALE : NTS	
				DATE : OGOS 2024	
				DRAWING NO : DCQ30154/RETAINING_WALL/01	



POLYCC POLITEKNIK DAN KOLEJ KOMUNITI		PROJECT: CADANGAN MEMBINA DAN MENYIAPKAN SEBUAH MAKMAL KOMPUTER		SUBJECT: BUILDING WORKS MEASUREMENT 3	
DRAWING TITLE: FURNITURE AND FITTINGS LAYOUT PLAN		COURSE CODE: DCQ30154		PREPARED BY : AA	
				SCALE : NTS	
				DATE : OGOS 2024	
				DRAWING NO : DCQ30154/FURNITURE AND FITTINGS/01	

- PROPOSED PREMIX ROAD LAYERS:
- 50mm THK. WEARING COURSE PREMIX
 - 70mm THK. BINDER COURSE PREMIX
 - 250mm THK. CRUSHER RUN
 - 100mm THK. SAND BASE



LEGENDS :-	
	PROPOSED FINISHED ROAD LEVEL
	PROPOSED FINISHED PLATFORM LEVEL
	PROPOSED 450mm PIPE CULVERT (CLASS 2) AS OSD 6 1:200 WITH INSPECTION SUMP 6.0m c/c
	PROPOSED 0.75m x 0.75m U-DRAIN (AS OSD) 6 1:250 WITH CAST-IN-SITU CONCRETE SLAB AND OPENING 9.0m c/c
	BOUNDARY LINE
	PROPOSED CAST-IN SITU ROAD KERB
	PROPOSED SUMP / INSPECTION SUMP
	DRAIN FLOW
	CONTROL SUMP TO DETAIL
	TRASH SCREEN TO DETAIL
	PROPOSED INVERT LEVEL
	PROPOSED SUMP INVERT LEVEL
	EXISTING INVERT LEVEL
	PROPOSED CONCRETE ROAD
	PROPOSED PREMIX ROAD
	EXISTING ROAD TO BE RESURFACED WITH 50mm THK WEARING COURSE PREMIX (ACW/C20)
	PROPOSED STOP LINE

PROJECT:

CADANGAN MEMBINA DAN
MENYIAPKAN SEBUAH KILANG 1
TINGKAT

DRAWING TITLE:

SITE PLAN

SUBJECT:

BUILDING WORKS
MEASUREMENT 3

PREPARED BY : AA

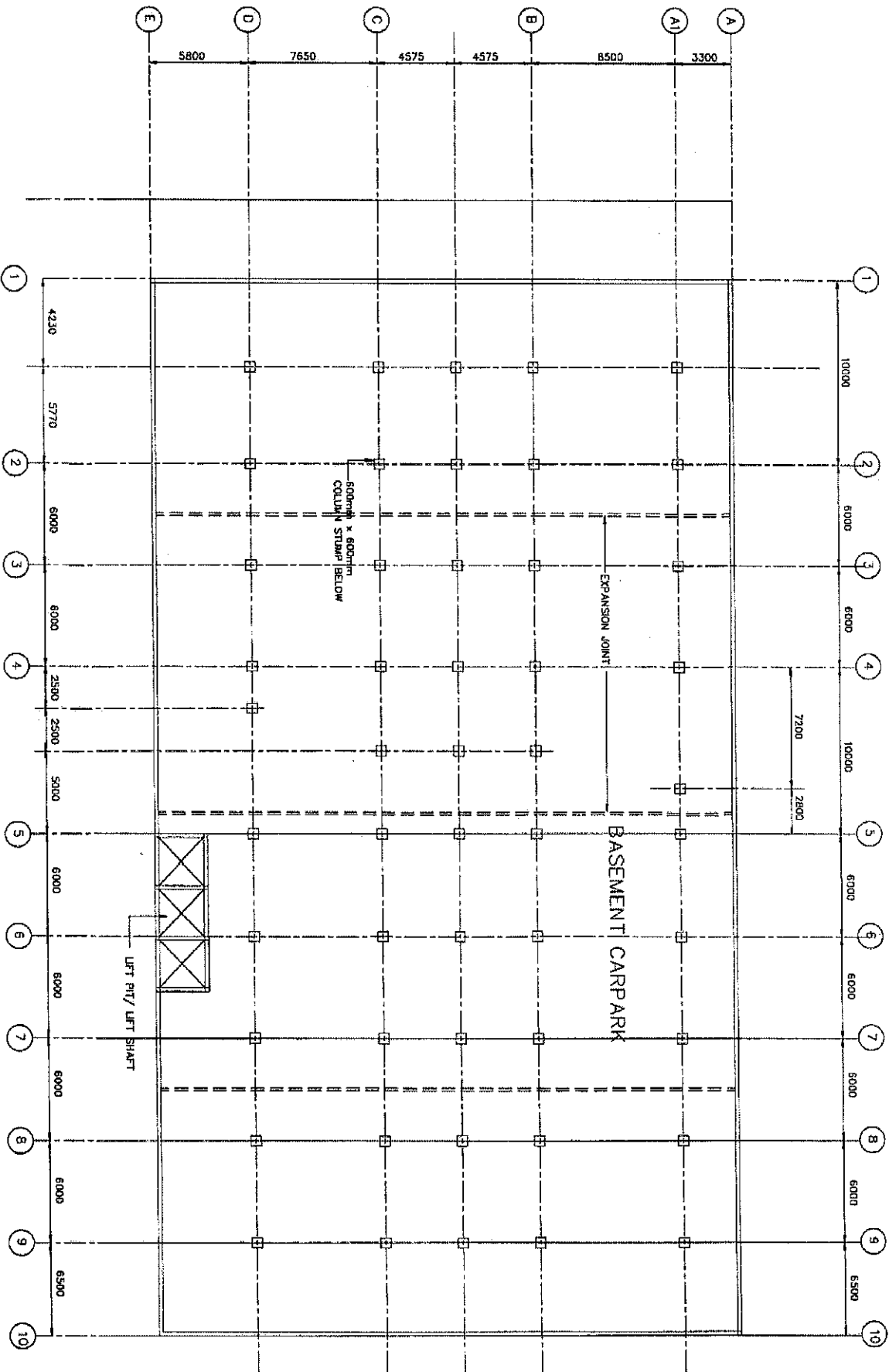
SCALE : NTS

DATE : OGOS 2024

DRAWING NO : DCQ30154/ROADWORK/01

COUSE CODE: DCQ30154

POLYCC
POLITEKNIK
KOLEJ KOMUNITI



PROJECT:

CADANGAN MEMBINA DAN
MENYIAPKAN BANGUNAN KUARTERS
5 TINGKAT BERSERTA RUANG LETAK
KERETA BAWAH TANAH

DRAWING TITLE:

BASEMENT PLAN DETAILS

SUBJECT:

BUILDING WORKS
MEASUREMENT 3

PREPARED BY : AA

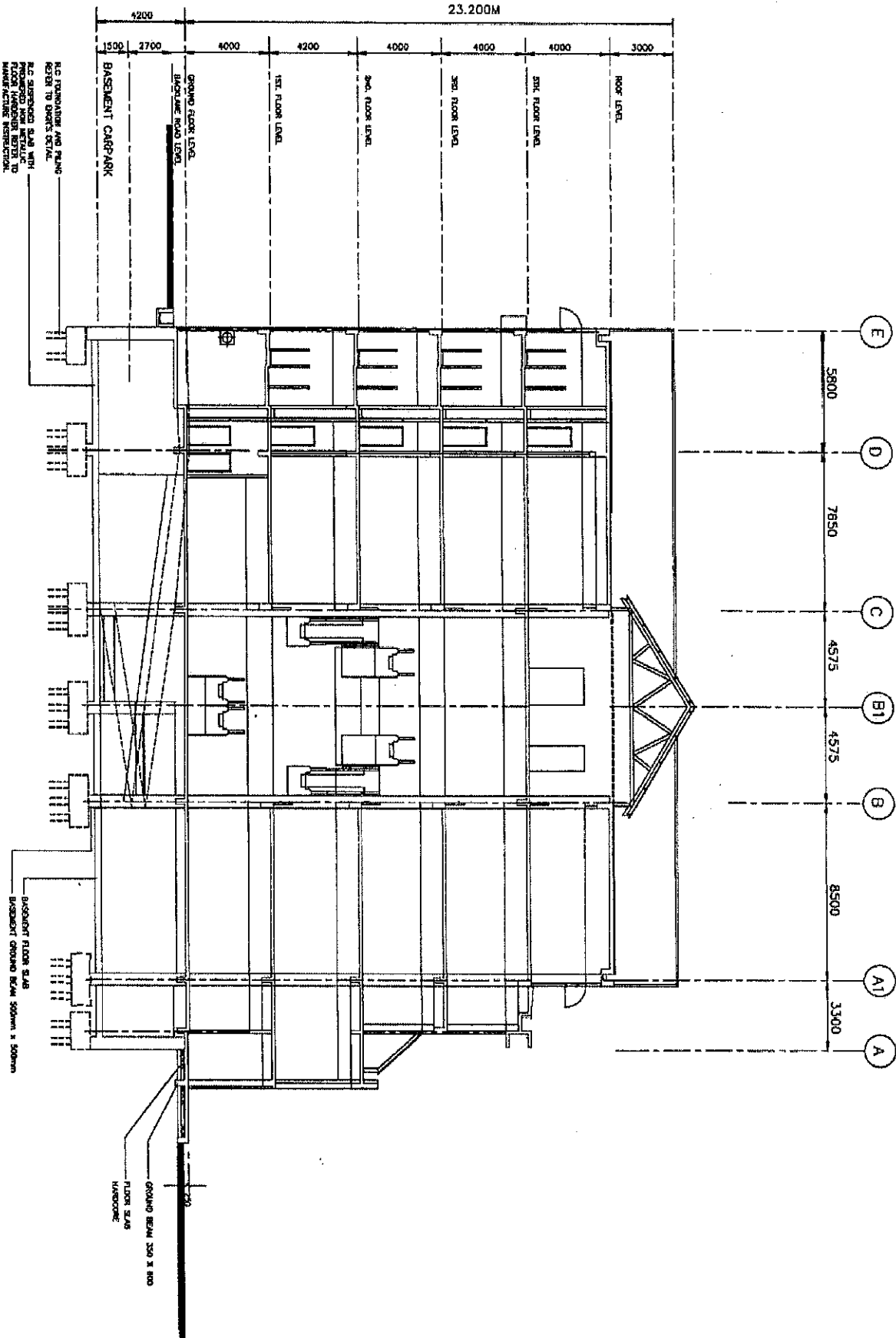
SCALE : NTS

DATE : OGOS 2024

DRAWING NO. : DCQ30154/BASEMENT/01

COUSE CODE: DCQ30154

POLYCC
POLITEKNIK
DAN
KOLEJ KOMUNITI



POLYCC
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DAN
KOLEJ KOMUNITI

PROJECT:
CADANGAN MEMBINA DAN
MENYIAPKAN BANGUNAN KUARTERS
5 TINGKAT BESERTA RUANG LETAK
KERETA BAWAH TANAH

DRAWING TITLE:
BASEMENT SECTION DETAILS

SUBJECT:
BUILDING WORKS
MEASUREMENT 3

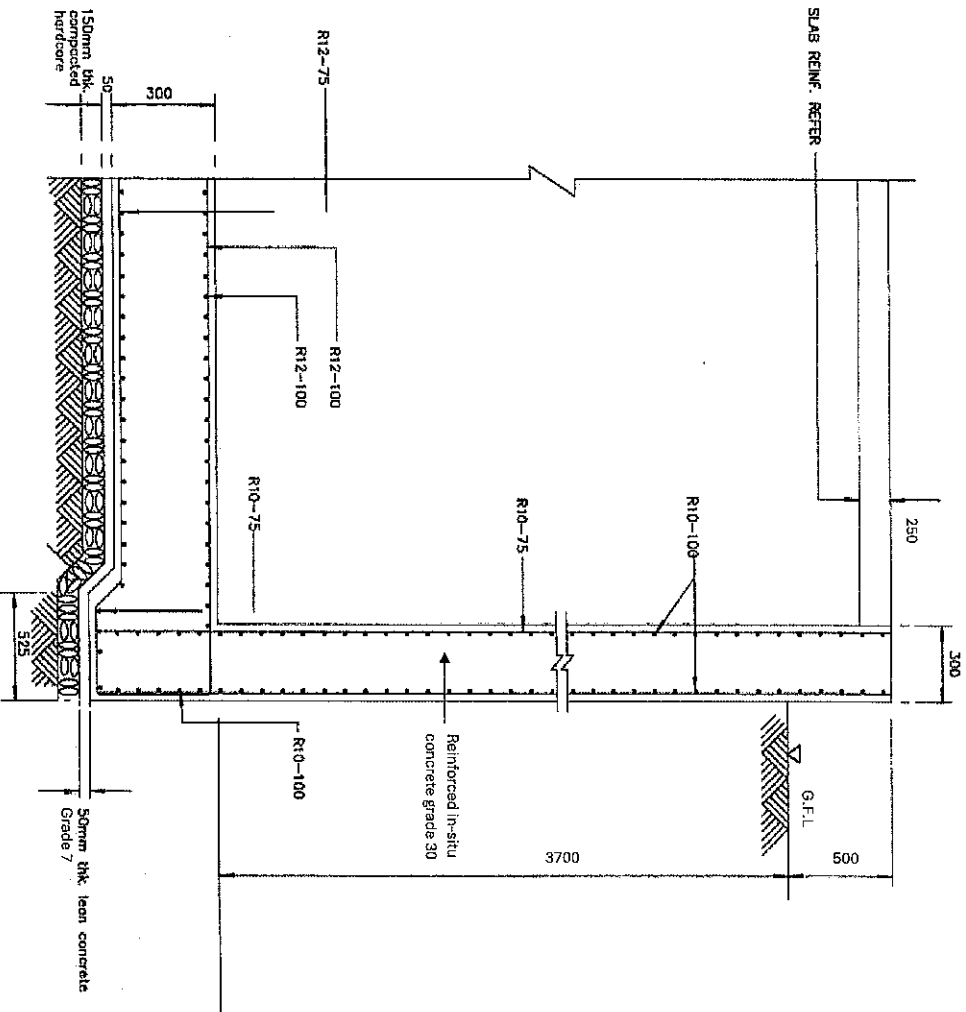
COUSE CODE: DCQ30154

PREPARED BY : AZIE

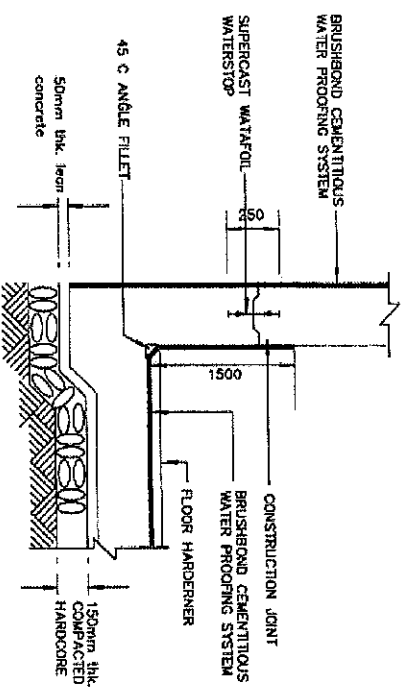
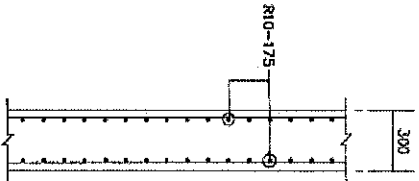
SCALE : NTS

DATE : OGOS 2024

DRAWING NO. : DCQ30154/BASEMENT/02



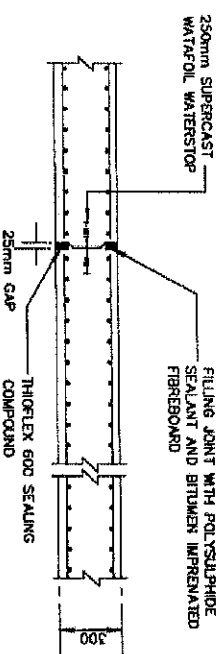
TYPICAL PLAN FOR
BASEMENT WALL
(M13)



BRUSHBOND WATERPROOFING SYSTEM
TO THE EXTERIOR BASEMENT

TYPICAL CROSS-SECTION
IN BASEMENT WALL & SLAB

TYPICAL DETAIL OF EXPANSION JOINT
IN BASEMENT WALL/SLAB



PROJECT:

CADANGAN MEMBINA DAN
MENYAPKAN BANGUNAN KUARTERS
5 TINGKAT BESERTA RUANG LETAK
KERETA BAWAH TANAH

DRAWING TITLE:

BASEMENT SECTION DETAILS

SUBJECT:

BUILDING WORKS
MEASUREMENT 3

PREPARED BY : AZIE

SCALE : NTS

DATE : OGOS 2024

DRAWING NO.: DCQ30154/BASEMENT/03

COUSE CODE: DCQ30154

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DAN
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