

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 : 2022/2023

DCQ40192 : CIVIL ENGINEERING WORKS MEASUREMENT 1

TARIKH : 20 JUN 2023

MASA : 2.30 PTG – 4.30 PTG (2 JAM)

Kertas ini mengandungi **LAPAN (8)** halaman bercetak.

Bahagian A: Subjektif (2 soalan)

Bahagian B: Subjektif (4 soalan)

Dokumen sokongan yang disertakan : Lampiran Lukisan, Malaysian Civil Engineering Standard Method of Measurement–Second Edition (MyCESMM2) / Kertas Dimensa / Kertas Billing

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

NOTES:**NOTA:**

- (a) Taking off refers to the rules in Malaysian Civil Engineering Standard Method of Measurement – Second Edition (MyCESMM2).
Ukur kuantiti merujuk kepada syarat-syarat dalam Malaysian Civil Engineering Standard Method of Measurement – Edisi Kedua (MyCESMM2).
- (b) Candidate is allowed to make assumptions if the information in the drawing is inadequate.
Calon dibenarkan membuat andaian sekiranya maklumat dalam lukisan tidak lengkap.
- (c) Mark 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 dimensi yang sistematik, kecukupan dan ketepatan penerangan dan dimensi.

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

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

ARAHAN:

*Bahagian ini mengandungi **TWO (2)** soalan subjektif. Jawab **SEMUA** soalan.*

QUESTION 1**SOALAN 1**

- CLO1 (a) List **Five (5)** criteria which differentiate civil engineering works and building works.
- Senaraikan **LIMA (5)** kriteria yang membezakan di antara kerja-kerja kejuruteraan awam dan kerja-kerja bangunan.*
- [5 marks]
[5 markah]
- CLO1 (b) Illustrate a diagram that shows earthwork terminologies for original ground level, final surface, commencing surface, excavated surface and formation level.
- Ilustrasikan satu diagram yang menunjukkan istilah kerja tanah untuk aras tanah asal, permukaan akhir, permukaan permulaan, permukaan digali dan aras pembentukan.*
- [8 marks]
[8 markah]
- CLO1 (c) Explain the application of the digit nine '9' and digit zero '0' according to the MyCESMM2 by giving an appropriate example in Class E and Class R.
- Terangkan penggunaan angka sembilan '9' dan angka kosong '0' mengikut MyCESMM2 serta berikan satu contoh yang sesuai dalam Kelas E dan Kelas R.*
- [12 marks]
[12 markah]

QUESTION 2**SOALAN 2**

- CLO1 (a) Explain the additional description rules for A17 in Class F: Earthworks with an example of description.
Terangkan peraturan keterangan tambahan bagi A17 dalam Kelas F: Kerja-kerja Tanah beserta satu contoh keterangan.
[5 marks]
[5markah]
- CLO1 (b) Based on Drawing No. **DCQ40192/Earthwork/Q2-01**, prepare Schedule of Cutting and Filling for Earthworks (around boundary area only).
*Berdasarkan kepada Lukisan No. **DCQ40192/Earthwork/Q2-01**, sediakan Jadual Pemotongan dan Penambakan bagi Kerja-kerja Tanah (sekitar kawasan sempadan sahaja).*
[8 marks]
[8 markah]
- CLO1 (c) Based on the answer given in question 2(b) above, take off all items of earthworks according to the MyCESMM2 (Class F: Earthworks) and prepare all the measured quantities as a Bill of Quantities.
Berdasarkan jawapan dalam soalan 2(b) di atas, kira kuantiti bagi semua item kerja-kerja tanah dengan merujuk kepada MyCESMM2 (Kelas F: Kerja-kerja Tanah) dan sediakan semua kuantiti terukur sebagai Senarai Kuantiti.
[12 marks]
[12 markah]

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

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

ARAHAN:

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

QUESTION 1**SOALAN 1**

- CLO1 (a) By referring to **Table B1**, produce related items with their code numbers and units as applied in Class A: General Items.

*Dengan merujuk kepada **Jadual B1**, kemukakan item-item berkaitan beserta nombor kod dan unit sebagaimana yang diaplikasikan dalam Kelas A: Butiran Am.*

[8 marks]

[8 markah]

- CLO1 (b) Based on **Table B1**, prepare the Bill of Quantities for General Items for 12 Unit Double Storey Bungalow House project at Bukit Beruntung, Selangor.

*Berdasarkan **Jadual B1**, sediakan Senarai Kuantiti untuk Butiran Am bagi Projek 12 Unit Rumah Banglo Dua Tingkat di Bukit Beruntung, Selangor.*

Project Information is as follows:

Project Title : PROPOSED 12 UNIT OF DOUBLE STOREY
BUNGALOW HOUSE AT BUKIT BERUNTUNG,
SELANGOR.

Contract Sum : RM 5, 575, 500.00

Project Duration : 12 Months

Table B1: Project Requirements for Class A: General Items.

Jadual B1: Kehendak-kehendak Projek untuk Kelas A: Butiran Am.

Item	Project Requirement
1	Provide Cabin office with a floor area of 110m2 as PD's site office. <i>Menyediakan sebuah Pejabat Kabin dengan Keluasan Lantai 110m2 sebagai pejabat tapak PD.</i>
2	Allow cost for Performance bond. <i>Memperuntukkan kos untuk Bon Pelaksanaan.</i>
3	Provide new vehicle for the PD's representative. <i>Menyediakan sebuah kenderaan baharu untuk wakil PD.</i>
4	Provide necessary office equipment for contractor. <i>Menyediakan keperluan peralatan pejabat untuk kontraktor.</i>
5	Allow cost in providing workmen compensation insurance. <i>Memperuntukkan kos untuk insuran pampasan pekerja.</i>
6	Provide Ten (10) sets of Progress Report. <i>Menyediakan Sepuluh (10) salinan Laporan Kemajuan.</i>
7	Provide manpower for operation and maintenance of plant. <i>Menyediakan tenaga kerja bagi pengoperasian dan penyenggaraan jentera.</i>
8	Provide Security on site. <i>Menyediakan langkah keselamatan di tapak.</i>

[17 marks]

[17 markah]

QUESTION 2**SOALAN 2**

Based on Drawing No: **DCQ40192/QUESTION2B/01**, answer all the questions below.

Berdasarkan Lukisan No: DCQ40192/QUESTION2B/01, jawab semua soalan dibawah.

- CLO1 (a) Prepare the quantity measurement for Site Clearance.
Sediakan pengukuran kuantiti bagi Pembersihan Tapak.
- [8 marks]
[8 markah]

- CLO1 (b) Conclude a bill of quantities complete with quantity measurement for all item of demolition works (excluding site clearance).
Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi kerja-kerja perobohan (tidak termasuk Pembersihan Tapak).
- [17 marks]
[17 markah]

QUESTION 3**SOALAN 3**

Based on Drawing No.: **DCQ40192/QUESTION3B/01**, answer all the questions below.

Berdasarkan Lukisan No.: DCQ40192/QUESTION3B/01, jawab semua soalan dibawah.

- CLO1 (a) Prepare the quantity measurement for turfing works.
Sediakan pengukuran kuantiti bagi kerja-kerja penanaman rumput.
- [8 marks]
[8 markah]

- CLO1 (b) Conclude a bill of quantities complete with quantity measurement for all item of landscaping works (excluding turfing works).

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi kerja-kerja landskap (tidak termasuk kerja merumput).

[17 marks]

[17 markah]

QUESTION 4

SOALAN 4

Based on Drawing No.: **DCQ40192/QUESTION4B/01**, answer all the questions below.

Berdasarkan Lukisan No.: DCQ40192/QUESTION4B/01, jawab semua soalan dibawah.

- CLO1 (a) Prepare the quantity measurement for road kerbs.
Sediakan pengukuran kuantiti bagi bebendul jalan.

[8 marks]

[8 markah]

- CLO1 (b) Conclude a bill of quantities complete with quantity measurement for all item of roadworks (excluding road kerbs).

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi kerja-kerja jalan (tidak termasuk bebendul jalan).

[17 marks]

[17 markah]

SOALAN TAMAT

NOTES:**NOTA:**

- (a) Taking off refers to the rules in Malaysian Civil Engineering Standard Method of Measurement – Second Edition (MyCESMM2).
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QUESTION 2

SOALAN 2

- CLO1 (a) Explain the additional description rules for A17 in Class F: Earthworks with an example of description.

Terangkan peraturan keterangan tambahan bagi A17 dalam Kelas F: Kerja-kerja Tanah beserta satu contoh keterangan.

[5 marks]

[5markah]

- CLO1 (b) Based on Drawing No. **DCQ40192/Earthwork/Q2-01**, prepare Schedule of Cutting and Filling for Earthworks (around boundary area only).

*Berdasarkan kepada Lukisan No. **DCQ40192/Earthwork/Q2-01**, sediakan Jadual Pemotongan dan Penambakan bagi Kerja-kerja Tanah (sekitar kawasan sempadan sahaja).*

[8 marks]

[8 markah]

- CLO1 (c) Based on the answer given in question 2(b) above, take off all items of earthworks according to the MyCESMM2 (Class F: Earthworks) and prepare all the measured quantities as a Bill of Quantities.

Berdasarkan jawapan dalam soalan 2(b) di atas, kira kuantiti bagi semua item kerja-kerja tanah dengan merujuk kepada MyCESMM2 (Kelas F: Kerja-kerja Tanah) dan sediakan semua kuantiti terukur sebagai Senarai Kuantiti.

[12 marks]

[12 markah]

Project Information is as follows:

Project Title : PROPOSED 12 UNIT OF DOUBLE STOREY
BUNGALOW HOUSE AT BUKIT BERUNTUNG,
SELANGOR.

Contract Sum : RM 5, 575, 500.00

Project Duration : 12 Months

Table B1: Project Requirements for Class A: General Items.

Jadual B1: Kehendak-kehendak Projek untuk Kelas A: Butiran Am.

Item	Project Requirement
1	Provide Cabin office with a floor area of 110m ² as PD's site office. <i>Menyediakan sebuah Pejabat Kabin dengan Keluasan Lantai 110m² sebagai pejabat tapak PD.</i>
2	Allow cost for Performance bond. <i>Memperuntukkan kos untuk Bon Pelaksanaan.</i>
3	Provide new vehicle for the PD's representative. <i>Menyediakan sebuah kenderaan baharu untuk wakil PD.</i>
4	Provide necessary office equipment for contractor. <i>Menyediakan keperluan peralatan pejabat untuk kontraktor.</i>
5	Allow cost in providing workmen compensation insurance. <i>Memperuntukkan kos untuk insuran pampasan pekerja.</i>
6	Provide Ten (10) sets of Progress Report. <i>Menyediakan Sepuluh (10) salinan Laporan Kemajuan.</i>
7	Provide manpower for operation and maintenance of plant. <i>Menyediakan tenaga kerja bagi pengoperasian dan penyenggaraan jentera.</i>
8	Provide Security on site. <i>Menyediakan langkah keselamatan di tapak.</i>

[17 marks]

[17 markah]

- CLO1 (b) Conclude a bill of quantities complete with quantity measurement for all item of landscaping works (excluding turfing works).

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi kerja-kerja landskap (tidak termasuk kerja merumput).

[17 marks]

[17 markah]

QUESTION 4

SOALAN 4

Based on Drawing No.: **DCQ40192/QUESTION4B/01**, answer all the questions below.

Berdasarkan Lukisan No.: DCQ40192/QUESTION4B/01, jawab semua soalan dibawah.

- CLO1 (a) Prepare the quantity measurement for road kerbs.
Sediakan pengukuran kuantiti bagi bebendul jalan.

[8 marks]

[8 markah]

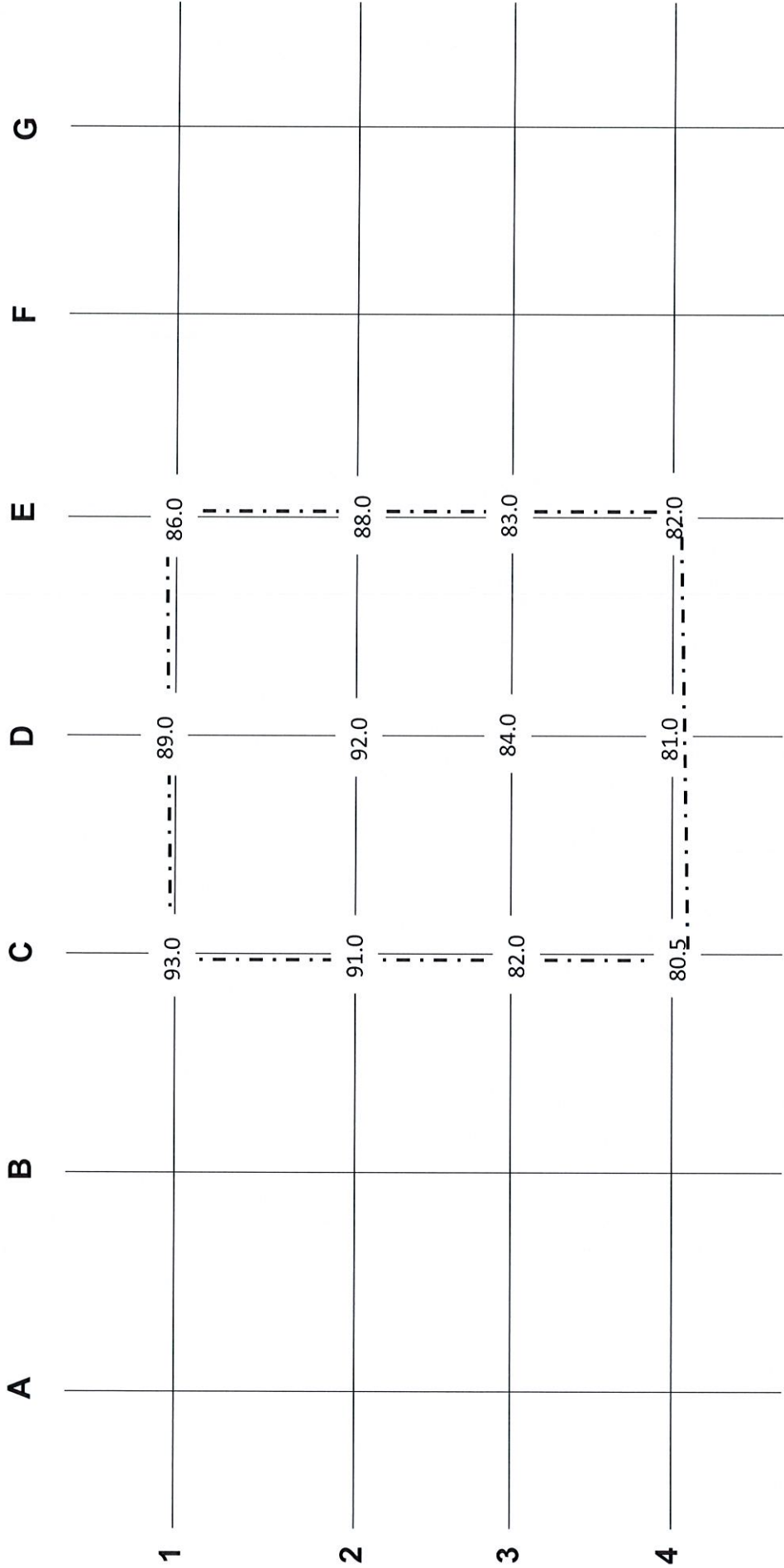
- CLO1 (b) Conclude a bill of quantities complete with quantity measurement for all item of roadworks (excluding road kerbs).

Rumuskan satu senarai kuantiti lengkap dengan pengukuran kuantiti bagi kerja-kerja jalan (tidak termasuk bebendul jalan).

[17 marks]

[17 markah]

SOALAN TAMAT



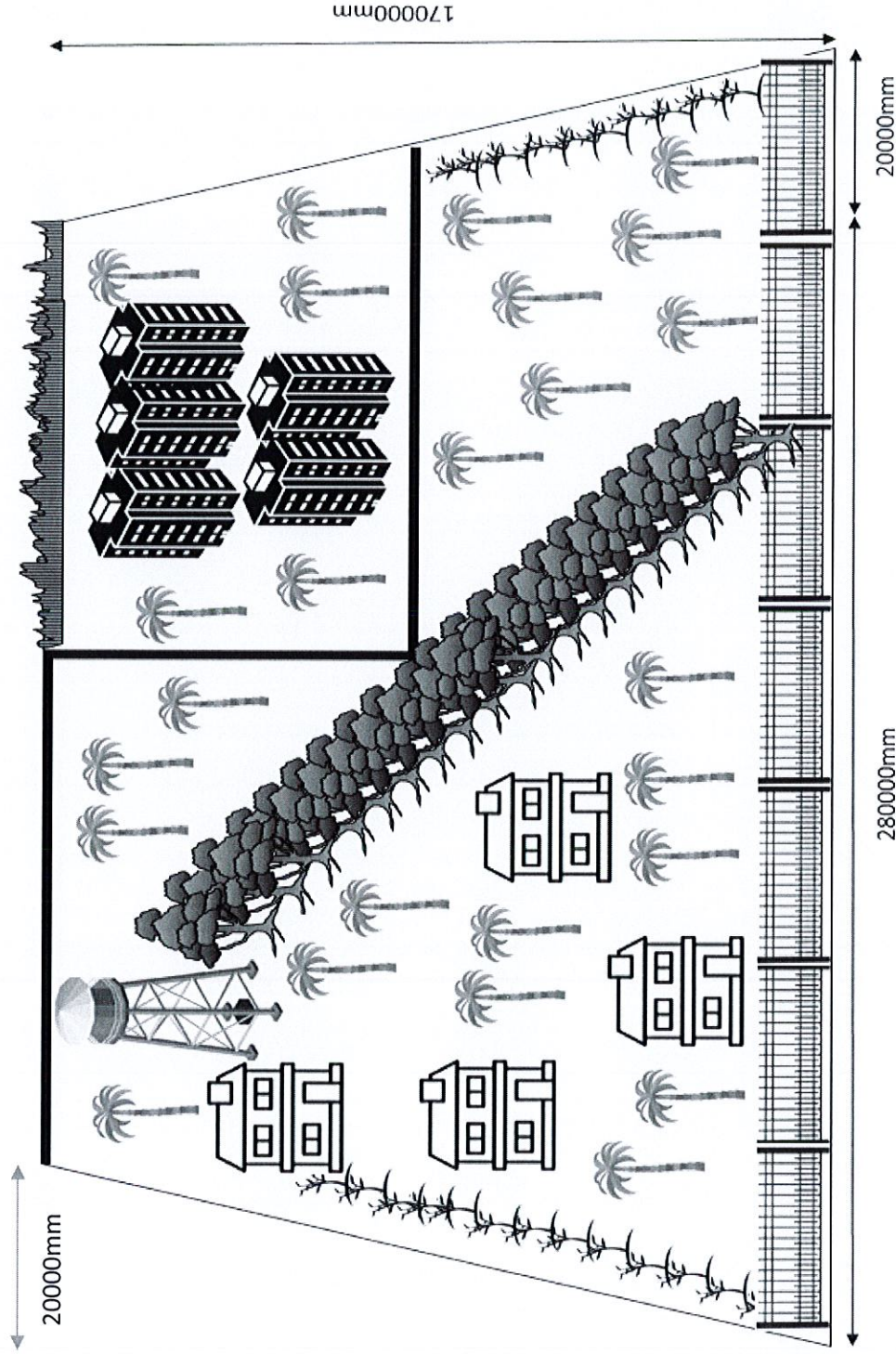
NOTE:

- 1. Each grid size is 8m x 8m
- 2. The site is to be levelled at 85.00m
- 3. Form a slope of 2:1 at the edge of the boundary line



PROPOSED EARTHWORKS PACKAGE PHASE 1A,
SK FELDA TROLAK SELATAN, SUNGKAI, PERAK.

DWG. NO. : DCQ40192/Earthworks/Q2-01



LEGEND

- R.C Apartment 5 blocks
25m x 9m x 50m height
- 700mm girth Coconut trees
- 400mm girth Jasmine trees
- Shrub
- 2500mm girth Jasmine trees (20 NOS)
- Timber Double Storey House
15m x 7m x 30m height
- 10000 gallon Steel Water Tank
- 200mm dia. M.S Pipe (1470mm)
- Cast Iron Fencing

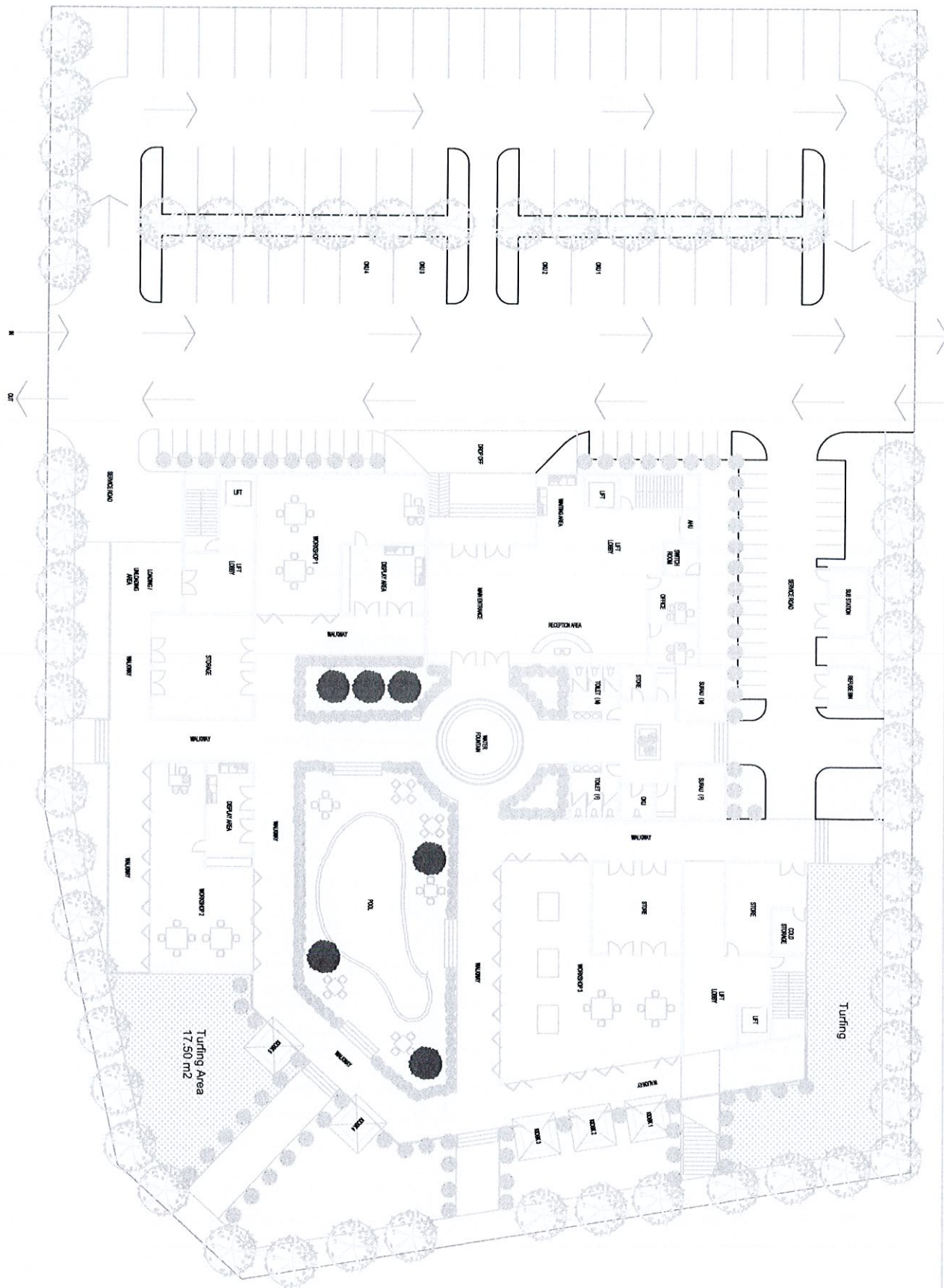
PROJECT TITLE:

Proposed Demolition & Site Clearance Work for
New Housing Development at Sepang, Selangor.

DRAWING NO.:

DCQ40192/QUESTION2B/01

NOT TO SCALE



SCALE : 1:100

PROJECT TITLE:
PROPOSED LANDSCAPING WORKS FOR MAJLIS PERBANDARAN
KLANG, SELANGOR DARUL EHSAN

DRAWING TITLE : SITE PLAN - LANDSCAPING
DRAWING NO. : 340192/QUESTION3B/01

