



PARLIMEN MALAYSIA
 BANGUNAN PARLIMEN
 JALAN PARLIMEN
 50680 KUALA LUMPUR

DOKUMEN SEBUT HARGA

SEBUTHARGA NO : PAR.2/367 SH.10/2021

TAJUK KERJA

**KERJA-KERJA HIASAN DALAMAN DENGAN
 MEMBINA SEKATAN DINDING DALAMAN
 PEJABAT YANG DI-PERTUA DEWAN NEGARA
 DAN MENGGANTI KERTAS HIASAN DINDING DI
 LALUAN PINTU 9 DAN LAIN-LAIN BERKAITAN DI
 BLOK UTAMA, PARLIMEN MALAYSIA**

TARIKH TUTUP : 19 MAC 2021

Nama Kontraktor :.....
Alamat:.....
.....
.....
Kelas :.....Tempoh Daftar :.....

**SENARAI SEMAKAN
(BEKALAN/PERKHIDMATAN/KERJA)**

Sila tand bagi dokumen-dokumen yang disertakan

Bil.	Perkara/Dokumen	Untuk Ditanda Oleh Syarikat	Untuk Ditanda Oleh Jawatankuasa Pembuka Sebut harga
1.	Dokumen No. 3 : Skop Kerja	<input type="checkbox"/>	<input type="checkbox"/>
2.	Dokumen No. 4: Pelan Susunatur Dan Lukisan Rekabentuk	<input type="checkbox"/>	<input type="checkbox"/>
3.	Dokumen No. 5 : Spesifikasi Seksyen H	<input type="checkbox"/>	<input type="checkbox"/>
4.	Dokumen No. 6 : Jadual harga	<input type="checkbox"/>	<input type="checkbox"/>
5.	Dokumen No. 7 : Ringkasan Jadual Harga	<input type="checkbox"/>	<input type="checkbox"/>
6.	Dokumen No. 8 : Borang Tawaran	<input type="checkbox"/>	<input type="checkbox"/>
7.	Dokumen No. 9 : Keterangan Mengenai Penyebut Harga	<input type="checkbox"/>	<input type="checkbox"/>
8.	Surat Akuan Penyebut Harga - Lampiran F	<input type="checkbox"/>	<input type="checkbox"/>
9.	Dokumen sokongan		
	(i) Profil Syarikat beserta rekod pengalaman bekerja yang lepas dan semasa.	<input type="checkbox"/>	<input type="checkbox"/>
	(ii) Salinan Penyata Bank tiga (3) bulan terkini (Disember 2020, Januari 2021 dan Februari 2021)	<input type="checkbox"/>	<input type="checkbox"/>
	(iii) Salinan Sijil Perolehan Kerja Kerajaan (SPKK)	<input type="checkbox"/>	<input type="checkbox"/>

Bil.	Perkara/Dokumen	Untuk Ditanda Oleh Syarikat	Untuk Ditanda Oleh Jawatankuasa Pembuka Sebut harga
	(iv) Salinan Sijil Perakuan Pendaftaran Kontraktor (PPK)	<input type="checkbox"/>	<input type="checkbox"/>
	(v) Salinan Sijil Taraf Bumiputera (STB) dari Pusat Khidmat Kontraktor (Kerja)	<input type="checkbox"/>	<input type="checkbox"/>
	(vi) Salinan Sijil SSM	<input type="checkbox"/>	<input type="checkbox"/>
	(vii) Salinan Surat Pendaftaran dengan Jabatan Kastam Diraja Malaysia (JKDM) di bawah Cukai Perkhidmatan / SST (jika ada)	<input type="checkbox"/>	<input type="checkbox"/>
	(viii) Brosur produk yang berkaitan / Lukisan ilustrasi.	<input type="checkbox"/>	<input type="checkbox"/>

PENGESAHAN OLEH SYARIKAT

Dengan ini saya mengesahkan bahawa saya telah membaca dan memahami semua syarat-syarat dan terma yang dinyatakan di dalam dokumen sebut harga. Semua maklumat yang dikemukakan adalah benar.

Tandatangan :

Nama :

Jawatan :

Tarikh :

UNTUK KEGUNAAN JABATAN

Jawatankuasa Pembuka Sebut Harga mengesahkan penerimaan dokumen bertanda kecuali bagi perkara bil.
..... (jika ada)

Tandatangan :

Nama :

Jawatan :

Tarikh :

Tandatangan :

Nama :

Jawatan :

Tarikh :

**KERAJAAN MALAYSIA
PARLIMEN MALAYSIA
DOKUMEN SEBUT HARGA**

**KERJA-KERJA HIASAN DALAMAN DENGAN MEMBINA SEKATAN DINDING
DALAMAN PEJABAT YANG DI PERTUA DEWAN NEGARA DAN MENGGANTI
KERTAS HIASAN DINDING DI LALUAN PINTU 9 DAN LAIN-LAIN BERKAITAN
DI BLOK UTAMA, PARLIMEN MALAYSIA - PAR.2/367 SH.10/2021**

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DOKUMEN NO.1
ARAHAN KEPADA PENYEBUTHARGA

DOKUMEN NO. 1

ARAHAN KEPADA PENYEBUT HARGA

NO. SEBUTHARGA: PAR.2/367 SH.10/2021

KERJA-KERJA HIASAN DALAMAN DENGAN MEMBINA SEKATAN DINDING DALAMAN PEJABAT YANG DI-PERTUA DEWAN NEGARA DAN MENGGANTI KERTAS HIASAN DINDING DI LALUAN PINTU 9 DAN LAIN-LAIN BERKAITAN DI BLOK UTAMA, PARLIMEN MALAYSIA

1. Tawaran adalah dipelawa kepada Kontraktor Bumiputera yang mempunyai Sijil Perolehan kerja Kerajaan berdaftar dengan Lembaga Pembangunan Industri Pembinaan Malaysia (LPIMPM/ (CIDB) dalam Gred, Kategori, dan Pengkhususan seperti berikut :-

Gred	G1
Kategori	B (Pembinaan Bangunan)
Pengkhususan	B07 (Hiasan Dalaman)

Yang mana pendaftaranya masih lagi berkuatkuasa, mempunyai alamat pendaftaran di Wilayah Persekutuan Kuala Lumpur adalah layak membuat tawaran bagi sebutharga berikut :-

KERJA-KERJA HIASAN DALAMAN DENGAN MEMBINA SEKATAN DINDING DALAMAN PEJABAT YANG DI PERTUA DEWAN NEGARA DAN MENGGANTI KERTAS HIASAN DINDING DI LALUAN PINTU 9 DAN LAIN-LAIN BERKAITAN DI BLOK UTAMA, PARLIMEN MALAYSIA

2. Lawatan tapak adalah sebagaimana yang dinyatakan di dalam iklan sebutharga. Penyebutharga adalah **DIGALAKKAN** untuk menghadiri lawatan tapak tersebut pada masa dan tempat yang telah ditetapkan.

3. Penyebutharga hendaklah menyerahkan sampul tawaran sebut harga **secara manual** ke dalam peti sebut harga pada atau sebelum **19 hb. Mac 2021 (Jumaat)** jam **12.00 tengahari**. Dokumen tawaran yang diterima selepas dari tarikh dan masa akan **ditolak**. Sampul hendaklah dilabelkan dengan nombor sebut harga dan nombor tawaran sebut harga dan hendaklah dimasukkan ke dalam Peti Sebutharga **No.1** di Pejabat Bahagian keselamatan, Aras Bawah, Blok Ahli Parlimen Dan Pentadbiran, Parlimen Malaysia, Jalan Parlimen, 50680 Kuala Lumpur.
4. Kerajaan tidak bertanggungjawab di atas apa-apa kehilangan dokumen semasa perjalanan pos/perkhidmatan hantar cepat (*courier service*) dan sebagainya.
5. Tawaran sebut harga yang dikemukakan adalah diwajibkan mengandungi dokumen-dokumen berikut:-
- | | | |
|----|--|---------------|
| a) | Skop Kerja | Dokumen No. 3 |
| b) | Lukisan Susunatur Dan Rekabentuk | Dokumen No. 4 |
| c) | Spesifikasi (Seksyen H) | Dokumen No. 5 |
| d) | Jadual Harga | Dokumen No. 6 |
| d) | Ringkasan Jadual Harga | Dokumen No. 7 |
| e) | Borang Tawaran | Dokumen No. 8 |
| f) | Keterangan Mengenai Kontraktor | Dokumen No. 9 |
| g) | Lampiran F | |
| h) | Dokumen sokongan: | |
| | (i) Profil Syarikat; | |
| | (ii) Salinan Penyata Bank tiga (3) bulan terkini; | |
| | (iii) Salinan Sijil Perolehan Kerja Kerajaan (SPKK); | |
| | (iv) Salinan Perakuan Pendaftaran Kontraktor (PPK); | |
| | (v) Salinan Sijil Taraf Bumiputera (STB) dari Pusat Khidmat Kontraktor (Kerja); | |
| | (vi) Salinan Sijil SSM; | |
| | (vii) Salinan Surat Pendaftaran dengan Jabatan Kastam Diraja Malaysia (JKDM) di bawah Cukai Perkhidmatan / SST (jika ada); | |
| | (viii) Brosur produk yang berkaitan / Lukisan ilustrasi. | |

Semua borang hendaklah diisi dengan lengkap seperti yang ditentukan dan ditaip dengan kemas dan terang. Jika ruangan yang disediakan tidak mencukupi, penyebutharga dibenarkan menaip maklumat-maklumat di muka surat tambahan.

6. Senarai semak untuk penyerahan dokumen adalah seperti berikut:

Bil	Senarai Dokumen	Dokumen Wajib Yang Perlu Dikemukakan
a.	Dokumen No. 3 : Skop Kerja	√
b.	Dokumen No. 4 : Pelan susunatur dan cadangan rekabentuk sekatan dinding	√
c.	Dokumen No.5 : Spesifikasi	√
c.	Dokumen No. 6: Jadual Harga	√
d.	Dokumen No. 7 : Ringkasan Jadual Harga	√
e.	Dokumen No. 8 : Borang Tawaran	√
f.	Dokumen No. 9 : Keterangan Mengenai Kontraktor	√
h.	Lampiran F	√
i.	Dokumen sokongan	
	i.) Profil Syarikat	√
	ii.) Salinan Penyata Bank tiga (3) bulan terkini	√
	iii.) Salinan Sijil Perolehan Kerja Kerajaan (SPKK)	√
	iv.) Salinan Perakuan Pendaftaran Kontraktor (PPK)	√

	v.) Salinan Sijil Taraf Bumiputera (STB) dari Pusat Khidmat Kontraktor (Kerja)	✓
	vi.) Salinan Sijil SSM	✓
	vii.) Salinan Surat Pendaftaran dengan Jabatan Kastam Diraja Malaysia (JKDM) di bawah Cukai Perkhidmatan / SST (jika ada)	
	viii.) Brosur produk yang berkaitan / Lukisan ilustrasi	✓

7. Dokumen tawaran sebut harga hendaklah dikemukakan secara manual sebelum waktu dan tarikh tutup yang ditetapkan. Tawaran teknikal dan tawaran harga termasuk dokumen sokongan berkaitan hendaklah disediakan dalam dua (2) sampul yang berasingan dan berlakri. Kedua-dua sampul tersebut kemudiannya hendaklah dimasukkan ke dalam satu (1) sampul surat berlakri serta dimasukkan ke dalam peti tawaran sebutharga sebelum tarikh dan masa sebutharga ditutup.
8. Tawaran sebut harga ini sah selama **sembilan puluh (90)** hari dari tarikh tutup bidaan.
9. Penyebutharga yang enggan menandatangani kontrak yang telah disetujui terima atau yang menarik balik tawaran bidaan sebelum dipertimbangkan atau menolak tawaran setelah tawaran dibuat, akan dikenakan tindakan penggantungan pendaftaran seperti berikut:
 - i) Dua (2) tahun bagi kesalahan pertama;
 - ii) Lima (5) tahun bagi kesalahan kedua; dan
 - iii) Pendaftaran akan dipotong terus bagi kesalahan berikutnya.
10. Penyebut harga yang tawarannya disetujuterima dikehendaki memberi perkhidmatan membekal semua barang tersebut pada tarikh yang ditetapkan oleh Kerajaan atau mana-mana tarikh lain seperti ditentukan

oleh Kerajaan. Sekiranya Penyebut harga gagal berbuat demikian, tawaran yang disetujuterima akan dibatalkan dan nama Kontraktor serta nama pengarah-pengarah termasuk pemegang-pemegang saham terbesar akan disenarai hitamkan.

11. Kerja ini hendaklah disiapkan dalam tempoh tidak melebihi **60 hari**.
12. Kerajaan tidak terikat untuk menerima tawaran yang terendah atau mana-mana tawaran. Tiada sebarang alasan perlu diberikan oleh Kerajaan untuk sebarang penolakan tawaran. Keputusan mengenai tawaran yang diterima adalah muktamad. Sebarang surat menyurat mengenai keputusan tidak akan dilayan.
13. **PERINGATAN MENGENAI KESALAHAN RASUAH DALAM DOKUMEN PEROLEHAN KERAJAAN**
 - 13.1 Sebarang perubahan atau percubaan rasuah untuk menawar atau memberi, meminta atau menerima apa-apa suapan secara rasuah kepada dan daripada mana-mana orang berkaitan perolehan ini merupakan suatu kesalahan jenayah di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).
 - 13.2 Sekiranya mana-mana pihak ada menawarkan atau memberi apa-apa suapan kepada mana-mana anggota pentadbiran awam, maka pihak yang ditawarkan atau diberi suapan dikehendaki membuat aduan dengan segera ke pejabat Suruhanjaya Pencegahan Rasuah Malaysia atau balai polis yang berhampiran. Kegagalan berbuat demikian adalah merupakan suatu kesalahan di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).
 - 13.3 Tanpa prejudis kepada tindakan-tindakan lain, tindakan tatatertib terhadap anggota perkhidmatan awam dan menyenarai hitamkan kontraktor atau pembekal boleh diambil sekiranya pihak-pihak terlibat dengan kesalahan rasmi di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).
 - 13.4 Mana-mana kontraktor atau pembekal yang membuat tuntutan bayaran berkaitan perolehan ini walaupun tiada kerja-kerja dibuat atau tiada barangan dibekal mengikut spesifikasi yang ditetapkan atau tiada perkhidmatan diberi dan mana-mana anggota perkhidmatan awam yang mengesahkan tuntutan berkenaan adalah

melakukan kesalahan dibawah Akta Suruhanjaya Pencegahan Rasuah Malaysia (Akta 694).

14. **PELAKSANAAN CUKAI JUALAN DAN CUKAI PERKHIDMATAN (CJCP) YANG BERKUATKUASA 1 SEPTEMBER 2018**

- 14.1 Semua tawaran harga oleh Pembekal hendaklah dikemukakan dengan dinyatakan harga tawaran tanpa Cukai Jualan dan Cukai Perkhidmatan (CJCP).
- 14.2 Senarai yang dikenakan Cukai Perkhidmatan seperti yang terdapat dalam Akta Cukai Perkhidmatan 2018. Sekiranya pembekal yang berjaya berdaftar CJCP dan perkhidmatan tersebut adalah termasuk dalam senarai yang dikenakan Cukai Perkhidmatan, Kerajaan akan menawarkan nilai perolehan termasuk kenaaan Cukai Perkhidmatan.
- 14.3 Pembekal hendaklah memaklumkan pada bila-bila masa setelah berdaftar dengan JKDM kepada Kerajaan supaya Cukai Perkhidmatan boleh dibayar. Kegagalan atau kelewatan syarikat untuk memaklumkan kepada Kerajaan mengenai status pendaftaran dengan JKDM akan menyebabkan syarikat perlu menanggung CJCP dan tidak layak menuntut apa-apa bayaran daripada Kerajaan.

15. **PELAKSANAAN PROGRAM PROFESSIONAL TRAINING AND EDUCATION FOR GROWING ENTREPRENEURS (PROTEGE) DALAM PEROLEHAN KERAJAAN (1PP/PK1.2)**

- 15.1 Penyebut harga adalah dikehendaki melaksanakan program PROTEGE dalam perolehan kerajaan mengikut had nilai ambang (threshold value) dan sektor seperti berikut :

Bil	Sektor	Nilai Ambang (RM)
1	Pembinaan	10 juta
2	Perkhidmatan / Penyelenggaraan Bangunan / Infrastruktur / Jalan	5 juta
3	Teknologi Informasi dan Komunikasi	10 juta
4	Perkhidmatan Perunding	5 juta
5	Perubatan dan Farmasi	10 juta
6	Perkhidmatan Sokongan Kesihatan	10 juta

Bil	Sektor	Nilai Ambang (RM)
7	Perkhidmatan Penyenggaraan, Pembaikan dan Baik Pulih	10 juta
8	Pengangkutan dan Logistik	10 juta
9	Pertahanan Strategik	10 Juta
10	Perkhidmatan Kawalan Keselamatan	4 juta
11	Sektor Lain	10 juta

- 15.2 Syarikat hendaklah memperuntukkan sekurang-kurangnya 1% daripada keseluruhan kos projek bagi melaksanakan program PROTEGE.
- 15.3 Syarikat yang mendapat kontrak Kerajaan di bawah nilai ambang digalakkan untuk melaksanakan program PROTEGE, namun tidak tertakluk kepada penetapan 1% daripada nilai kontrak keseluruhan.
- 15.4 Penetapan bilangan minimum peserta SL1M bagi sesuatu kontrak dikira berdasarkan formula berikut :

$$\frac{1\% \times \text{Kos Keseluruhan Projek} / \text{Prolehan}}{\text{RM24,000}^*}$$

* Elaun PROTEGE (RM2,000 seorang X 12 bulan)

16. Selain perkara 1 hingga 11 yang dinyatakan di atas, kontraktor juga tertakluk kepada syarat-syarat tambahan sepertimana di Lampiran A : Syarat-Syarat Sebut harga Untuk Kerja.
17. Sebarang penjelasan yang diperlukan mengenai sebut harga ini hendaklah dialamatkan kepada:

Ketua Pentadbir

Parlimen Malaysia
 Bangunan Parlimen
 Jalan Parlimen
 50680 Kuala Lumpur.

(u.p. Urusetia Perolehan)

14.

DOKUMEN NO.2
SYARAT-SYARAT AM

SYARAT-SYARAT AM

Tertakluk kepada apa-apa syarat khas yang ditetapkan di tempat lain dalam pelawaan ini, syarat-syarat am yang berikut hendaklah dipakai, melainkan setakat mana syarat-syarat am itu ditolak atau diubah dengan khususnya oleh pembida.

1. HARGA

Harga belian yang ditawarkan hendaklah harga bersih termasuk semua diskaun, kos penghantaran, kos pemasangan dan kos membuka.

2. TEMPOH MENGEMUKAKAN TUNTUTAN BAYARAN

Penyebutharga diberi peringatan supaya mengemukakan tuntutan pembayaran yang lengkap dalam tempoh 14 hari daripada tarikh pengesahan siap kerja untuk membolehkan bayaran dibuat dengan segera. Kerajaan tidak akan bertanggungjawab di atas kelewatan pembayaran kepada **Kontraktor** jika tuntutan pembayaran tidak dihantar dengan segera dalam tempoh 14 hari.

3. PERSETUJUAN

Kerajaan tidak terikat untuk setuju terima tawaran harga yang terendah atau mana-mana tawaran daripada mana-mana kontraktor.

4. PEMERIKSAAN

Kerajaan sentiasa berhak melantik seseorang pegawai untuk memeriksa bekalan itu semasa atau sebelum pemasangan dibuat atau pada bila-bila masa lain sebelum pentauliah dan penyerahan sistem tersebut.

5. PERAKUAN MENYATAKAN SPESIFIKASI TELAH DIPATUHI

Penyebutharga dikehendaki memperakui bahawa bekalan yang dibekalkan oleh mereka adalah mengikut kehendak atau piawai (jika ada) yang dinyatakan di dalam pelawaan ini.

6. KEGAGALAN KONTRAKTOR MEMULAKAN KERJA

Sekiranya kontraktor gagal memulakan kerja selepas tujuh (7) hari dari tarikh akhir tempoh mula kerja yang dinyatakan dalam Inden, tanpa sebab-seba yang munasabah, Inden akan dibatalkan oleh Pegawai Inden dan tindakan tatatertib akan diambil terhadap kontraktor.

7. SUB-SEWA DAN MENYERAH HAK KERJA

Kontraktor tidak dibenarkan mengsubkan-sewakan Kerja kepada kontraktor-kontraktor lain. Kontraktor tidak boleh menyerahhak apa-apa faedah dibawah Inden ini tanpa terlebih dahulu mendapatkan persetujuan bertulis daripada Pegawai Inden.

8. PENOLAKAN BAHAN, BARANG DAN MUTU HASIL KERJA OLEH PEGAWAI INDEN

8.1 Pegawai Inden atau wakilnya berhak menolak bahan, barang dan mutu hasil kerja dan jenis piawaian tidak menepati seperti diperihalkan dalam spesifikasi. Kontraktor hendaklah, apabila diminta oleh Pegawai Inden, memberi kepadanya baucar-baucar dan/atau perakuan ujian pengilang untuk membuktikan bahawa bahan-bahan dan barang-barang itu mematuhi Spesifikasi. Bahan, barang dan kerja-kerja yang ditolak hendaklah diganti dan sebarang kos tambahan yang terlibat hendaklah ditanggung oleh kontraktor sendiri.

8.2 Kontraktor hendaklah dengan sepenuhnya atas perbelanjaan sendiri menyediakan sampel bahan dan barang-barang untuk ujian.

8.3 Tiada penggantian untuk peralatan, bahan dan cara kerja yang telah ditentukan didalam spesifikasi atau ditawarkan dan telah diterima, dibenarkan kecuali mendapat persetujuan daripada Pegawai Inden secara bertulis.

9.0 RINGKASAN SEBUT HARGA

- 9.1 Ringkasan Sebut harga hendaklah menjadi sebahagian daripada Borang Sebut harga ini dan hendaklah menjadi asas Jumlah Harga Sebut harga.
- 9.2 Harga-harga dalam Ringkasan Sebut harga hendaklah mengambilkira semua kos termasuk pengangkutan, cukai, duti, bayaran dan caj-caj lain yang perlu dan berkaitan bagi penyiapan Kerja dengan sepenuhnya.
- 9.3 Tiada sebarang tuntutan akan dilayan bagi pelarasan harga akibat daripada perubahan kos buruh, bahan-bahan dan semua duti dan cukai Kerajaan, sama ada dalam tempoh sah sebutharga atau dalam tempoh Kerja.
- 9.4 Harga-harga dalam Ringkasan Sebut harga yang dikemukakan oleh kontraktor hendaklah tertakluk kepada persetujuan sebelumnya daripada Pegawai Inden tentang kemunahsabahannya. Persetujuan sebelumnya itu dan apa-apa pelarasan kemudiannya kepada harga-harga dalam Ringkasan Sebut harga hendaklah dibuat sebelum Inden Kerja dikeluarkan.
- 9.5 Apa-apa pelarasan harga dalam Ringkasan Sebut harga dan apa-apa kesilapan hisab dalam Ringkasan Sebut harga hendaklah dilaras dan diperbetulkan sebelum Inden Kerja dikeluarkan. Jumlah amaun yang dilaraskan hendaklah sama dengan amaun jumlah harga pukal dalam Borang Sebut harga. Amaun jumlah harga pukal dalam Borang Sebut harga hendaklah tidak berubah.
- 9.6 Sekiranya sebut harga berasaskan senarai kuantiti sementara, pengukuran semula hendaklah dibuat dan harga diselaraskan.

10.0 PERCANGGAHAN DAN KECUKUPAN DOKUMEN SEBUT HARGA

- 10.1 Dokumen Sebut harga adalah dikira sebagai saling jelas-menjelas antara satu sama lain. Kontraktor hendaklah mengadakan segala yang perlu untuk melaksanakan kerja dengan sewajarnya sehinggalah siap mengikut tujuan dan maksud sebenar. Dokumen Sebut harga pada keseluruhannya sama ada atau tidak tujuan dan

maksud itu ada ditunjuk atau diperihalkan secara khusus, dengan syarat bahawa tujuan, maksud itu hendaklah difahamkan dengan munasabahnya dari Dokumen Sebut harga itu.

10.2 Jika kontraktor mendapati apa-apa percanggahan dalam Dokumen Sebut harga , maka hendaklah merujuk kepada Pegawai Inden untuk mendapatkan keputusan.

11.0 KEGAGALAN KONTRAKTOR MENYIAPKAN KERJA DAN PENAMATAN PERLANTIKAN KONTRAKTOR

Pegawai Inden berhak membatalkan Inden sekiranya Kontraktor berada dalam keadaan berikut dan setelah menerima surat amaran daripada Pegawai Inden;

- a) Sekiranya kontraktor masih gagal menyiapkan Kerja dalam tempoh yang telah ditetapkan
- b) Kemajuan kerja terlalu lembab tanpa apa-apa sebab yang munasabah
- c) Penggantungan pelaksanaan seluruh atau sebahagian kerja, tanpa apa-apa sebab yang munasabah
- d) Tidak mematuhi arahan Pegawai Inden tanpa apa-apa alasan yang munasabah
- e) Apabila kontraktor diisytiharkan bankrap oleh pihak yang sah

12.0 PERUBAHAN KERJA

12.1 Perubahan kerja dibenarkan sekiranya perlu tertakluk kepada syarat-syarat berikut;

- a.) Peruntukan mencukupi
- b.) Kelulusan Jawatankuasa Sebut harga diperolehi dahulu sebelum perubahan kerja dilaksanakan. Seorang daripada ahli Jawatankuasa Sebut harga hendaklah terdiri daripada Pegawai Teknikal
- c.) Jumlah perubahan kerja terkumpul yang dicadangkan tidak melebihi 20% daripada nilai kontrak atau tidak melebihi RM100,000 mengikut mana yang terendah. Cadangan

perubahan kerja terkumpul melebihi 20% daripada nilai kontrak atau RM 100,000 hendaklah dirujuk kepada kelulusan Kementerian Kewangan terlebih dahulu.

- 12.2 Pegawai Inden hanya boleh mengeluarkan arahan perubahan kerja sekiranya mendapat kelulusan daripada jawatankuasa sebut harga.

13.0 TEMPOH TANGGUNGAN KECACATAN (DLP)

- 13.1 Tempoh Tanggungan Kecacatan bagi sebut harga hendaklah sekurang-kurangnya enam (6) bulan dari tarikh kerja diperakukan siap.
- 13.2 Kontraktor dipertanggungjawabkan untuk membaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain yang mungkin kelihatan dan yang disebabkan oleh bahan atau barang atau mutu hasil kerja yang tidak menepati sebut harga ini apabila diarahkan oleh Pegawai Inden dan dalam masa yang berpatutan. Kontraktor hendaklah membaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain atas kos kontraktor sendiri.
- 13.3 Sekiranya kontraktor gagal membaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain seperti yang diarahkan, Pegawai Inden berhak memotong kos membaiki dari baki wang yang akan dibayar kepada kontraktor atau, jika baki itu tiada/tidak mencukupi, mengeluarkan surat pengesyoran kepada Pusat Khidmat Kontraktor untuk menggantungkan pendaftaran kontraktor, dan menghantar salinan-salinan surat tersebut kepada Pengarah Kerja Raya Negeri/ Ketua jabatan, Bahagian Pembangunan Bumiputera, Kementerian Kerja Raya dan Lembaga Pembangunan Industri Pembinaan (CIDB).

14.0 PERATURAN MEMBAYAR SELEPAS SIAP

Bayaran sepenuhnya hanya akan dibayar setelah kontraktor menyiapkan kerja dengan sempurnanya dan Perakuan Siap Kerja dikeluarkan. Kontraktor hendaklah mengembalikan Borang-Borang Inden Kerja Asal iaitu Borang Perjanjian Inden Kerja dan Borang Pengesahan Inden Kerja kepada Pegawai Inden.

15.0 PERAKUAN SIAP KERJA

Pegawai Inden hendaklah mengeluarkan Perakuan Siap Kerja sebaik sahaja kerja disiapkan dengan sempurna dan memuaskan. Tarikh siap kerja ini bermulanya Tempoh Tanggungan Kecacatan.

16.0 PERAKUAN SIAP MEMPERBAIKI KECACATAN

Pegawai Inden hendaklah mengeluarkan Perakuan Siap Membaiki Kecacatan sebaik sahaja kontraktor telah membaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain.

17.0 PEMATUHAN KEPADA UNDANG-UNDANG OLEH KONTRAKTOR

Kontraktor hendaklah mematuhi segala kehendak Undang-Undang Kecil dan Undang-Undang Berkanun dalam Malaysia semasa pelaksanaan kerja. Kontraktor tidak berhak menuntut sebarang kos dan bayaran tambahan kerana pematuhannya dengan syarat-syarat ini.

18.0 TAFSIRAN

Tawaran ini dan apa-apa kontrak yang timbul daripadanya hendaklah diertikan mengikut dan dikawal oleh undang-undang Malaysia, dan Penyebutharga bersetuju tertakluk hanya kepada bidang kuasa Mahkamah Malaysia sahaja dalam apa-apa pertikaian atau perselisihan jua pun yang mungkin timbul mengenai tawaran bidaan ini atau apa-apa kontrak yang timbul daripadanya.

19.0 CUKAI



Harga yang ditawarkan adalah diertikan sebagai termasuk cukai jika berkenaan.



20.0 MATA WANG



Tawaran bidaan hendaklah dinyatakan dalam Ringgit Malaysia (RM)

DOKUMEN NO.3
SKOP KERJA

SKOP KERJA

BIL	KETERANGAN
	SKOP KERJA
1.0	
	<p>Kerja-kerja membina sekatan dinding dari Timber Panel Cladding c/w Veneer dengan separuh cermin dari jenis 10mm one way mirror 'tempered glass' termasuk rangka dari kayu beroti hingga ke paras siling anggaran keluasan 1780mm x 2630mm mengikut rekabentuk dan details sepertimana ditapak. (Sepertimana lukisan berkembar).</p>
2.0	
	<p>i. Kerja-kerja mengecat plaster siling dengan cat anti fungus. ii. Menukar kemasan dinding 'wall paper' sediaada yang rosak akibat fungus di laluan tangga Pintu 9</p>

BIL	KETERANGAN
3.0	
	<p>Menukar sebahagian wall paper dengan corak dan warna yang sama di Bilik Mesyuarat Yang Di-Pertua Dewan Negara.</p>
4.0	
	<p>Kerja-kerja mengganti cermin lourvers kepada dinding cermin casement berbingkai aluminium di Tandas VIP Dewan Negara berukuran 875mm x 1950mm.</p>

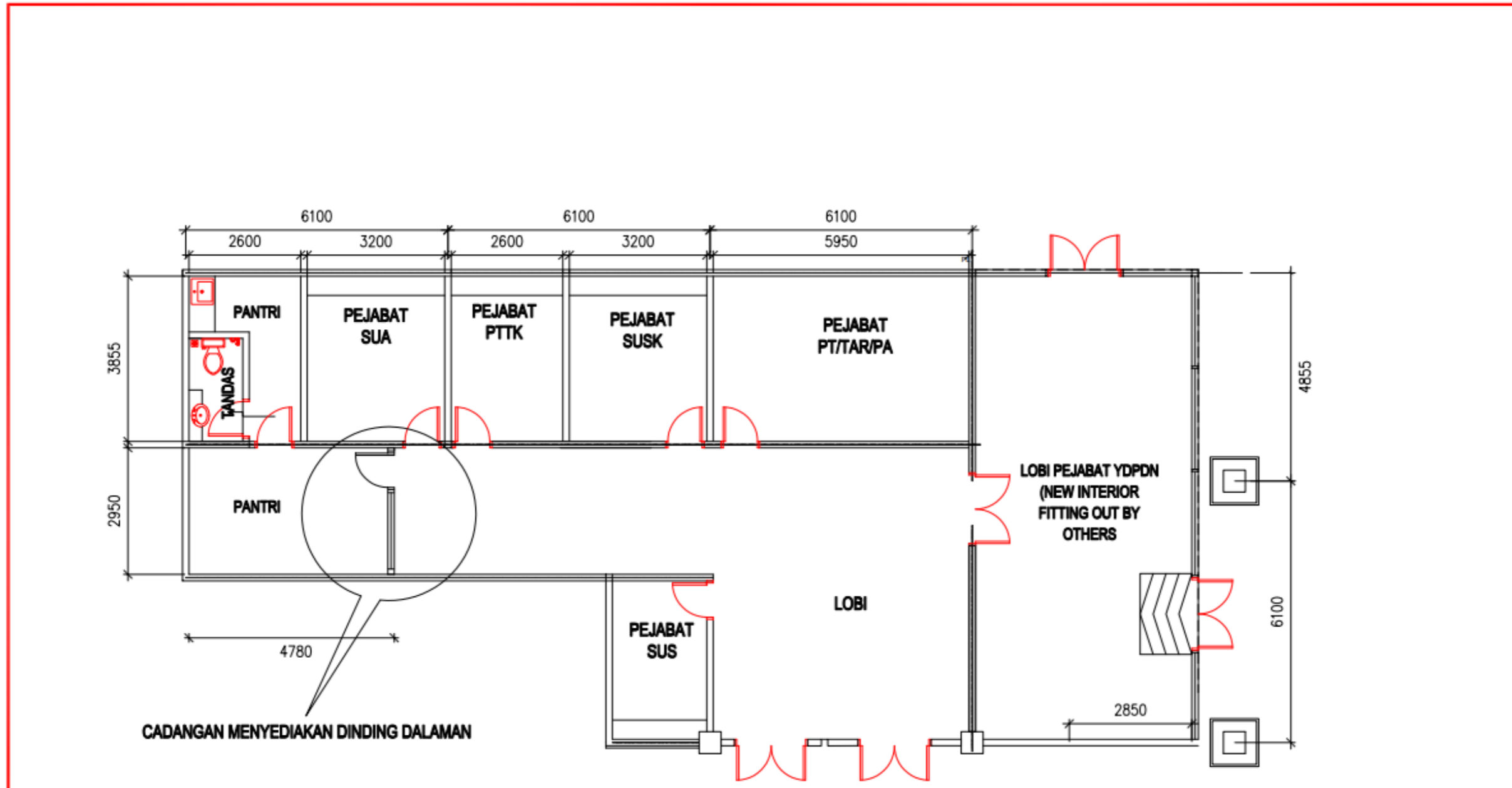
BIL	KETERANGAN
5.0	
	<p>Kerja-kerja mengecat struktur tiang linkbridge menghubungkan Blok Utama ke Dewan Persidangan Sementara</p>
6.0	<p>Menukar sebahagian wall paper dengan corak dan warna yang sama di Bilik Studio TV3, Blok Utama.</p>
7.0	
	<p>Membekal dan mengganti/memasang baru frameless sliding glass door shower screen berukuran 2100mm (t) x 1500mm (l) dengan 10mm tebal tempered glass termasuk segala aksesori yang berkaitan di tandas pejabat Ketua Pentadbir Parlimen Malaysia. Termasuk membekal dan memasang lapisan frosted sticker. (Kontraktor di minta mengemukakan cadangan rekabentuk untuk kelulusan)</p>

BIL	KETERANGAN
8.0	 
	<p>Membekal dan memasang papan tanda LOGO PARLIMEN dari jenis <i>aluminium box with chemical etching and powder coated spray paint finish</i> berukuran 750mm diameter.</p>

DOKUMEN NO.4

**PELAN SUSUNATUR DAN
LUKISAN REKABENTUK**

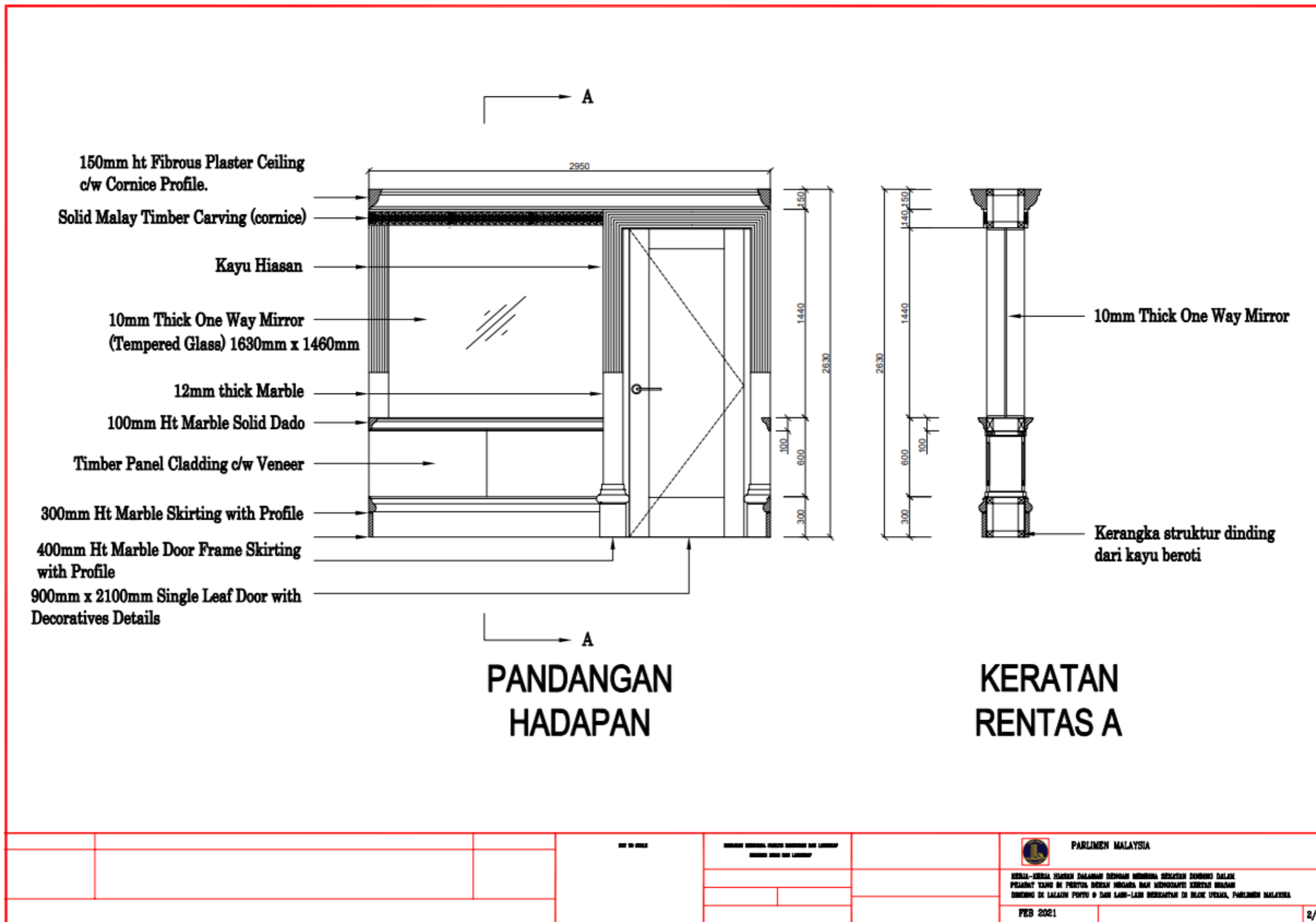
PELAN SUSUNATUR SEBAHAGIAN PEJABAT YPDN



SUSUNATUR SEBAHAGIAN PEJABAT YPDN

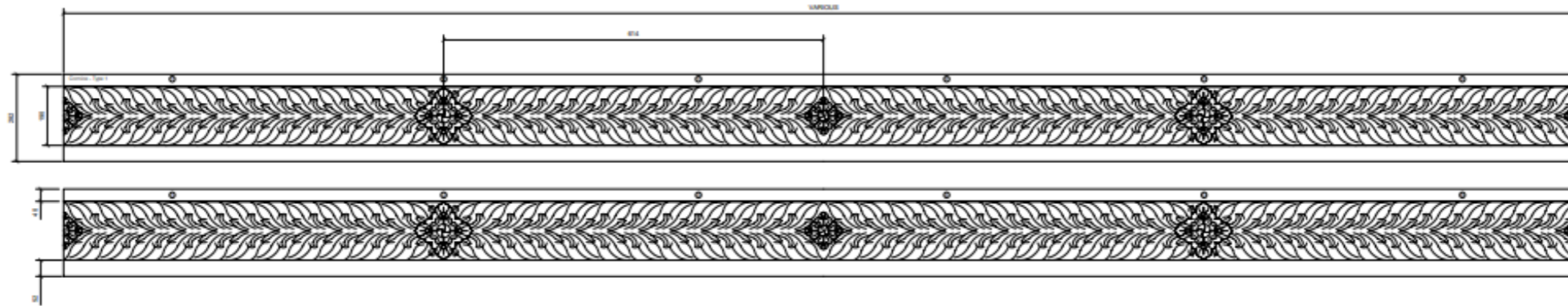
		<p>NO. 10 2021</p>	<p>BERSEKUTUAN DENGAN PERAKAUNAN DAN KEMENTERIAN KEWANGAN</p>	<p>PARLIMEN MALAYSIA</p>
				<p>KERJA-KERJA TERSEBUT DALAMAN BERSAMA BERSAMA DENGAN BERSEKUTUAN DALAM PEJABAT YANG DI PERUNTUKAN MELAKUKAN DAN MEMONITORSI KESYUKUAN BERSEKUTUAN DI LALUAN PERITU & BAH LAIN-LAIN BERSEKUTUAN DI BLOK UTAMA, PARLIMEN MALAYSIA.</p> <p>FEB 2021</p>

LUKISAN CADANGAN MENYEDIAKAN SEKATAN DINDING DI PEJABAT YPDN

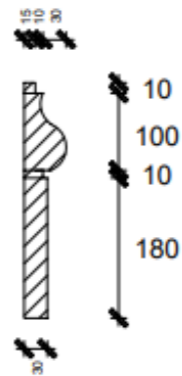


LUKISAN PERINCIAN

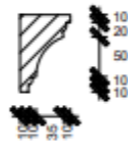
TYPICAL CORNICE CARVING



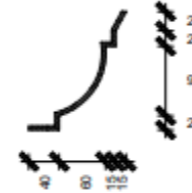
Solid Malay Timber Carving (cornice)



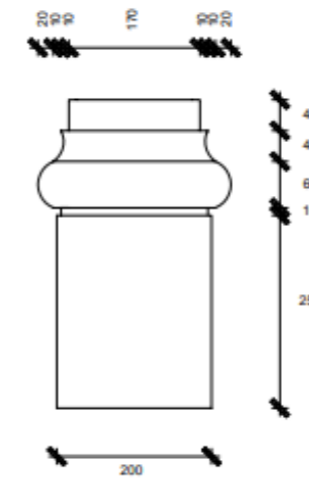
300mm Marble Skirting with Profile Details



100mm Ht Marble Solid Dado Details



150mm ht Fibrous Plaster Ceiling c/w Cornice Profile Details




400mm Ht Marble Door Frame Skirting with Profile Details

			DATE OF ISSUE	REVISIONS	 PARLIMEN MALAYSIA KUALA-SEKERA NEGARA DALAMAN BUKITENAGAS, JALAN SIKATAN BUNYUS DALAM PUSKAPAT YANG DI PERUTUA BERKAMPUS NEGARA, DAN BERKAMPUS KEMERUS BERKAMPUS DORONG DI LALUAN PONTU 9 DAN LALU-LARI BERKAMPUS DI BLOK UTAMA, PARLIMEN MALAYSIA.
					FEB 2021
					3/3

DOKUMEN NO.5
SPESIFIKASI SEKSYEN H

SPESIFIKASI

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		No. Pindaan : 00
		Tarikh : 29 Januari 2014
		Muka Surat : H/1

1. General

- 1.1 Unless otherwise specified or shown in the Drawings, the timber species used for the Works shall be as stated hereinafter in the TABLE H1. The strength grouping for timber shall be in accordance with MS 544 as shown hereinafter in the TABLE H2.
- 1.2 All carpentry and joinery work shall include all necessary notching, halving, morticing and tenoning, wedging, scarfing, dovetailing, sinking for heads of bolts and nuts and trimming for opening.
- 1.3 All carpentry work shall be left with a sawn surface except where particularly described to be wrot. All joinery shall be wrot and finished with sand paper as required and all sizes stated are the finished sizes. Sizes for carpentry shall be within the tolerances stated in sub-section 2.1 and sizes for joinery shall be within the tolerances stated in sub-section 2.2.
- 1.4 Unless otherwise indicated in the Drawings, all fire protection materials and systems must show evidence that they have been subjected to the fire resistance test in accordance with BS 476 or other approved equivalent standards.


2. Timber Grades And Size Tolerances

- 2.1 Unless otherwise specified, sawn timber for carpentry work shall be as stated hereunder:
 - (i) Select Grade - for roof truss
 - (ii) Standard Structural Grade - for structural work
 - (iii) Sound Grade - for General Market Specification (GMS) and strips
 - (iv) Serviceable Grade - for scantling
- 2.2 Grading shall be carried in accordance with the Malaysian Grading Rules (MGR) by timber graders registered with the MTIB. Every timber consignment shall be accompanied by the Grading Summary certified by the registered timber grader. The sizes of sawn timber, except where otherwise specified, shall be within the margin of permissible variations stated hereunder:
 - (i) For widths, depths or thicknesses not exceeding 75 mm - within 3 mm of the specified size
 - (ii) For widths, depths or thicknesses exceeding 75 mm - within 5 mm of the specified size.
- 2.3 The Contractor shall provide any necessary blocks, wedges or battens to compensate for irregular surfaces caused by any variations in size of timbers hereby permitted.
- 2.4 Unless otherwise specified, sawn timber for joinery work shall be of Sound Grade (General Market Specification (GMS) and Strips) and Serviceable Grade (Scantlings). The finished size for joinery, unless otherwise specified, shall be within the margin of permissible variation stated hereunder:
 - (i) For widths, within 3 mm of the specified finished size.
 - (ii) For thicknesses, within 2 mm of the specified finished size.

3. Treatment Of Timber

- 3.1 All timber except the heartwood of the naturally durable timbers as scheduled in TABLE H2 hereinafter and timber for formwork, scaffolding, and other temporary

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works shall be impregnated by means of vacuum pressure processes in accordance with MS 360 using copper/chrome/arsenic (CCA) wood preservatives conforming to MS 733 in the treatment plant registered with the MTIB.


- 3.2 If a timber component has sufficient natural resistance to decay and insect attack by virtue of the natural durability of its heartwood, it may be used without treatment even where the hazard exists. The natural durability classification of Peninsular Malaysia and Sabah and Sarawak timbers for ground contacts can be found in MS 360 and as shown in TABLE H4 and TABLE H5. Sapwood should not be used without preservative treatment
- 3.3 Unless otherwise specified, the average moisture content for all timber shall not exceed 25% in accordance with MS 360. The moisture content shall be determined in accordance with one of the methods given in MS 837.
- 3.4 All timber shall be sawn or planed before treatment to achieve the finished cross-section required. As far as possible, all cross-cutting, boring, drilling or other processing should be carried out before treatment.
- 3.5 The pH value of the treating solution shall not be higher than 3.0 when determined by a glass electrode or pH paper at ambient temperature in accordance with MS 360.
- 3.6 The net dry salt retention shall be determined in accordance with one of the methods given in MS 360 and MS 821. The minimum salt penetration shall be determined by one the test methods given in MS 833.
- 3.7 The material shall be collected by drilling to the required depth as recommended and shown in MS 360 -TABLE 4. It can also be collected by sawing to the required depths, and then chipped to the small size. Either sawdust or chipped materials shall be ground to fine powder.

3.7.1 The minimum nett dry salt retention for CCA shall be as shown in the table below:

No	Use	Minimum Net Dry Salt Retention For CCA
i)	Interior and above the ground	5.6 kg/m ³
ii)	Exterior and above the ground	8.0 kg/m ³
iii)	Exterior and in contact with the ground (other than foundation piles)	12.0 kg/m ³

3.7.2 All sapwood shall be fully penetrated by the preservative and for heartwood, the depth of penetration shall be 12 mm.

- 3.8 The Contractor, when required by the S.O. shall produce a certificate from a preservative treatment plant which certifies that timber required to be impregnated by means of vacuum pressure processes has been impregnated and has achieved the necessary nett dry salt retention. Notwithstanding the certificate, the S.O. reserves the right to carry out independent tests to determine the nett dry salt retention and the result so obtained shall be conclusive.

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3.8.1 Treatment certificate

3.8.1.1 A treatment certificate shall be produced for each batch of timber delivered from the treatment plant. The relevant charge sheets shall be attached with each treatment certificate. The following information shall appear on the certificate:

- (i) name and address of buyer;
- (ii) project title/reference;
- (iii) name of treating company;
- (iv) name of preservative(s) used;
- (v) average retention of preservative obtained;
- (vi) charge sheet number and date of treatment;
- (vii) species of timber treated together with sizes and volume;
- (viii) commodity and hazard class; and
- (ix) other registration number (where applicable)

3.8.1.2 The certificate shall be signed by authorized personnel of the treating company, certifying that the timber has been treated in accordance with MS 360.


4. Moisture Content And Storage

- 4.1 At the time of installation, the moisture content of the timber for the various applications shall not exceed that as specified in TABLE H3.
- 4.2 Moisture content for foundation piles, formworks and temporary works is not critical for these applications and therefore is not specified.
- 4.3 Moisture content of timber shall be determined in accordance with MS 837.
- 4.4 On delivery to the site, all timber other than timber for foundation piles, formworks and temporary works shall be properly open-stacked, under cover. Kiln dried timber shall be properly wrapped and stored under cover if it is not used immediately.

5. Structural Assemblies Of Timber

- 5.1 The workmanship and method of assembly of structural timber shall generally be in accordance with MS 544 and in particular, the following requirements:
 - (i) The quality of the surface, as finished, shall be appropriate to the position and use of the timber.
 - (ii) When grade or other necessary marks are removed, provisions shall be made for remarking in accordance with Malaysian Grading Rules. Surfaces at any joint in an assembly shall be such that the parts may be brought into contact over the whole area of the joint before connectors are inserted or any pressure or restraint from the fastening is applied. These surfaces shall have a good sawn or planed finish.
 - (iii) Bearing surfaces of notches and other cuttings shall be true and smooth and in appropriate relation to the other surfaces of the piece.
- 5.2 Notches other than at the ends of beams shall be U-shaped formed by parallel cuts to previously drilled holes. The diameter of the hole shall be equal to the width of the required notch.

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- 5.3 Where splitting is likely to have a deleterious effect, end sealing is recommended. For timbers known to split and check especially after installation, the ends of the boards and scantlings shall be protected with a coating designed to minimise end checking and checking and splitting. In severe cases where the ends and sides of heavy joists of timbers are liable to excessive split and check due to exposure to windward slanting sunlight, appropriate skirting or cover with a thin timber board shall be necessary.

6. Timber Joints

- 6.1 When solid timber members are to be jointed together using mechanical fasteners, the workmanship and method of assembly shall be in accordance with MS 544 Part 5. The mechanical fasteners are as listed below:

6.1.1 Nailed joint

Where necessary to avoid splitting, nails shall be driven into pre-drilled holes or diameter not greater than four-fifths of the diameter of the nails. Care shall be taken to avoid placing nails in any end split.

6.1.2 Screwed joint

Lead holes shall be used to ensure good workmanship in making screwed joints. The diameter of the hole for the shank shall be equal to the diameter of the shank, and for the threaded portion, the diameter of the hole shall not be greater than seven-eighth of the diameter of the root diameter of the screw thread adjacent to the shank. Care shall be taken to avoid placing screws in any end split.

6.1.3 Bolted joint


6.1.3.1 Bolt holes shall be drilled to diameters as close as possible to the nominal diameter of the bolt and in no case more than 2 mm larger than the bolt diameter. Care shall be taken to avoid placing a bolt in any end split. A minimum of one complete thread shall protrude from the nut.

6.1.3.2 A washer shall be fitted under the head of each bolt and under each nut. The minimum sizes of washers are as given in Part 6 of MS 544. Where joints using split-rings are to be used, as shown in the Drawings, the members of the joints shall be fitted together in their appropriate positions and clamped or spiked together before drilling. Alternatively, drilling jigs or multiple head boring machines may be used, or individual members may be marked out from the setting-out or by use of prepared templates.

6.1.3.3 If either of the latter methods is employed, sample members (usually the first ones produced) shall be carefully checked against the setting-out.

6.1.3.4 In all instances holes for bolt positions shall be accurately determined by reference to the point intersection of the centre lines of the member. Great care is necessary if the first set members marked out is to be used subsequently as drilling templates. Greater accuracy can usually be obtained by the use of special marking or drilling templates located by a pin at the intersection of the center lines.

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- 6.1.3.5 Bolts holes shall be drilled at right angles to the surface of the joint. The contact surfaces of the members should be grooved to the appropriate dimensions as given in Part 6 of MS 544.
- 6.1.3.6 Drilling and grooving may be done in a single operation; alternatively, if the hole is predrilled the pilot of the grooving tool shall fit in the bolt hole, thus centering the groove about the hole.
- 6.1.3.7 Care shall be taken to ensure that all chips and shavings are removed, and rings shall be expanded before being placed in the grooves.
- 6.1.3.8 The joint shall be finally assembled and bolts inserted. Washers of the correct dimension shall be placed under the head of the bolt and the nut, and the nut tightened to hold the members together.
- 6.1.3.9 Recess for shear-plate connectors shall be accurately cut by means of a suitable tool to be appropriate dimensions as given in MS 544 - Part 6.
- 6.1.3.10 Assembly of units shall be done on a level bed and in such a way as to avoid damage to any of the members and so that the finished structural units conform to detailed Drawings and specification supplied.
- 6.1.3.11 When assembly is to be performed on the site, one set of component parts shall be fitted together and dismantled prior to dispatch to the site, in order to ensure that the assembled structural units conform to the detailed Drawings and Specifications. Twisted or damaged members shall be replaced before erection on the site.
- 6.1.3.12 Before proceeding with bulk production, a complete assembly of one of each framed truss or other structural unit shall be checked to prove the accuracy of the templates, et cetera A similar check shall be carried out from time to time to control the wear and tear on templates and gauges.
- 6.1.3.13 Timber members and built-up units shall be marked in accordance with a marking diagram.

7. Prefabricated Timber Roof Truss System

- 7.1 All prefabricated components shall be manufactured only by reputable licensed truss suppliers and approved by the S.O. This supplier duly termed as 'System Provider' is responsible for the analysis, design, detailing, drawing, manufacture, material, handling and erection of the roof members, and their ancillary fixing components. The full requirement is outlined in the Specification for Prefabricated Timber Roof Trusses (JKR 20601-0190-12) or the latest edition published by JKR.
- 7.2 System Provider
 - 7.2.1 The System Provider (S.P.) is a supplier of a proprietary roof truss system appointed by the Contractor and approved by the S.O., which employs Quality Assurance procedures in the design, detailing, connection, bracing,

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erection criteria and manufacture of truss components for the structural roof truss system.

7.3 Duties Of Professional Engineer

7.3.1 The S.P. shall appoint a Professional Engineer (P.E.) whose duties shall include the following:

- (i) Preparation of roof truss analysis and design;
- (ii) Preparation of drawings;
- (iii) Design changes in every stage of work;
- (iv) Certification for completion of roof truss installation;
- (v) Final certification for roof truss installation prior to issuance of Certificate of Practical Completion for the whole Works to the Contractor.

7.4 Fabricator

All trusses shall only be assembled by licensed fabricators approved by the S.P. and registered with CIDB. A copy of the CIDB registration certificate shall be submitted to the S.O. for verification.

7.5 Installer

All installation works shall be executed and supervised by qualified personnel with valid certificates issued by CIDB. The S.O. shall verify the identification and qualification of the installer prior to the installation.

7.6 General Truss Limitation

7.6.1 Prior to any pre fabricated timber roof trusses works, the following general limitation shall be applied:


- (i) Maximum unsupported truss span 12 m with permitted deviation of ± 0.05 m.
- (ii) Maximum truss spacing of 1.2 m with permitted deviation of ± 0.025 m.
- (iii) The minimum basic wind speed shall be 35 m/s. However, the minimum basic wind speed shall be increased to 41 m/s for lightweight roof covering.
- (iv) Maximum roof pitch shall be of 45°.

7.7 Analysis, Design Report And Drawings Submission

7.7.1 The S.P. through the Contractor shall propose to the S.O. or his approval a roof truss system which is safe, functional and conforming to design standard. Submission of proposal shall include truss analysis, design report, and construction drawings. The truss analysis shall indicate all loads, load combinations, connections criteria, bracings and tie-down of the truss. Design output of the truss members, battens, connections, tie-down and wall plates, anchors, bracings, truss accessories, splicing and stiffeners where related to the analysis shall be included in the design report. (Refer to Appendix 3 of JKR 20601-0190-12)

7.7.2 All details in the construction drawings shall be sufficient to enable checking against the analysis and design report, by specifying and providing not limited to: the truss layout and configuration, timber grades, section properties of members, length of members in each truss configuration, properties of truss accessories, specification of fastener and

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anchor, tie-down and anchoring details and all types of connection details including the connection of all attachments to the trusses.

- 7.7.3 Technical specifications for fastener and anchor of which the design refers to shall also be submitted. Verification test certificate from an approved accredited laboratory on the technical parameter specified in the technical specifications shall be submitted upon request by the S.O.

7.8 Warranty

- 7.8.1 When a prefabricated timber roof truss system is used, the Contractor shall submit to the S.O. a warranty from the S.P. with the following provisions:

- (i) The products used are genuine and free from manufacturing defects;
- (ii) The prefabricated timber roof truss system is installed in accordance with the S.P.'s instructions, guidance and specifications that will deliver the specified level of performance;
- (iii) The warranty certificate shall cover a period of ten (10) years from the date of Certificate of Practical Completion against any defect or failure due to the installation and workmanship by the S.P.'s registered panel installer.

8. Glued Laminated Timber For Structures

8.1 General


- 8.1.1 This sub-section shall apply to the construction of all structures or parts of structures to be composed of glued laminated timber manufactured by gluing together individual pieces of dimensioned timber with or without steel joints and connectors. The work shall be carried out all in accordance with this specification and the lines, levels, grades, dimensions and cross-sections shown in the Drawings and as required by the S.O.
- 8.1.2 All glued laminated timber building components shall be manufactured and assembled by licensed glued laminated timber manufacturers approved by the S.O. The Contractor shall provide the necessary documents relating to the proposed manufacturer such as valid licenses or other certificates to the S.O. for approval prior to the commencement of any manufacturing work.
- 8.1.3 All glued laminated timber members shall be manufactured in a factory which has quality control and quality assurance procedures in place as approved by the S.O. The S.O. reserves the right to visit the factory before giving any approval.
- 8.1.4 Prior to fabrication, the Contractor shall notify the S.O. on the dates of tests that shall be carried out. The S.O. may appoint a representative in the event the S.O. cannot be present during the tests. The Contractor shall forward a copy of the test results jointly certified by the manufacturer for the S.O.'s acceptance and approval.

8.2 Material

8.2.1 Timber

- 8.2.1.1 Unless specified otherwise, the timber species used for the manufacturing of glued laminated timber components shall be selected from Malaysian tropical hardwoods that satisfy the

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requirements for strength classes D40 to D70 when graded to Hardwood Structural Grade (HSG) in accordance with BS 5756. A list of timber species that satisfies the requirements is shown in TABLE H8 of this specification.

8.2.1.2 The timber species should attain sufficient natural durability and resistance to decay and insect attack as stipulated in MS 544: Part 10.

8.2.1.3 Timber of single species or a mixture of species can be used in a glued laminated timber structural frame, provided that it is proven to be suitable for the manufacturing of glued laminated timber by the qualification test given in MS 758. Lamination of a glued laminated timber member shall not be of a mixture of different timber species.

8.2.1.4 The visual strength grading for all timber used for structural works should be visually graded based on the grading requirements of MS 1714: Specification for Visual Strength Grading of Tropical Hardwood Timber. The visual grading shall be carried out by timber graders registered with MTIB.

8.2.1.5 The Contractor is to supply all timber used in the manufacturing of glued laminated timber component to be of Hardwood Structural Grade as defined under MS 1714.

8.2.2 Moisture content for non treated timber

8.2.2.1 At assembly, the moisture content in every lamination shall be in the range of 8% to 15%. The range of moisture content of the laminations in a glued laminated timber member shall be not greater than 4%.

8.2.2.2 Method for the determination of the moisture content of timber is as stipulated in MS 837.

8.2.3 Moisture content for treated timber

8.2.3.1 At assembly, the moisture content in every lamination shall be in the range of 11% to 18%. The range of moisture content of the laminations in a glued laminated timber member shall be not greater than 4%.

8.2.3.2 Method for the determination of the moisture content of timber is as stipulated in MS 837.


8.2.4 Adhesive

8.2.4.1 The adhesive shall be capable of producing strong and durable joints, ensuring that the integrity of the bond is maintained throughout the intended lifetime of the structure. The adhesive shall meet the requirement for adhesive Type I and minimum Service Class 2 as stipulated in MS 758.

8.3 Laminations And Bonding


8.3.1 The individual laminations shall be end jointed to the final length before planing.

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- 8.3.2 Grooving of laminations to reduce the effect of cupping is permitted. In each lamination one groove is permitted in the middle part of the cross section, with a maximum width of 4 mm and a maximum depth of one third of the lamination thickness. Grooves in adjacent laminations shall be staggered by at least the thickness of the laminations.
- 8.3.3 When laminations are jointed by finger joints these shall be produced in conformity with BS EN 385 or equivalent Malaysian standard.
- 8.3.4 Where a lamination for horizontal glued laminated timber consists of two boards side by side and the edges are not bonded, the edge-joints in adjacent laminations shall be staggered laterally by at least the lamination thickness. For members used in Service Class 2 the outer lamination on each face shall be edge-bonded. For members used in Service class 3 the outer four laminations on each face shall be edge-bonded.
- 8.3.5 Laminations in vertical glued laminated timber to be used in Service Class 2 are not required to be edge-bonded, but the edge joints in adjacent laminations shall be staggered by at least one third of the board width. In members to be used in Service Class 3 the outer laminations shall be edge-bonded.
- 8.3.6 The laminations shall be planed or similarly finished before bonding. The planing shall be carried out no more than twenty four (24) hours before bonding, unless the species and the storage environment are such that unacceptable surface changes will not take place. With species that are difficult to bond, e.g. have high resin content or where the laminations have been treated with preservative, planing shall be carried out within 6 hours of bonding. It is the responsibility of the glued laminated timber manufacturer to qualify any procedures used and to determine the permissible delay between machining and gluing.
- 8.3.7 The maximum permitted deviation from the average thickness within a lamination length of 1 m is 0.2 mm. Where non-gap-filling adhesives are used the limit deviation shall not exceed 0.1 mm. The difference in thickness over the cross-sectional width of the lamination shall be less than 0.15% of the width and in no case exceed 0.3 mm.
- 8.3.8 At the time of bonding the surfaces of laminations shall be clean. The adhesive spread shall be uniform and in sufficient quantity in accordance with the recommendations of the adhesive manufacturer.
- 8.4 Cramping
- 8.4.1 The cramping arrangement shall ensure a uniform pressure over the glue line. The pressure shall be that specified in the adhesive manufacturer's instructions for the adhesive used but in no case shall it be less than 0.7 N/mm². The application of pressure at a suitable temperature shall be completed within the closed assembly time, when a continuous 'squeeze out' or 'bead' along the edge of each glue line shall be produced.
- 8.4.2 For curved members higher cramping pressures shall be applied and in such a way that the laminations can slide over each other in the lengthwise direction to avoid open glue lines. Sufficient pressure shall be maintained during cramping. Tightening up shall be carried out as necessary, and in all cases immediately after initial cramping.

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8.5 Preservative Treatment

- 8.5.1 Where the timber used is not naturally durable (as specified in TABLE H2), it shall be preservative treated. The treatment of timbers shall be as specified in sub-section 3: Treatment of Timber of this specification.
- 8.5.2 If any other preservative chemical is used, contractor shall provide necessary documents as may be required by the S.O to prove the efficiency of the chemical treatment.

8.6 Coating Specification

- 8.6.1 All glued laminated timber members shall be coated with a minimum of two coats of clear construction sealer. The sealer shall be applied in accordance with the manufacturer's specification and to the S.O.'s approval. The Contractor shall rectify any damage to the coating after the erection has been carried out. The Contractor shall also provide details of the sealer used to the S.O. for record.
- 8.6.2 All glued laminated timber shall receive an additional coat of protective sealer before shipping/transport and shall be properly wrapped for protection during shipping/transport and erection. The wrapping should be left in place as long as possible until permanent protection from the weather is in place.


8.7 Submission Of Documentation

- 8.7.1 Prior to the manufacture and fabrication of the glued laminated timber, the Contractor shall provide two (2) copies of the following documents for the S.O.'s approval:
- (i) Particulars of the manufacturer
 - (ii) Quality assurance programme of the manufacturing process
 - (iii) Method statement for assembly, installation, handling and transportation
 - (iv) Manufacturer's fabrication drawings
 - (v) Manufacturer's assembly drawings
 - (vi) Grading summary of timber to be used in the manufacturing of glued laminated timber, issued by timber grader certified by MTIB
 - (vii) Results of qualification tests

8.8 Production Quality Control

- 8.8.1 The Contractor shall establish and maintain documented factory production control to ensure that the produced glued laminated timber members conform to the design requirement as demonstrated in the qualification tests.
- 8.8.2 From each work shift and each production line, a representative sample of end joint shall be drawn and tested in flatwise bending as described in BS EN 385. For each production line and shift the bending strength is acceptable is if one of the condition stated in sub-section 7.1.2 of MS 758:2001 is met.
- 8.8.3 Also, from each shift which gluing is carried out, one full cross-sectional specimen shall be taken for every press load or every 10 m³ of production. The specimen shall be cut from a cured glued laminated timber member produced during each work shift. If all tests for a three-month period satisfy

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the requirements the number of samples may be reduced to not less than half the number prescribed above.

8.8.4 The Contractor shall provide information on the glue line integrity, results of delamination tests and results of glue line shear test which shall not be less than as stipulated in MS 758.

8.8.5 The values for manufactured glued laminated timber shall not be less than the value for designed glued laminated timber. The values of the manufactured glued laminated timber properties shall be determined in accordance with MS 544: Part 2 or AS/NZS 4063.

8.9 Initial Qualification Tests

8.9.1 The Contractor shall be fully responsible to carry out qualification tests which shall be witnessed by the S.O. The Contractor shall carry out a qualification test whenever a new process or process change involving new adhesive, species combination, finger joint profile and lamination thickness.

8.9.2 Qualification tests

8.9.2.1 Unless otherwise stated and approved by the S.O. in writing, qualification tests shall be carried out on completed samples of glued laminated timber members before any actual manufacturing is allowed.

8.9.2.2 The tests shall cover the determination of characteristic strength of glued laminated timber member in bending, compression, tension and shear and characteristic modulus of elasticity in bending, and shall be determined by undertaking tests on completed 300 mm deep glued laminated timber members in accordance with AS/NZS 4063 and MS 758:2001.

8.9.2.3 The characteristic bending strength shall be obtained from flatwise bending test of the joint in the lamination.

8.9.3 The Contractor shall declare the manufactured glued laminated timber properties are as required by the designer and as shown in the drawings. The required properties to be declared are characteristic values for bending strength, modulus of elasticity, compression strength, shear strength and tension strength.


8.10 Handling And Installation

8.10.1 The Contractor shall submit the method statement of installation for the approval of the S.O. The method statement shall explain the sequence of erection of glued laminated timber and required safety measures. Glued laminated timber members shall be installed in accordance with the Assembly Drawings.

8.10.2 At all stages of construction, all glued laminated timber structural components shall be properly protected to prevent damage.


8.10.3 During on-site storage, glued laminated timber members shall be stored off the ground with spacer blocks spaced between members. The Contractor shall be responsible for the storage of glued laminated timber members properly at site to prevent bending, tipping or toppling of the members.

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- 8.10.4 Proper transit, storage and construction methods are required to avoid rapid changes in the moisture content of glued laminated timber members at site. If the storage at site takes longer period prior to installation than the Contractor shall ensure that, the wrapping of glued laminated timber members shall be cut on the underside to prevent the accumulation of water condensation.
- 8.10.5 During handling, correct lifting equipment shall be used. All glued laminated timber members must be protected from damages due to straps, chains and wire ropes.
- 8.10.6 During erection, glued laminated timber frame shall be properly braced that is permanent and temporary bracing to provide stability in accordance with the method statement prepared by the Contractor and approved by the S.O.
- 8.10.7 The Contractor shall ensure the accuracy of the prepared foundation, position of glued laminated timber structure, base plate and holding down bolts. Any discrepancies and deviations shall be remedied by the Contractor to S.O.'s approval before erection commences.
- 8.10.8 All end grains shall be protected from moisture or water accumulation by provision of permanent steel end capping.
- 8.11 Defects And Alteration
- 8.11.1 Glued laminated timber structures shall not have any debonding. Glued laminated timber structures affected by debonding shall be marked as 'Rejected' and removed from site.
- 8.11.2 No element of the glued laminated timber structures shall be cut, notched, detached from their connections or altered from its original condition after delivery to site without the prior written approval of the S.O.
- 8.11.3 Where defects exceeding the limits or permitted tolerances are detected, rectification works shall not be carried out unless with written approval of the S.O.
- 8.12 Warranty
- 8.12.1 The Contractor shall submit to the S.O. a performance warranty by the manufacturer to the Government on the performance of the glued laminated timber member against debonding which may occur during a period of ten (10) years from the date of practical completion. The terms of the performance warranty shall be as stipulated in APPENDIX H/1 and as approved by the S.O.
- 9. Carpentry Works**
- 9.1 All carpentry shall be accurately set out in strict accordance with the Drawings and shall be framed together and securely fixed to the approval of the S.O. Timber framing shall be properly braced and checked, halve, screwed or bolted together as required. Longitudinal joints in plates, ridge, fascias, et cetera shall be formed over supports. Those timber members with lapped joints shall lap at least 150mm or twice the depth of the timber whichever is the greater. The brads, nails, screws, spikes, plugs, bolts, framing anchors and timber connectors shall be provided wherever necessary and as detailed. Other than those detailed, no joints are permitted in structural work unless prior permission is obtained from the S.O. No structural member shall be notched unless instructed by the S.O.

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- 9.2 For the carpentry works, timbers shall, as far as possible be in piece between continuing lengths. At corners, timbers shall be halved for materials of the same thickness, and sufficiently lapped for materials of different thicknesses.

10. Joinery Works

- 10.1 All doors, windows, louvers, screens and the like shall be constructed as shown in the Drawings. Frames shall be assembled at the commencement of the work and all members shall be carefully morticed and tenoned together but no wedging, pinning or gluing shall be done until the framing is prepared in readiness for immediate fixing. All doors, windows, louvers, screens and the like shall be properly stored on site.
- 10.2 Immediately before fixing in its final position, joinery shall be wedge and pinned by drawn hole pinning with 10 mm diameter Strength Group 1 and 2 timber dowels pins. The pins shall be left projecting until permission is given for flushing off. The methods of framing and putting together of all Works shall be approved by the S.O. before being executed. Any portions that warp, twist or develop any other defects shall be replaced before wedging up. All framed work shall be pinned before being framed together.
- 10.3 The choice of species for joinery should be based on working properties of timbers that is maximum percentage of shrinkage.
- 10.4 Jointing or connection for joinery that is nailed joint, screwed joint, coach screwed joint or bolted joint shall comply with MS 544 Part 5.


11. Timber Floor Finish

- 11.1 Unless otherwise shown in the Drawings, timber floors shall be constructed using 100 mm x 38 mm wrot, tongued and grooved boarding's, well cramped up and secret nailed to each joist or batten with 62 mm wire nails. Floor boarding shall be in long lengths with splayed heading joints and no two adjacent joints shall occur over the same joist. On completion, the flooring shall be planed, sanded and all gaps sealed with an approved sealer. The floor shall then be cleaned off and unless otherwise specified, it shall be finished with three coats of approved polyurethane paint applied strictly in accordance with the manufacturer's instructions.
- 11.2 Wrot timber skirting shall be provided where shown and as detailed in the Drawings. Skirting shall be in long lengths with splayed heading joints and with mitres, returns and ends neatly cut and fitted and fixed to grounds.
- 11.3 Where engineered timber flooring are specified or shown in the Drawings, it shall be finished with high abrasive protective overlay and a moisture barrier balancing film to be applied on timber flooring backing in accordance with the manufacturer's recommendations and S.O's approval.
- 11.4 Timber strip and parquet flooring shall be as specified in SECTION K: PLASTERING, PAVING AND TILING WORKS.

12. Ceiling Timber Battens

Where ceiling battens are used for ceilings, it shall be fixed to the frames with butt 'V' joint using nails or screws. Asbestos-free cement flat sheets for ceiling shall be 5 mm thick fixed to frames using mitred profiled timber cover battens and brass screws with rounded edge

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beading. Ceiling panels shall be set out symmetrically from the centre line of the ceiling. Suspended ceiling systems shall be as specified in SECTION I: CEILING WORKS.

13. Timber Partitions

Non-structural timber partitions shall be as specified under SECTION E: NON-STRUCTURAL WALL SYSTEM.

14. Fascia And Barge Boards

Unless otherwise shown on the Drawings, fascia and barge boards shall be 25 mm thick wrot timber and supplied in long lengths. The boards shall be fixed in whole lengths and where joints are necessary, they shall be scarfed jointed and the joints shall occur only over the ends of roof framing members and mitred corners. Board, 250 mm wide and less shall be in one width and those deeper shall be formed by multiple of boards jointed together by tongue and groove and 'V' joint.


15. External Boarding

- 15.1 Unless otherwise shown on the Drawings, all external boarding shall be formed with 150 mm x 19 mm horizontal, vertical or diagonal boarding in wrot pressure-treated timber in long lengths and to the sectional profile as detailed in the Drawings.
- 15.2 Unless otherwise shown, lapping for plain weather boarding shall be 38 mm. Boarding shall be secured to the frames using 75 mm galvanized steel nails and in the case of plain weather boarding, nails shall not be driven through the lapped portions. The exposed bottom ends of all external vertical boarding shall be splayed inward at an angle of 30 degrees and treated with preservatives.
- 15.3 The timber boarding shall be cleaned off and unless otherwise specified, it shall be finished with approved polyurethane base paint with UV protection applied strictly in accordance with the manufacturer's recommendations. The strength grouping for external timber flooring shall be in accordance with the Properties of Malaysian Timber as shown hereinafter in TABLE H6.
- 15.4 For coastal environments and exposed weather applications subjected to airborne salts deposition, metal connectors and fasteners used shall comply with AS 3566 Class 4 and be certified as such by the supplier of fasteners and to the approval of the S.O.
- 15.5 All fixings and associated components shall be manufactured from compatible metals and coated conforming to ISO 9223 Category 4 (C4) and Category 5 (C5) environment. Flashings shall be made from the same material as the roofing sheets.

16. Staircase And Balustrades

- 16.1 Unless otherwise shown in the Drawings, the Contractor shall prepare Shop Drawings as required for the Works. Prior to the fabrication and installation works, the Contractor shall submit the Shop Drawings to the S.O. for approval.
- 16.2 The preferred sizes for modular staircase and stair openings shall comply with MS 1064: Part 3.

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17. Timber Solid Panel Doors

- 17.1 All fire doors shall be of the appropriate Fire Resistance Period (FRP) in accordance with the Ninth Schedule of the Uniform Building By-Laws.
- 17.2 All fire doors including frames shall be constructed to a specification of the relevant FRP in accordance with MS 1073 and shall be tested by a laboratory, approved and certified by DGFR and have obtained a Product Certification Scheme from an accredited certification body.
- 17.3 All double leaf doors with rebated meeting stiles shall be provided with coordinating device so as to fit fully within the door openings with a gap of not more than 3mm between the frame and the edge of the door when closed.
- 17.4 Where shown on the Drawings, approved vision panel of suitable size shall be incorporated in the Fire Rated Door.
- 17.5 Flush doors shall generally comply with MS 1506: Specification for Wooden Door with plywood facing and strength group 1 and strength group 2 timber lipping, mitred around all edges. The plywood and strength group 1- 4 shall in all respects with the Specifications mentioned hereinbefore.
- 17.6 The preferred sizes for modular door sets shall comply with MS 1064: Part 4 and for modular windows shall comply with MS 1064: Part 5.


18. PVC Doors

- 18.1 Unless otherwise specified in the Drawings, PVC doors shall be of strong impact resistance and waterproof/moisture resistant laminated timber finish on both sides. Unless otherwise shown in the Drawings, the door shall be 38 mm thick.
- 18.2 PVC toilet doors shall be of full single panel of flush type. It shall be 100% waterproof, strong impact resistance and not be discoloured easily. Unless otherwise shown on the Drawings, the door shall be 38 mm thick. PVC door shall be delivered to the site complete with ironmongery as listed in the TABLE H7.

19. Products And Materials

- 19.1 Plywoods
- 19.1.1 Unless otherwise specified, plywood used for interior and exterior purposes other than for formworks and temporary works shall be manufactured with Moisture Resistant (MR) bond and Weather and Boil Proof (WBP) bond respectively in compliance with MS 226. Boards which are to be painted or varnished shall be properly sanded down and holes and crevices filled with approved wood putty or filler.
- 19.1.2 Plywood intended for use as shuttering board shall be of the Weather and Boil Proof (WBP) type.
- 19.1.3 Plywood intended for structural use, shall be of Malaysian Basic Structural Grade (MBSG) rated or equivalent and shall comply with MS 544: Part 4.
- 19.1.4 Plywood to be used in marine environment or severe wet conditions shall be in accordance with MS 544: Part 4.

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19.2 Blockboard

19.2.1 Blockboard shall comply with MS 1123. Fixing of blockboards shall generally be in accordance with the manufacturer's instructions.

19.2.2 Boards which are to be painted or varnished shall be properly sanded down and holes and crevices filled with approved wood putty or filler to the approval of the S.O.

19.3 Chipboards

19.3.1 Chipboards shall be of the type manufactured from wood chips or shavings combined with a thermosetting synthetic resin glue binder bonded and hot-pressed together and complying with MS 1036 for medium density chipboard. The type and quality of boards shall be approved by the S.O. The boards shall be fixed as detailed in the Drawings with a minimum edge distance of 12 mm for nailing.

19.3.2 Boards which are to be painted or varnished shall be properly sanded down and holes and crevices filled with approved wood putty or filler to the approval of the S.O.

19.4 Fibre Building Boards

19.4.1 All fibre building boards namely, Hard Board, Medium Board and Medium Density Fibre Board (MDF) shall comply with MS 1429 and MS 1912. The type and quality of Fibre building boards shall be as approved by the S.O. Perforated hardboards shall be not less than 3.2mm thick with maximum of 4.8mm perforation at 19mm centers unless otherwise stated in the Drawings.

19.4.2 All fibre building boards shall be fixed strictly in accordance with the manufacturer's instruction. Unless otherwise detailed in the drawings, the ceiling boards shall be butt and 'V' jointed.

19.5 Composite Boards

19.5.1 The type and quality of composite boards shall be as approved by the S.O. and shall be fixed strictly in accordance with the manufacturer's instruction.

19.5.2 Fixing of timber base composite boards shall comply with the manufacturer's instructions. Panels which are to be painted or varnished shall be properly sanded down and holes and crevices filled with approved wood putty or filler to the satisfaction of the S.O. Panels which are for wet prone area, shall comply with MS 1787.


19.6 Woodwool Slabs

19.6.1 Woodwool slab shall comply with MS 1036 and shall be of the type and quality as approved by the S.O. Unless otherwise specified in the Drawings, the slab shall be laid with its length at right angles to support, fixed strictly in accordance with the manufacturer's instruction.

19.7 Wood Cement Boards

19.7.1 Wood cement boards shall comply with the requirements of MS 934 or MS 544:Part 4. In fixing, the board must be supported on all four edges and at immediate positions at centres not exceeding 610 mm. Joints between

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boards shall occur on centers of supports. Minimum edge distance shall be 20 mm.

- 19.7.2 Boards which are to be painted shall be lightly sanded and any dust shall be removed from the surface with a piece of clean coarse cloth. Any filling compounds used shall be alkali-resistant. Fixing of the board shall be in accordance with the manufacturer's instructions.

19.8 High Pressure Laminate (HPL)

- 19.8.1 High Pressure Laminate is a thermoset paper/plastic composite, where decorative papers impregnated with melamine are consolidated over phenolic-impregnated craft papers at high temperature and pressure to form a homogenous laminate. Unless otherwise specified, HPL shall comply with MS 1787: Part 1-15 for durability.

19.9 Wood Plastic Composite (WPC)

- 19.9.1 WPC shall be made from minimum 70% rice husk and balance recycled HDPE. WPC solid decking system shall be of 145 mm (w) x 25 mm (t) fixed onto 300 mm c/c on Suspended Levelling System with hot dipped zinc-aluminium alloy coated steel with a minimum coating mass of AZ150 to AS/NZS 1397-2002 steel sheet grade G300 on to flat concrete slab with ENSS03 stainless steel clip, all in accordance with manufacturer's recommendation and S.O's approval.

20. Ironmongery


- 20.1 Unless otherwise shown on the Drawings, the Contractor shall supply and fix all ironmongery as listed in the TABLE H7 attached hereinafter, complete with fixing screws of the same material and finish.
- 20.2 Proper sockets shall be provided for all bolts to fix flush in floors, cills and door and window frames. Each lock shall be provided with three keys and no locks shall have identical keys, unless specifically required by the S.O.
- 20.3 All doors, windows, gates, joinery, et cetera, shall be provided with anti-rust heavy duty ironmongery appropriate for its function, complete with fixing screws of the same material and finish.
- 20.4 All doors shall be provided with door-stops, door-closers and other appropriate ironmongery where applicable or as shown on the Drawings.
- 20.5 The submission of ironmongery set shall have been tested and certified by SIRIM QA Services Sdn. Bhd. or approved equivalent.

21. Built-in Furniture

21.1 General

- 21.1.1 Built-in furniture shall be constructed and properly framed in wrot timber as shown on the Drawings. Where fittings are not to be painted, unless otherwise specified, they shall be stained and varnished as described under SECTION O: PAINTING WORKS.
- 21.1.2 All interior furniture works shall be coordinated with mechanical and electrical works and as approved by the S.O.

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21.1.3 All built-in furniture materials shall be protected wrapped in strong waterproof paper or polythene/polyethylene (PE) sheeting to protect against damp and scratching during transportation from the factory. The wrapping shall not be removed until installation starts.

21.1.4 Built-in furniture materials shall be unloaded and handled in a manner which will not result in damage, deformation or contamination to the built-in furniture materials.

21.1.5 Built-in furniture materials and loose furniture delivered to the site shall be properly stored by arranging them in stacks, keeping them properly wrapped and stored under cover if they are not used or assembled immediately.

21.2 Materials

21.2.1 All composite wood products, such as Medium Density Fibreboard (MDF) shall comply with MS 1429 and the use of Particleboards shall comply with MS 1912.

21.2.2 The formaldehyde emission for all composite wood products and wood based panels shall comply with MS 1787.

21.2.3 Laminates used in composite wood products shall comply with MS ISO 4586.

21.2.4 Unless otherwise specified in the Drawings or Specification the resin used in composite wood products shall be phenol-formaldehyde (PF), melamine-urea-formaldehyde (MUF), melamine-urea-phenol-formaldehyde (MUPF), polymeric diphenyl methane diisocyanate (PMDI) or polyurethane (PU).

21.2.5 Adhesive for wood and composite wood products shall be phenol-formaldehyde resin adhesive classified as weather-proof and boil-proof, in accordance with MS 908.

21.2.6 Thermoplastic fittings, such as handles and accessories, where applicable, shall be polyamide (PA) or polypropylene (PP). Thermoplastics shall comply with MS 2324.

21.2.7 Solid surface shall be non-porous, homogenous, stain and chemical resistant, fire resistant and with a composition of acrylic polymer, aluminium trihydrate filler and pigment.


21.2.8 Where timber species are used it shall be constructed and properly framed in wrot timber as detailed in the Drawings.

21.3 Component Assemblies

21.3.1 Unless otherwise stated in the Drawings, steel frames, where applicable, shall be square and flat with mitred, welded corners.

21.3.2 Screws shall have countersunk heads which shall comply with MS ISO 1482.

21.3.3 Hinges shall have a spring mechanism to lock the door in a close or open position, remain completely hidden behind the door and enable the door to open to 120 degrees.

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- 21.3.4 Drawer slides shall be epoxy powder coated metal, mounted from the bottom and provided with friction bearing-mounted nylon rollers.
- 21.3.5 Unless otherwise specified, drawers shall have the 'soft-close' and/or 'positive-close' functions, which are mechanisms enabling drawers to quietly shut, or which fully shut after being only partially pushed. Drawers can be lifted up and removed easily for cleaning purposes.
- 21.3.6 All drawers, unless otherwise specified, shall have $\frac{3}{4}$ extension and be able to sustain up to 25 kg. Kitchen cabinet drawers shall have full extension and be able to sustain up to 45 kg, which is suitable for large pots, pans and/or woks.
- 21.3.7 Drawers for storing small kitchen cutlery shall have thermoplastic inserts with subdivided compartments.
- 21.3.8 Drawer handles and cabinet pulls shall be ergonomic. Thermoplastic handles and pulls shall recess into the door panels. Metal handles and pulls that extrude shall either be epoxy powder coated and/or anodized aluminium.
- 21.3.9 Solid surface worktops and countertops shall be 12 mm thick, 600 mm deep with backsplash 100 mm high, with integral bowl, where applicable. Actual dimension of solid surface worktops shall be measured at site. Upon installation of the solid surface worktops, it shall be polished and set level to S.O's approval.
- 21.3.10 Unless otherwise specified, worktops and countertops shall have a flat edge finishing at the perimeter. Worktops and countertops shall be provided with holes and cut-outs for plumbing components, where applicable. All joints shall be inconspicuous and use the manufacturer's recommended adhesive and silicone sealant.
- 21.3.11 Built-in furniture sliding doors shall be fitted with guides or similar fittings, rollers or ball bearings, pull handles, stops and locking mechanisms.
- 21.3.12 Cabinet doors with glass inserts and/or panels shall be constructed with proper support to ensure that the glass remains securely fixed. Support shall be bedded in mastic with all interstices completely filled.
- 21.3.13 Glass inserts and/or panels and glass shelves, where applicable, which needs to be structurally strong shall be tempered glass. Tempered glass shall comply with MS 1498.
- 21.3.14 Cupboards, wardrobes, cabinets and shelves shall have peg-holes on either side internally, allowing for adjustable shelf height. Adjustable legs, if applicable, shall be of a proprietary system type as approved by the S.O.


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TABLE H1: SCHEDULE OF TIMBER GROUPING AND USAGE

No	Typical Usage	Species
1	Structural frames 1.1 All columns, stilts and beams	SG4
2	Bearer to water tank	SG5
3	Staircase and component elements 3.1 Stinger & treads/Riser 3.2 Trimmer beams 3.3 Balustrades, nosing and handrails	SG5 SG5 SG5
4	Flooring 4.1 Floor bearers, joists and strutting for joists 4.2 Floor boardings 4.3 Gymnasium floor boarding 4.4 Parquet flooring 4.5 Skirlings	SG5 SG5 SG4 SG5 SG5
5	Walling 5.1 Wall and partition framings 5.2 External wall boardings 5.3 Internal wall boardings	SG5 SG5 SG7
6	Roof structures 6.1 Roof trusses, rafters, purlins, wall plates and other roof members 6.2 Fascia boards	SG4 SG5
7	Ceiling frames 7.1 Ceiling joists and spacers 7.2 Cover battens to joints of ceiling sheets 7.3 Ceiling strips and soffit battens	SG5 SG7 SG7
8	Door and window frames 8.1 All doors, windows, vent frames, grounds, stops and architraves 8.1.1 External usage 8.1.2 Internal usage	SG5 SG7
9	Furniture fitting 9.1 Built-in fittings and furniture in general 9.1.1 Carcassing 9.1.2 Lining/Panelling 9.1.3 Top 9.2 Workshop furniture top	SG5 SG7 SG5 SG5
10	Beading filets and edgings in general	SG5

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TABLE H2: SCHEDULE OF TIMBER SPECIES IN ACCORDANCE WITH STRENGTH GROUPING (S.G)

S.G 1	S.G 2	S.G 3	S.G 4	S.G 5	S.G 6	S.G 7
A) Naturally Durable						
Balau	Belian	Bekak	Giam	Jati		
Bitis	Mata Ulat	Delek	Malabera	Tembusu		
Cengal	Kekatang	Keraji	Merbau			
Penaga			Resak			
B) Requiring Treatment						
Dedaru	Agoho	Berangan	Alan Bunga	Bayur	Ara	
Kempas	Balau Merah	Dedali	Babai	Damar Minyak	Batal	
Merbatu	Kelat	Derum	Balik Angin Bopeng	Durian	Geronggang	
Mertas	Kembang Semangkuk	Kapur	Bintangor	Jelutung	Laran	
	Kulim	Kasai	Brazil Nut	Jenitri	Pelajau	
	Pauh Kijang	Keruntum	Gerutu	Jongkong	Pulai	
	Penyau	Mempening	Kundur	Kasah	Sesenduk	
	Perah	Meransi	Kedondong	Macang	Terentang	
	Petaling	Meranti Bakau	Keledang	Medang		
	Ranggu	Merawan	Keruing	Melantai/ Kawang		
	Ru	Merpauh	Ketapang	Meranti Merah Muda		
	Surian Batu	Nyalin	Kungkur	Meranti kuning		
	Tualang	Perupuk	Mekunak	Mersawa		
		Punah	Mempisang	Sengkurat		
		Rengas	Mengkulang	Terap		
		Simpoh	Meranti Merah Tua			
			Meranti Putih			
			Nyatu			
			Penarahan			
			Petal			
			Ramin			
			Kayu Getah			
			Sengkuang			
			Sepetir			
			Tetebu			

Notes :

1. For naturally durable timbers, sapwood should be excluded. If sapwood is included, preservative treatment is necessary.(Source: MS 360:1986)
2. For timber requiring treatment, they should be amenable to preservative treatment.

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**TABLE H3: SCHEDULE OF MOISTURE CONTENTS (M.C) OF TIMBER
FOR VARIOUS POSITIONS IN BUILDING**

Application	Maximum M.C. At Time Of Installation For Non Air-Conditioned Application	Maximum M.C. At Time Of Installation For Airconditioned Application (Kiln-Dried Timber)
Structural Components <ul style="list-style-type: none"> Columns, beams, bearer, studs, joists, ties and struts 	30% (Thickness >100mm) 25% (Thickness <100mm)	Not applicable Not applicable
Roofing <ul style="list-style-type: none"> Rafters, ties, struts, purlins and bracing battens 	25% 25%	Not applicable Not applicable
Staircase <ul style="list-style-type: none"> stringers, treads, trimmer beam and handrail balustrades 	19% 19%	12% 12%
Flooring <ul style="list-style-type: none"> floor boarding and parquetry skirtings 	19% 19%	12% 12%
Walling <ul style="list-style-type: none"> wall, partition framing external wall boardings internal wall boardings fascia boards 	19% 19% 19%	12% Not applicable 12% Not applicable
Ceiling Frames <ul style="list-style-type: none"> cover battens to joints of ceiling sheets ceiling strips and soffit battens 	25% 19%	Not applicable 12%
Door & Window Frames <ul style="list-style-type: none"> door, window and vent frames including their stops and grounds door leaves, window and vent sashes 	19% 19%	12% 12%
Furniture <ul style="list-style-type: none"> built in fittings, furniture generally workshop furniture science laboratory tops 	19% 19% 19%	12% 12% 12%
Beading filets and edgings generally	19%	12%

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**TABLE H4: NATURAL DURABILITY¹ CLASSIFICATION OF PENINSULAR MALAYSIA
TIMBERS FOR GROUND CONTACT**

Class 1	Class 2	Class 3		Class 4	
Very durable (More than 10 years)	Durable (5 to 10 years)	Moderately durable (2 to 5 years)		Not durable (Less than 2 years)	
Chengal	Balau	Agoho ²	Rengas	Api-api	Nyatoh ³
Giam	Bekak	Balau, red	Sepetir	Ara	Perapat
Penyau	Bits	Bakau	Tumu	Berangan	Perah
Resak	Kasal ⁴	Bungor	Tualang	Balek angin	Perupok
Tempinis	Kapur ⁵	Derum	Telor buaya	Bintangor	Petal
	Nyatoh ³	Dedali	Pelong	Batai	Podu
	Merbau	Dedaru	Kerukup	Bayur	Pulai
	Mersawa	Delek	Brazil nut ²	Damar minyak	Putat
	Merbau lalat	Dungun	Keruntum	Dungun paya	Ramin
	Delinsem ²	Acacia ⁶	Keruing ^{7,8,9}	Durian	Samak
	Malabera	Pauh kijang	Keledang ^{10,11}	Engkabang	Sena
	Medang ^{12,13}	Kapur ¹⁴	Mata ulat	Jelulong	Sawa luka
	Penaga	Kelat	Medang ¹⁵	Gaham badak	Sepul
	Pelajau	Kembang semangkok	Meranti, dark red	Geronggang	Sesenduk
	Pelawan	Kempas	Mempening	Gerutu	Sentang ¹⁶
	Rangu	KerANJI	Mengkulang	Gading	Simpoh
	Surian batu	Gegatal	Meransi	Gapis	Sempilor
	Teak	Kulim	Merbatu	Meranti bakau	Terentang
	Tembusu	Kungkur	Merawan	Meranti, light red	Tapus
		Leban	Merbau nera	Jenitri	Terap
		Nyalas	Meranti, white	Jongkong	Tuai
		Pauh kijang	Mertas	Kasah	Tulang daing
		Petaling	Nyatoh ³	Kekabu	Ketapang
		Punah	Nytreh	Kawang	Rubberwood
			Nipis kulit	Keledang ^{10,11}	Pine ¹⁷
				Kapur ¹⁴	Yemane ¹⁸
				Kayu malam	Coconut
				Kedondong	Tengkurung
				Kungkur	Penarahan
				Meranti, yellow	Keruing ⁷
				Laran	Meranti tembaga
				Lelayang	Machang
				Lilin	Medang ^{12,13}
				Limpaga ¹⁹	Mempisang
				Ludai	Merbatu
				Merpauh	Melantai
					Minyak berok

NOTE. For reference to source of data see Bibliography

* The results were obtained from the graveyard test from the Forest Research Institute Malaysia test site.

¹ All samples taken from heartwood area except for the timber which their sapwood and heartwood cannot be differentiated. Timber of the same species but from different regions in Malaysia may have different durability classifications.


² The timber is not Peninsular Malaysia origin.

³ Plantation timber, originally from other countries.

- ⁴ *Dryobalanops aromatica*
- ⁵ *Dryobalanops rappa*
- ⁶ *Dryobalanops oblongifolia*
- ⁷ *Alseodaphne insignis*
- ⁸ *Dehaasia nigrescens*
- ⁹ *Cinnamomum porrectum*
- ¹⁰ *Litsea firma*

- ¹¹ *Litsea megacarpa*
- ¹² *Palaquium impressinervium*
- ¹³ *Palaquium malangyi*
- ¹⁴ *Palaquium gutta*
- ¹⁵ *Shorea uliginosa*
- ¹⁶ *Shorea platyclados*
- ¹⁷ *Shorea pauciflora*
- ¹⁸ *Shorea singkawang*
- ¹⁹ *Shorea curtisii*
- ²⁰ *Dipterocarpus subamellatus*
- ²¹ *Dipterocarpus crinitus*
- ²² *Dipterocarpus venucosus*
- ²³ *Dipterocarpus kemii*
- ²⁴ *Dipterocarpus lowii*
- ²⁵ *Artocarpus interger*
- ²⁶ *Artocarpus lanceifolius*
- ²⁷ *Artocarpus dadah*
- ²⁸ *Artocarpus rigidus*
- ²⁹ *Artocarpus heterophyllus*

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**TABLE H5: NATURAL DURABILITY¹ CLASSIFICATION OF SARAWAK TIMBERS
FOR GROUND CONTACT**

Class 1	Class 2	Class 3		Class 4	
Very durable (More than 10 years)	Durable (5 to 10 years)	Moderately durable (2 to 5 years)		Not durable (Less than 2 years)	
Belian	Kapur bukit	Baru	Kapur paji	Acacia	Bindang
Penyau	Kapur kelansau	Bedaru	Kapur paya	Alan	Geronggang
Selangan batu ²	Kawi	Kandis	Luis/Chengal pasir	Asam	Jadap
	Luis	Kasai	Medang luis kasar	Bajan	Jelawai
	Lun runcing	Leban	Mengkulang	Bayur	Jelutong
	Mertama	Nyireh	Mersawa kunyit	Bengang	Kayu cina
	Nyatch ³	Pelajau	Petai belalang	Benuah	Kayu malam
	Rhu	Resak membangun	Sempilor	Binuang	Kelampayan
	Selangan batu ^{4a}	Seladah ^{4a, c}		Bintangor	Kembang semangkok
		Selumar		Bintawak	Kepayang babi
		Selunsur		Dungun	KerANJI
		Tapang		Durian	Keruing
		Urut mata		Empenit	Ketiau
				Entuyut	Kumpang
				Litoh	Legai
				Medang	Meranti, light red
				Menggris	Yellow flame
				Mersawa paya	Meranti, yellow
				Minggi	Mergasing
				Ngilas	Peran/bilat
				Nyatch ^{5a, b}	Segera
				Pelai	Seladah ^{6a, b}
				Perah	Sentang
				Perupok	Simpoh Tampoi
				Petai	Tekalong
				Pitoh	Teruntum Ubah
				Ramin	Upi
				Resak paya	
				Sawih	

¹ The results were obtained from the graveyard test from Oya Road, Sibul test site. All samples taken from heartwood area except for the timber which their sapwood and heartwood cannot be differentiated. Timber of the same species but from different regions in Malaysia may have different durability classifications.

² *Shorea pulicostata*

³ *Palaquium rivulare*

^{4a, b, c} *Shorea flava*, *S. laecis*, *S. spp*

^{5a, b} *Dacryodes incurvata*, *Santiria laevigata*

^{6a, b} *Palaquium pseudorostratum*, *Ganus motleyana*

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TABLE H6: PROPERTIES OF MALAYSIAN TIMBER

Heavy Hardwoods				
No	Species	Strength	Tangential Movement	Air-dry density (kg/m ³)
1	Balau	Very strong	2.1 – 2.5%	850-1155
2	Merbau	Strong	2.1 – 2.5%	515-1040
3	Red Balau	Strong	2.1 – 2.5%	800-880
Medium Hardwoods				
1	Kelat	Strong	2.1 – 2.5%	495-1010
2	Kempas	Very strong	> 3.1%	770-1120
3	Keruing	Strong	2.6 – 3.0% 3.1%	690-945
4	Mengkulang	Strong	2.1 – 2.5%	625-895
5	Merpauh	Strong	1.5 – 2.0%	640-880
Light Hardwoods				
1	Bintagor	Moderately strong	1.5 – 2.0%	495-865
2	Dark Red Meranti	Moderately strong	< 1.5% 1.5 – 2.0%	560-865
3	Gerutu	Moderately strong	2.6 – 3.0%	575-880
4	Mersawa	Moderately strong	2.1 – 2.5%	515-735
5	Yellow Meranti	Moderately strong	1.5 – 2.0%	575-735

(Source: Choo KT, Gan KS & Lim SC, Movement of Seasoned Timber in Service, FRIM Technical Information Handbook No 18)



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TABLE H7: SCHEDULE OF IRONMONGERY


Type of Doors, Windows etc.	Ironmongery for each type of doors, windows etc.
1. Single Leaf Door	
1.1.Plywood Flush Door	<ul style="list-style-type: none"> a) 3 Nos. of 102 mm x 76 mm x 2 mm galvanised steel hinges with nylon rings. b) 1 No. upright 3 lever mortice lockset with satin chrome lever handle furniture of approved manufacture with 2 Nos. chrome plated keys of different serial number for each building. c) 1 No. stainless steel door stopper.
1.2.Timber Panelled Door	<ul style="list-style-type: none"> a) 3 Nos. of 102 mm x 76 mm x 2 mm stainless steel hinges with nylon ring. b) 1 No. medium duty cylindrical lockset, 5 pin tumbler with knob and rose of stainless steel with hairline finish complete with 3 Nos. nickle-plated brass keys of different serial number for each building. c) 1 No. stainless steel door stopper.
2. Double Leaf Door	
2.1.Plywood Flush Door	<ul style="list-style-type: none"> a) 6 Nos. 102 mm x 76 mm x 2 mm stainless steel hinges with nylon rings. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder. c) 1 No. solid brass mortice lock rebated part. d) 1 Set of 150 mm and 300 mm Flush Bolt Lever Type Stainless Steel. e) 1 No. dust socket medium. f) 2 Nos. stainless steel door stopper.
2.1.Timber Panelled Door	<ul style="list-style-type: none"> a) 6 Nos. 102mmx76mmx2mm stainless steel hinges with nylon rings. b) 1 No. cylindrical lock stainless steel, 5 pin tumbler with knob and rose of stainless steel with 3 nos nickle-plated brass keys c) 1 No. solid brass mortice lock rebated part. d) 1 Set of 150mm and 300mm Flush Bolt Lever Type Stainless Steel. e) 1 No. dust socket medium. f) 2 Nos. stainless steel door stopper.
3. PVC Door To Toilet /Bathroom Cubicles	<ul style="list-style-type: none"> a) 3 Nos. 102 mm x 76 mm x 2 mm stainless steel hinges with nylon rings. b) i) Residential Quarters - 1 No. stainless steel cylindrical lock with privacy locking device operated by turn from inside and knob handle. ii) Non-residential buildings - 1 No. stainless steel indicator bolt toilet. c) 1 No. hat & coat hook stainless steel.
4. Single Leaf Fire Rated Door	
4.1.Standard size of 800 mm x 2100 mm ½ hr & 1 hr fire rated door (Metal Frame & Timber Door)	<ul style="list-style-type: none"> a) 3 Nos. 127 mm x 89 mm x 2.5 mm heavy duty stainless steel hinges. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder approved by DGFR. c) 1 No. stainless steel door stopper. d) 1 No. door closer. e) 1 No. floor spring for double swing door.
4.2.Standard size of 900 mm x 2100 mm ½ hr & 1 hr fire rated door (Metal Frame & Timber Door)	<ul style="list-style-type: none"> a) 3 Nos. 127 mm x 89 mm x 2.5 mm heavy duty stainless steel hinges. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder approved by DGFR. c) 1 No. stainless steel door stopper. d) 1 No. door closer. e) 1 No. floor spring for double swing door.
4.3.Standard size of 900 mm x 2100 mm 2 hr fire rated door (Metal Frame & Timber Door)	<ul style="list-style-type: none"> a) 4 Nos. 127 mm x 89 mm x 2.5 mm heavy duty stainless steel hinges. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder approved by DGFR. c) 1 No. stainless steel door stopper. d) 1 No. door closer. e) 1 No. floor spring for double swing door. f) 2 Nos. of ball bearings. g) 1 No. of heavy duty stainless steel latch with 75 mm long backset.
5. Double Leaf Fire Rated Door	
5.1.Standard size of 1200 mm x 2100 mm	<ul style="list-style-type: none"> a) 4 Nos. 127 mm x 89 mm x 2.5 mm heavy duty stainless steel hinges. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder approved by DGFR. c) 1 No. solid brass mortice lock rebated part. d) 1 Set of 150 mm and 300 mm Flush Bolt Lever Type Stainless Steel. e) 1 No. dust socket medium. f) 2 Nos. stainless steel door stopper. g) 2 Nos. automatic door closer of hydraulically spring operated type (for swing doors) or of wire rope and weight type (for sliding doors). h) 2 Nos. floor spring for double swing door.

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Type of Doors, Windows etc.	Ironmongery for each type of doors, windows etc.
5.2. Standard size of 1800 mm x 2100 mm	a) 6 Nos. 127 mm x 89 mm x 2.5 mm heavy duty stainless steel hinges. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder approved by DGFR. c) 1 No. solid brass mortice lock rebated part. d) 1 Set of 150 mm and 300 mm Flush Bolt Lever Type Stainless Steel. e) 1 No. dust socket medium. f) 2 Nos. stainless steel door stopper. g) 2 Nos. automatic door closer of hydraulically spring operated type (for swing doors) or of wire rope and weight type (for sliding doors). h) 2 Nos. floor spring for double swing door.
5.3. Standard size of 2400 mm x 2100 mm	a) 8 Nos. 127 mm x 89 mm x 2.5 mm heavy duty stainless steel hinges. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body with single key thumb turn cylinder approved by DGFR. c) 1 No. solid brass mortice lock rebated part. d) 1 Set of 150 mm and 300 mm Flush Bolt Lever Type Stainless Steel. e) 1 No. dust socket medium. f) 2 Nos. stainless steel door stopper. g) 2 Nos. automatic door closer of hydraulically spring operated type (for swing doors) or of wire rope and weight type (for sliding doors). h) 2 Nos. floor spring for double swing door.
6. Single Leaf Fire Escape Door	a) 3 Nos. of 127 mm x 89 mm x 2.5 mm thick heavy duty stainless steel hinges. b) 1 complete set of approved make fire rated panic bolts.
7. Double Leaf Fire Escape Door	a) 6 Nos. of 127 mm x 89 mm x 2.5 mm thick heavy duty stainless steel butt hinges. b) 1 complete set of approved make fire rated panic bolts.
8. Glass Door	a) 1 Set Floor Spring. b) 1 Set Patch Filling, door bottom, door top, lock clamp, over panel. c) 1 pair Pull handle 600 mm.
9. Aluminium Door	a) 3 Nos. 102 mm x 76 mm x 2 mm stainless steel hinges with nylon rings. b) 1 Set Hollow Lever Handle Stainless Steel Mortice Lock Body deadlock with single key thumb turn cylinder.
10. Kitchen Cabinet Door/ Workbench	a) Galvanised steel continuous 'plano' butt hinges. b) 1 No. 100 mm aluminium 'D' handle. c) 1 No. bales catch. d) 1 No. galvanised steel cupboard lock in satin chrome finish.
11. Wardrobe	a) 3 Nos. of 75 mm brass butt hinges (per door leaf). b) 2 Nos. 100 mm anodised aluminium barrel bolt (for double leaf doors) c) 1 No. 100 mm aluminium 'D' handle. d) Chromium plated steel clothes hanger rail. e) Steel cylinder cupboard lock in satin chrome finish.
12. Drawer	a) 1 No. steel cylinder drawer lock in satin chrome finish. b) 1 No. 100 mm aluminium 'D' handle.
13. Sliding and Folding Door/ Partition	a) Top or bottom running set sliding and folding door gear, complete with tracks, channel, brackets, roller guides, hangers and all necessary butt hinges, flush bolts and flush door pulls, etc. as recommended by the manufacturer. b) 1 No. upright 3 lever rebated mortice lockset for sliding and folding door with satin chrome lever handle furniture with 2 Nos. keys of different serial number for each building.
14. Straight Sliding Door	a) Top or bottom running set straight sliding door gear complete with tracks, brackets, hangers, roller guides, channels, door stops, flush brass bolts, brass flush pull etc. as recommended by the manufacturer. b) 1 No. upright 3 lever mortice lockset with satin chrome finish for straight sliding door with 2 Nos. keys of different serial number for each building.
15. Timber Casement Window	a) 2 Nos. 400 mm long approved electro-galvanised steel friction hinges. b) 1 No. approved brass with satin chrome finish combination handle and fastener.
16. Top Hung Casement Timber Window.	a) 2 Nos. 750 mm long approved electro-galvanised steel friction hinges. b) 1 No. approved brass with satin chrome finish automatic locking fastener.
17. Top Hung Vent/Sashes	a) 2 Nos. 400 mm long approved electro-galvanised steel friction hinges. b) 1 No. approved brass with satin chrome finish automatic locking fastener

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**TABLE H8: TIMBER SPECIES FOR THE MANUFACTURING OF
GLUED LAMINATED TIMBER COMPONENTS**

Standard names	Strength class
Mengkulang	D40
Merbau Keruing	D50
Kapur Kempas	D60
Balau	D70

	SECTION H : TIMBER, JOINERY AND IRONMONGERY WORKS	No. Dokumen : JKR 20800-0183-14
		No. Keluaran : 01
		No. Pindaan : 00
		Tarikh : 29 Januari 2014
		Muka Surat : H/29

APPENDIX H/1

GLUED LAMINATED TIMBER PERFORMANCE WARRANTY (SPECIMEN)**1.0 Coverage of Performance Warranty**

We the glued laminated timber Manufacturer hereby warrant that for a period of **ten (10) years** from the date of Practical Completion, the glued laminated timber system shall not be affected by the following defect:

a) Debonding

This condition occurs when the individual laminations of a glued laminated timber member become separated.

2.0 Procedure for Claims

- i) Any defect claims shall be made in writing and delivered by post or by hand to the Manufacturer.
- ii) A technical team from the Manufacturer will be dispatched to evaluate the nature of the claim. Should our findings conclude the defects as within the scope of warranty, then the Manufacturer shall make good such defects.
- iii) Should the Manufacturer's technical team conclude that the defects falls outside the scope of the warranty, the Manufacturer shall not be held responsible for the claim.
- iv) Should the Government disagree with the conclusion of the technical team pertaining to the defects in particular, then an independent third party competent in such technical evaluation shall be appointed to investigate the disputed defects.
- v) The appointment of independent third party competent in such technical evaluation shall only be appointed upon the mutual agreement between the Government and the Manufacturer.
- vi) The findings of the third party shall be conclusive and mutually accepted by the Government and the Manufacturer.
- vii) If the findings of the independent third party are within the coverage of this performance warranty, all cost shall be borne by the Manufacturer or otherwise such cost shall be borne by the Contractor.
- viii) All claims for the defects must be received by the Manufacturer not later than fourteen (14) days from the expiry of the warranty period.

MANUFACTURER

.....

.....
Company Stamp

.....
Signature

Name:
 Date:

WITNESS

.....

.....
Company Stamp

.....
Signature

Name:
 Date:

@HAKCIPTA JKR MALAYSIA

DOKUMEN NO.6
JADUAL HARGA

DOKUMEN NO. 6

JADUAL HARGA

BIL	PERKARA	UNIT	KUANTITI	KADAR (RM)	JUMLAH (RM)
1.0	KERJA-KERJA AWALAN				
1.1	Kerja-kerja permulaan (Preliminaries) mengikut spesifikasi am, spesifikasi tambahan dan syarat-syarat tambahan dan syarat-syarat sebutharga termasuk menyediakan Polisi Insuran, Pampasan Pekerja atau Nombor Pendaftaran Pekerja (PERKESO) serta Polisi Insuran Tanggungan Awam dan.	Pukal			
1.2	Kerja-kerja pengalihan perabot dan lain-lain barang untuk memukakan kerja termasuk menyusun kembali seperti sedia ada apabila kerja-kerja telah siap.	Pukal			
1.3	Menyediakan dan mengemukakan 2 salinan laporan bergambar sebelum kerja dilaksanakan, semasa dan selepas kerja-kerja siap dilaksanakan sepenuhnya. Mengemukakan dua (2) salinan shop drawing bagi binaan sekatan dinding dan menyediakan tiga (3) jenis rekabentuk ukiran kerawang kayu.	Pukal			
2.0	MEMBINA SEKATAN DINDING DALAMAN PEJABAT YPDN				
2.1	Kerja-kerja membina sekatan dinding dari Timber Panel Cladding c/w Veneer dengan separuh cermin dari jenis 10mm one way mirror tebal 'tempered glass' termasuk rangka dari kayu beroti hingga ke paras siling anggaran keluasan 1780mm x 2630mm. Sepertimana lukisan berkembar.	M.Persegi	6		
2.2	Membekal dan memasang baru rangka pintu berukuran 50mm x 125mm dari kayu nyatoh kelas 'A' yang beketam dan dikawit.	No.	1		
2.3	Membekal dan mengganti/memasang baru pintu rata (flush door) setebal tidak lebih 38mm dan ditutup kedua-dua belah permukaan dengan papan lapis 5mm tebal dengan kemas (decoratives details) sepertimana sedia ada di tapak berukuran tidak melebihi 915mm x 2135mm termasuk engsel jenis satu daun dan lain-lain aksesori berkaitan.	No.	1		
2.4	Membekal dan memasang baru kunci pintu jenis 'dead bolt' bersalut krom.	No.	1		
2.5	Kerja-kerja memotong kemas marble solid dado dan marble skirting with profile dan karpet sedia ada untuk penyambungan sekatan dinding baru termasuk kemas.	Pukal			
2.6	Membekal dan memasang 'cornice' 150mm tinggi dari jenis gypsum termasuk penyambungan kepada cornice sedia ada. Termasuk dua (2) lapisan cat kemas.	M	6		
2.7	Membekal dan memasang baru 300mm tinggi marble skirting with profile termasuk penyambungan kepada sedia ada dan dengan corak sepertimana sedia ada.	M	4		
2.8	Membekal dan memasang baru 100mm tinggi marble solid dado termasuk penyambungan kepada sedia ada dan dengan corak sepertimana sedia ada.	M	4		
2.9	Membekal dan memasang baru kayu hiasan solid Malay Timber Carving (cornice) 140mm tinggi termasuk penyambungan kepada sedia ada dan dikemas dengan barnis. Sepertimana lukisan berkembar.	M	6		
2.10	Membekal dan memasang baru 400mm tinggi marble skirting with profile pada kerangka pintu termasuk penyambungan kepada sedia ada.	No.	2		
	JUMLAH				

BIL	PERKARA	UNIT	KUANTITI	KADAR (RM)	JUMLAH (RM)
	DARI BQ SEBELUMNYA				
2.11	Membekal dan memasang baru ' box-up architrave ' kayu nyatoh gred A berukuran 150mm sekeliling bingkai pintu dan bingkai cermin.	M	4		
2.12	Membekal dan memasang kemas pada sebahagian bingkai pintu dan cermin dari jenis 12mm tebal marble dari paras dado/marble skirting ke ' box up architrave '.	M	6		
3.0	MENGGANTI KEMASAN KERTAS HIASAN DINDING (WALL PAPER DI PEJABAT YPDN				
3.1	Kerja-kerja membuka, menanggal dan membersihkan kertas dinding (wall paper) yang lama pada permukaan dinding sediaada.	M.Persegi	18		
3.2	Kerja-kerja membekal dan memasang baru kertas dinding (wall paper) pada permukaan dinding sediaada.	M.Persegi	18		
4.0	KERJA-KERJA MENGECAT PERMUKAAN PLASTER SILING DI PINTU 9				
4.1	Sediakan permukaan dan sapu dua lapis cat anti bacteria / anti fungal pada permukaan plaster siling pintu 9.	M.Persegi	125		
5.0	KERJA-KERJA MENGGANTI KEMASAN KERTAS HIASAN DINDING (WALL PAPER) DI DINDING TANGGA PINTU 9				
5.1	Kerja-kerja membuka, menanggal dan membersihkan kertas dinding (wall paper) yang lama pada permukaan dinding sediaada.	M.Persegi	160		
5.2	Kerja-kerja membekal dan memasang baru kertas dinding (wall paper) pada permukaan dinding sediaada.	M.Persegi	160		
6.0	MENGGANTI CERMIN NAKO DIDALAM TANDAS LELAKI AHLI DEWAN NEGARA				
6.1	Membuka dan membuang bingkai cermin louvres/nako lama termasuk bingkai aluminium yang telah rosak termasuk melupus keluar dari tapak	M.Persegi	2		
6.2	Membekal dan memasang tingkap jenis ' casement ' berbingkai aluminium (heavy duty aluminium epoxy coating) setebal 38mm serta panel menggunakan kepingan kaca 6mm tebal berukuran 875mm x 1950mm	No.	1		
7.0	KERJA-KERJA MENGGANTI KEMASAN KERTAS HIASAN DINDING (WALL PAPER) DI DINDING STUDIO TV3				
7.1	Kerja-kerja membuka, menanggal dan membersihkan kertas dinding (wall paper) yang lama pada permukaan dinding sediaada.	M.Persegi	12		
7.2	Kerja-kerja membekal dan mengganti/memasang baru kertas dinding (wall paper) pada permukaan dinding sediaada dengan corak dan warna sepertimana sediaada.	M.Persegi	12		
8.0	KERJA-KERJA MENGECAT STRUKTUR TIANG LINKBRIDGE BLOK UTEMA KE BLOK DEWAN PERSIDANGAN SEMENTARA				
8.1	Kikis cat lama dari permukaan yang berlepa, basuh dan perbaiki semua retak dan juga permukaan-permukaan lain yang cacat.	M.persegi	60		
	JUMLAH				

BIL	PERKARA	UNIT	KUANTITI	KADAR (RM)	JUMLAH (RM)
	DARI BQ SEBELUMNYA				
8.2	Sediakan permukaan dan sapu dua lapis cat bauran luar 'Weathershield' @ yang setanding dengannya pada permukaan yang berlepa	M.persegi	60		
9.0	KERJA-KERJA DI PEJABAT KETUA PENTADBIR PARLIMEN MALAYSIA				
9.1	Menanggal dan melupus shower screen lama keluar dari tapak ke pusat pelupusan yang dibenarkan oleh PBT.	Pukal			
9.2	Membekal dan memasang baru frameless sliding glass door shower screen berukuran 2100mm (t) x 1500mm (l) dengan 10mm tebal tempered glass termasuk segala aksesori yang berkaitan di tandas pejabat Ketua Pentadbir Parlimen Malaysia. Termasuk membekal dan memasang lapisan frosted sticker .	No.	1		
9.3	Membekal dan memasang papan tanda LOGO PARLIMEN dari jenis aluminium box with chemical etching and powder coated spray paint finish berukuran 750mm diameter.	No.	1		
	JUMLAH DIBAWA KE RINGKASAN SEBUTHARGA				

DOKUMEN NO.7
RINGKASAN JADUAL HARGA

DOKUMEN 7

RINGKASAN JADUAL HARGA

Ringgit Malaysia :

.....

****NILAI INI HENDAKLAH SAMA DENGAN NILAI YANG DITAWARKAN, JIKA TIDAK SEBUTHARGA YANG DIKEMUKAKAN TIDAK AKAN DIPERTIMBANGKAN.***

Tempoh kerja yang ditawarkan : **hari**

.....
Tandatangan Kontraktor

.....
Tandatangan Saksi

Nama Penuh:.....

Nama enuh:.....

Atas Sifat :

Atas Sifat:.....

No. Kad Pengenalan:.....

No. Kad Pengenalan:.....

Alamat :

Alamat :

.....

.....

.....

.....

Tarikh :

Tarikh :

DOKUMEN NO.8
BORANG TAWARAN

BORANG TAWARAN

Ketua Pentadbir
Parlimen Malaysia
Bangunan Parlimen
Jalan Parlimen
50680 Kuala Lumpur.

Tuan,

SEBUTHARGA NO. PAR.2/367 SH.10/2021

**KERJA-KERJA HIASAN DALAMAN DENGAN MEMBINA SEKATAN DINDING
DALAMAN PEJABAT YANG DI-PERTUA DEWAN NEGARA DAN MENGGANTI
KERTAS HIASAN DINDING DI LALUAN PINTU 9 DAN LAIN-LAIN BERKAITAN DI
BLOK UTAMA, PARLIMEN MALAYSIA**

Mengikut syarat-syarat tawaran yang dikembarkan bersama, Syarikat kami
.....
bersetuju menawarkan perkhidmatan seperti yang telah dicatatkan dan diterangkan dalam
Syarat-syarat Am, Syarat-syarat Khas, Spesifikasi Teknikal, dan lain-lain bahagian dalam
Dokumen Sebutharga yang akan disempurnakan dengan Parlimen Malaysia dengan harga-
harga seperti yang tercatat dalam Jadual Harga yang dikembarkan bersama-sama ini.
Jumlah Harga Tawaran adalah **RINGGIT MALAYSIA** :
.....
(RM.....)

2. * Kami telah menyemak dan mematuhi butir-butir penentuan perkhidmatan dengan teliti mengikut seperti yang dikehendaki dan memahami segala syarat dan peraturan yang ditetapkan.

ATAU

* Kami tidak dapat mematuhi penentuan perkhidmatan serta syarat dan peraturan tuan dengan lengkap tetapi kami berminat untuk menyertai sebutharga ini dengan butir-butir perubahan seperti lampiran berasingan berkembar.

1. Jika tawaran kami disetujui terima, kami aku janji bahawa perkhidmatan akan dimulakan pada dan disempurnakan kepada Jabatan tuan sepanjang masa yang ditetapkan.

2. Kami bersetuju bahawa tuan berhak menerima atau menolak mana-mana tawaran sama ada tawaran terendah, tinggi atau sama dengan lain-lain tawaran yang dikemukakan.

3. Kami mengesahkan bahawa kami telah menyemak dokumen-dokumen dan memperakui bahawa dokumen yang digunakan untuk penyediaan tawaran ini adalah salinan asal.

Tandatangan Kontraktor :

Nama :

Alamat :

.....

Cop Rasmi Syarikat :

Telefon :

Tarikh :

Tandatangan Saksi :

Nama :

Alamat :

.....

Tarikh :

* potong yang tidak berkenaan

DOKUMEN NO.9
KETERANGAN MENGENAI PENYEBUT HARGA

DOKUMEN NO. 9

KETERANGAN MENGENAI PENYEBUT HARGA

1. Nama Syarikat Penyebut harga :
- 1.1 Alamat Pejabat :
.....
.....
- 1.2 No.Telefon :
- 1.3 No. Pendaftaran :
Syarikat
- 1.4 No. Pendaftaran :
Kementerian Kewangan (sertakan salinan sijil)
2. Modal Dibenar :
- Modal Berbayar :

3. Ahli-ahli Syarikat :

(i) Ahli-ahli Lembaga Pengarah

NAMA	JAWATAN	SAHAM DIPEGANG

(ii) Ahli-ahli Pengurusan

NAMA	JAWATAN

4. Butiran pengalaman firma/syarikat penyebut harga dalam membekalkan perkhidmatan yang serupa dengan apa yang ditawarkan di dalam pelawaan Sebut harga/Tender kepada Kerajaan dalam tempoh lima (5) tahun yang terakhir.

TAHUN	PENGALAMAN PEMBEKALAN PERKHIDMATAN

5. Jika penyebut harga pernah mengikat kontrak dengan mana-mana Jabatan Kerajaan atau Badan-badan Berkanun, nyatakan sama ada Firma/Syarikat kontraktor pernah atau sedang mengalami penggantungan atau penamatan kontrak dengan Kerajaan oleh kerana pelanggaran syarat-syarat Kontrak.

.....

6. Lain-lain Keterangan Mengenai Penyebut harga :-

.....

Saya perakui bahawa segala keterangan di atas adalah benar.

Tandatangan :.....

Nama :.....

No. K/P :.....

Jawatan :.....

Tarikh :.....

Cop Firma/
 Syarikat :.....

Tandatangan :
Saksi

Nama :
Saksi

No. K/P :

Jawatan :

Tarikh :

Cop Firma/
Syarikat :

Nota : Jika didapati keterangan/maklumat di atas adalah tidak benar, pihak Kerajaan berhak menolak/membatalkan tawaran syarikat tuan.

BAHAGIAN B

Senarai Sepuluh (10) Kerja-Kerja Yang TELAH Disiapkan

<u>Nama Projek</u>	<u>Jabatan/Agensi/ Perunding Yang Mengawas Projek</u>	<u>Harga</u>	<u>Tempoh</u>	<u>Tarikh Siap Sebenar</u>

BAHAGIAN C**Senarai Kerja Yang SEDANG Disiapkan**

Nama Projek	Jabatan/Agensi/ Perunding Yang Mengawas Projek	Harga Kontrak	Tempoh Kontrak	Peratusan Kemajuan	Ulasan Pegawai Yang Menilai sebut harga*

BAHAGIAN DAhli-ahli Syarikat1. Ahli-ahli Lembaga Pengarah

Nama	Jawatan	Saham Modal Dipegang

2. Ahli-ahli Pengurusan

Nama	Jawatan	Kelulusan Akademik/Iktisas

LAMPIRAN F
SURAT AKUAN PENYEBUT HARGA

LAMPIRAN F
(SAP bertarikh 1 April 2010)

SURAT AKUAN PENYEBUT HARGA

Bagi

**KERJA-KERJA HIASAN DALAMAN DENGAN MEMBINA SEKATAN DINDING
DALAMAN PEJABAT YANG DI-PERTUA DEWAN NEGARA DAN MENGGANTI
KERTAS HIASAN DINDING DI LALUAN PINTU 9 DAN LAIN-LAIN BERKAITAN DI
BLOK UTAMA, PARLIMEN MALAYSIA – PAR.2/367 SH.10/2021**

Saya, nombor K.P. yang mewakili nombor pendaftaran dengan ini mengisytiharkan bahawa saya atau mana-mana individu yang mewakili syarikat ini tidak akan menawar atau memberi rasuah kepada mana-mana individu dalam atau mana-mana individu lain, sebagai sogokan untuk dipilih dalam tender/sebut harga* seperti di atas. Bersama-sama ini dilampirkan Surat Perwakilan Kuasa bagi saya mewakili syarikat seperti tercatat di atas untuk membuat pengisytiharan ini.

2. Sekiranya saya atau mana-mana individu yang mewakili syarikat ini didapati bersalah menawar atau memberi rasuah kepada mana-mana individu dalam atau mana-mana individu lain sebagai sogokan untuk dipilih dalam tender/sebut harga* seperti di atas, maka saya sebagai wakil syarikat bersetuju tindakan-tindakan berikut diambil:

- 2.1 penarikan balik tawaran kontrak bagi tender/sebut harga* di atas; atau
- 2.2 penamatan kontrak bagi tender/sebut harga* di atas; dan
- 2.3 lain-lain tindakan tatatertib mengikut peraturan perolehan Kerajaan.

3. Sekiranya terdapat mana-mana individu cuba meminta rasuah daripada saya atau mana-mana individu yang berkaitan dengan syarikat ini sebagai sogokan untuk dipilih dalam tender/sebut harga* seperti di atas, maka saya berjanji akan dengan segera melaporkan perbuatan tersebut kepada pejabat Suruhanjaya Pencegahan Rasuah Malaysia (SPRM) atau balai polis yang berhampiran.

Yang Benar,

.....
Nama :
No. KP :
Cop Syarikat :

Catatan : * Potong mana yang tidak berkaitan.