

KERAJAAN MALAYSIA

MAJLIS SUKAN NEGARA

DOKUMEN SEBUT HARGA

**KERJA-KERJA MEMBAIKPULIH SERTA BERKAITAN
DI KAFETERIA ATLET TIME OUT MSN BUKIT JALIL,
KUALA LUMPUR**

NO. SEBUT HARGA :



**KETUA PENGARAH
MAJLIS SUKAN NEGARA MALAYSIA
KOMPLEKS SUKAN NEGARA
BUKIT JALIL, SRI PETALING
57000 KUALA LUMPUR**



MAJLIS SUKAN NEGARA MALAYSIA

Ke Arah Kecemerlangan Sukan

SURAT AKUAN PEMBIDA

Saya, No. Kad Pengenalan yang mewakili
(Nama Syarikat: 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/sebutharga* seperti di atas. Bersama ini dilampirkan Surat Perwakilan Kuasa bagi saya
mewakili syarikat seperti tercatat untuk membuat pengisytiharan ini.

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

Penarikan balik tawaran kontrak bagi tender/sebutharga* di atas; atau

Penamatan kontrak bagi tender/sebutharga* di atas; dan

Lain-lain tindakan tatatertib mengikut peraturan perolehan kerajaan yang berkuatkuasa.

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/sebutharga* seperti di atas, maka saya berjanji akan dengan segera melaporkan
perbuatan tersebut kepada Suruhanjaya Pencegahan Rasuah Malaysia (SPRM) atau balai
polis yang berhampiran.

Yang Benar

.....

Nama :

No. K/p:

Cop syarikat:

Catatan: i) *Potong mana yang tidak berkenaan.

ii) Surat akuan ini hendaklah dikemukakan bersama Surat Perwakilan Kuasa



No. Tawaran Sebutharga : _____
Nama Tawaran Sebutharga : _____

Tarikh Tutup : _____
Cadangan Tempoh Siap/Penyerahan : - : _____

BAHAWASANYA, saya mengaku bahawa butir-butir dan keterangan yang diberikan di bawah ini mengenai perniagaan/syarikat saya adalah betul dan benar, maka Kerajaan boleh mengambil apa-apa tindakan terhadap saya di bawah apa-apa undang-undang yang berkuatkuasa

1. **Maklumat Penyebutharga**

a) Nama Penyebutharga : _____
b) Nama Syarikat : _____
c) Alamat Syarikat / Penyebutharga : _____

d) Email (Wajib diisi) : _____
e) No. H/P : _____

2. **No. Pendaftaran Syarikat dengan Suruhanjaya Syarikat Malaysia (SSM) dan Kementerian Kewangan Malaysia (MOF)**

(Sila lampirkan Sijil)

3. **Taraf Syarikat** : Bumiputra / Bukan Bumiputra / Sendirian Berhad / Berhad/ Perkongsian/ Milikan Tunggal

4. **Jenis Perniagaan** : _____

5. **Bilangan Pekerja** : _____

a) Pengurusan

b) Profesional

c) Teknikal

d) Sokongan

6. **Maklumat Pemilik dan Pengurusan Syarikat**

a) Ahli-ahli Lembaga Pengarah

Nama	Jawatan	Peratus Pegangan Saham (%)

b) Ahli-ahli Pengurusan dan Profesional

Kategori Jawatan	Bilangan Pekerja
JUMLAH	

7. **Kedudukan Modal**

(a) Modal Dibenarkan :

(b) Modal Dibayar :

(sila lampirkan satu (1) salinan BAKI penyata akaun bank syarikat yang terkini)

(c) Kedudukan Saham Dalam Peratus

(i) Bumiputra : %
(ii) Bukan Bumiputra : %
(iii) Modal Asing (Foreign Investment) : %
(iv) Dalam Negeri : %

8. **Pengalaman Dalam Bekalan/Perkhidmatan/Kerja Yang Berkaitan**

Sila Senaraikan jenis bekalan/perkhidmatan/kerja dalam tempoh **tiga (3) tahun** terkini. (Jika ruang tidak mencukupi, sila sertakan lampiran).

Jenis Bekalan/ Perkhidmatan/Kerja	Nama Kerajaan/ Swasta	Nilai	Tempat	Tempoh/One Off

Saya akui bahawa butir-butir di atas adalah betul dan benar:

Tandatangan
Nama Penyebutbarga
Jawatan
Tarikh

Borang Tawaran Harga dan Borang Maklumat Penyebutbarga perlu cop syarikat dan ditandatangani oleh pihak syarikat.

Borang ini WAJIB diisi dengan LENGKAP dan sebarang kegagalan pengisian maklumat boleh menyebabkan tawaran sebutbarga terbatal

NOTA: Dokumen yang telah lengkap hendaklah di klip atau tebuk lubang 2 sahaja (JANGAN GUNA BINDING/PELEKAT)

**KERJA-KERJA MEMBAIKPULIH SERTA BERKAITAN DI KAFETERIA ATLET TIME
OUT MSN BUKIT JALIL, KUALA LUMPUR**

ISI KANDUNGAN

<u>NO</u>	<u>PERKARA</u>		<u>MUKA SURAT</u>
1	SENARAI SEMAKAN		SM/1-2
2	ARAHAN KEPADA PENYEBUTHARGA		Page 1 – Page 7
3	SURAT AKUAN PEMBIDA (SAP bertarikh 1 April 2010) LAMPIRAN A1		SAP/1
4	SYARAT-SYARAT SEBUT HARGA		Page 8 – Page 14
5	BORANG SEBUT HARGA		BSH/1
6	SENARAI KUANTITI		
7	SPESIFIKASI		A/1 – B/17
8	REKOD PENGALAMAN KERJA DALAM 5 TAHUN LEPAS – BORANG D		BRG-D/1
9	SENARAI KAKITANGAN TEKNIKAL – BORANG E		BRG-E/1
10	KEEMPUNYAAN LOJI DAN PERALATAN UTAMA – BORANG F		BRG-F/1
11	PRESTASI KERJA SEMASA a) BORANG G b) BORANG GA c) BORANG GA1		BRG-G/1 BRG-GA/1 BRG-GA1/1
12	SENARAI SUB-KONTRAKTOR PAKAR – BORANG H		BRG-E/1-2
13	LUKISAN TAPAK BINA		



No. Tawaran Sebutharga : _____
Nama Tawaran Sebutharga : _____

Tarikh Tutup : _____
Cadangan Tempoh Siap/Penyerahan : - : _____

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(Sila lampirkan Sijil)

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Milikan Tunggal

4. **Jenis Perniagaan** : _____

5. **Bilangan Pekerja** : _____

a) Pengurusan
b) Profesional
c) Teknikal
d) Sokongan

6. **Maklumat Pemilik dan Pengurusan Syarikat**

a) Ahli-ahli Lembaga Pengarah

Nama	Jawatan	Peratus Pegangan Saham (%)



MAJLIS SUKAN NEGARA MALAYSIA

Ke Arah Kecemerlangan Sukan

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Penamatan kontrak bagi tender/sebutharga* di atas; dan
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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/sebutharga* seperti di atas, maka saya berjanji akan dengan segera melaporkan
perbuatan tersebut kepada Suruhanjaya Pencegahan Rasuah Malaysia (SPRM) atau balai
polis yang berhampiran.

Yang Benar

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Nama :
No. K/p:
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Catatan: i) *Potong mana yang tidak berkenaan.
ii) Surat akuan ini hendaklah dikemukakan bersama Surat Perwakilan Kuasa

SENARAI SEMAKAN

SENARAI SEMAK

Sila Tandakan ☒ bagi Dokumen-dokumen yang disertakan.

Bil	Perkara/ Dokumen	Untuk di tanda oleh Syarikat	Untuk di tanda oleh Jawatankuasa Pembuka Sebut Harga
1	Salinan Sijil Perolehan Kerja Kerajaan (SPKK)		
2	Salinan Perakuan Pendaftaran Kontraktor (PPK)		
3	Salinan Sijil Taraf Bumiputera (STB) - PKK		
4	Salinan Penyata Akaun Bank (3 Bulan) Terkini Yang Disahkan Oleh Pihak Bank		
5	Borang Sebut Harga telah diisi dengan lengkap (termasuk nilai tawaran dan tempoh siap) dan ditandatangani oleh Penama seperti tertera dalam Sijil Pendaftaran dari CIDB/PKK (BSH/1)		
6	Ringkasan Sebut Harga telah diisi dengan lengkap (RSH/1)		
7	Senarai Kerja 5 tahun yang telah disiapkan (BRG-D/1)		
8	Senarai Kakitangan Teknikal (BRG-E/1)		
9	Senarai Keempunyaan Loji dan Peralatan Utama (BRG-F/1)		
10	Prestasi Kerja Semasa (BRG-G/GA/GA1)		
11	Senarai Sub-Kontraktor Pakar (BRG-H/1-2)		
12	Profil Syarikat (Lengkap dan Sempurna)		
13	Surat Akuan Pembida (Lampiran A1)		
14	Maklumat Penyebutharga		
15	Addenda Sebutharga (jika berkaitan)		
16	Lain-lain sekiranya ada:		

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 MAJLIS SUKAN NEGARA

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

Tandatangan:

Nama:

Jawatan:

Tarikh:

Tandatangan:

Nama:

Jawatan:

Tarikh:

ARAHAN KEPADA PENYEBUTHARGA

ARAHAN KEPADA PENYEBUT HARGA

1. HAK KERAJAAN UNTUK MENERIMA / MENOLAK SEBUT HARGA

Kerajaan adalah tidak terikat untuk menerima sebut harga yang terendah atau mana-mana sebut harga atau memberi apa-apa sebab di atas penolakan sesuatu sebut harga. Keputusan Jawatankuasa Sebut Harga adalah muktamad.

2. CARA-CARA MELENGKAPKAN DOKUMEN SEBUT HARGA

2.1. Penyediaan Sebut Harga

Kontraktor adalah dikehendaki mengisi dengan dakwat segala maklumat berikut dengan sepenuhnya:-

- (a) Harga dan tandatangan Kontraktor di Ringkasan Sebut Harga,
- (b) Harga, tempoh dan tandatangan dalam Borang Sebut Harga,
- (c) Senarai Kerja Dalam Tangan,
- (d) Senarai Kerja Pengalaman 5 Tahun,
- (e) Senarai Kakitangan Teknikal,
- (f) Senarai Loji dan Peralatan Utama,
- (g) Jadual Kadar Harga (jika ada),
- (h) Butir-butir Spesifikasi (jika ada),
- (i) Surat Akuan Pembida.
- (j) Jika berlaku kesilapan dalam mengisi maklumat-maklumat di atas Penyebut Harga hendaklah menandatangani ringkas semua pembetulan.
- (k) Kegagalan mengisi/menandatangani Borang Sebut Harga akan mengakibatkan Sebut Harga ditolak.
- (l) Sekiranya terdapat percanggahan di antara maklumat yang dinyatakan dalam Ringkasan Sebut Harga dan Borang Sebut Harga, maklumat di dalam Borang Sebut Harga diberi keutamaan.
- (m) Sekiranya Penyebut Harga didapati memberikan maklumat palsu atau sengaja menyorok atau tidak memberikan mana-mana maklumat yang memberikan kesan negatif terhadap keupayaannya, Sebut Harganya akan ditolak dan tindakan tatatertib akan diperakukan terhadapnya.

2.2. Dokumen-dokumen lain yang mesti dikemukakan **(Dokumen Wajib/Sokongan)**

- (a) Salinan Sijil Perolehan Kerja Kerajaan (SPKK)
- (b) Salinan Sijil Perakuan Pendaftaran Kontraktor (PPK)
- (c) Salinan Sijil Taraf Bumiputera (PKK)
- (d) Senarai sub-kontraktor pakar (jika berkaitan)

2.3. Penyerahan Dokumen Sebut Harga

- (a) Dokumen Sebut Harga yang telah diisi dengan lengkap hendaklah dimasukkan ke dalam sampul surat berlakri yang dicatatkan dengan bilangan Sebut Harga serta tajuk sebut harga dan hendaklah dimasukkan ke dalam peti sebut harga pada masa dan tempat yang ditetapkan dalam Notis Sebut Harga.
- (b) Jika Dokumen Sebut Harga tidak diserahkan dengan tangan, Penyebut Harga hendaklah menghantar Dokumen tersebut secara pos berdaftar supaya tiba pada atau sebelum masa dan di tempat yang ditetapkan seperti berikut :

**Lobi (Aras Bawah),
Majlis Sukan Negara Malaysia,
Kompleks Sukan Bukit Jalil,
Seri Petaling,
57000 Kuala Lumpur**

sebelum jam 12.00 tengahari

- (c) Sebut Harga yang diserahkan selepas masa yang ditetapkan, berbangkit atas sebarang sebab, tidak akan dipertimbangkan.

2.4. Penjelasan Lanjut

Sekiranya terdapat maklumat dalam Dokumen Sebut Harga yang tidak jelas atau bercanggah, Penyebut Harga boleh menghubungi pejabat yang menjual/mengeluarkan Dokumen Sebut Harga untuk penjelasan lanjut.

2.5. Tandatangan Oleh Penyebutharga

Sebutharga hendaklah ditandatangani oleh pegawai yang ditauliahkan oleh syarikat seperti penama yang dinyatakan dalam Sijil Perolehan Kerja Kerajaan (SPKK) yang dikeluarkan oleh CIDB, Pusat Khidmat Kontraktor (PKK) atau PUKONSA/ UPKJ yang mana berkenaan.

3. TEMPOH SIAP KERJA

Kerja ini hendaklah disiapkan dalam tempoh tidak melebihi **12 Minggu**. Mana penyebut harga yang menawarkan tempoh siap kerja melebihi tempoh siap kerja maksimum yang ditetapkan tidak akan dipertimbangkan.

4. BAYARAN DOKUMEN SEBUT HARGA

* Dokumen Sebut Harga ini adalah **PERCUMA** atau;

~~* Dokumen Sebut Harga ini dijual dengan harga RM..... (Ringgit Malaysia :
..... sahaja)~~

Note

* Potong tidak berkenaan

5. PERBELANJAAN PENYEDIAAN SEBUT HARGA

Semua Perbelanjaan bagi penyediaan sebut harga ini hendaklah ditanggung oleh Penyebut Harga sendiri.

6. TEMPOH SAH SEBUT HARGA

Sebut Harga ini sah selama sembilan puluh (90) hari dari tarikh tutup sebut harga. Penyebut harga tidak boleh menarik balik sebut harganya sebelum tamat tempoh sah sebut harga. Tindakan tatatertib akan diambil sekiranya penyebut harga menarik balik sebut harganya sebelum tamat sah sebut harga. Laporan mengenai penarikan balik Sebut Harga oleh penyebut harga akan dikemukakan kepada CIDB/BPKU untuk tindakan.

7. PELAKSANAAN INTEGRITY PACT DALAM PEROLEHAN KERAJAAN

Penyebut harga wajib mengemukakan **Surat Akuan Pembida** bersama-sama dengan Dokumen Sebutharga di mana penyebut harga berwaad untuk tidak akan menawarkan atau memberi rasuah kepada mana-mana individu lain sebagai sogokan untuk dipilih dalam sebut harga tersebut. Surat Akuan Pembida ini hendaklah dilengkapkan dan ditandatangani oleh Pegawai Syarikat yang ditauliahkan.

Surat Akuan Pembida tersebut adalah menjadi salah satu dokumen mandatori dalam penilaian sebut harga peringkat pertama. Sekiranya penyebut harga gagal mengemukakan **Surat Akuan Pembida** yang telah dilengkapkan dan ditandatangani, penyebut harga tersebut akan dinilai sebagai gagal dalam penilaian peringkat pertama (gagal kriteria mandatori sebut harga) dan penilaian seterusnya tidak akan dilaksanakan.

Penyebut harga yang berjaya wajib mengemukakan **Surat Akuan Pembida Berjaya** beserta dengan Borang Perjanjian Inden Kerja/Surat Setuju Terima yang telah ditandatangani di mana ia berwaad tidak akan memberi rasuah sebagai ganjaran kerana mendapatkan kontrak. Surat Akuan ini akan menjadi sebahagian daripada Kontrak.

Pemalsuan maklumat dokumen dan rekod untuk mengaburi penilaian perolehan adalah kesalahan jenayah dan boleh disabitkan di bawah Kanun Keseksaan (Akta 574).

8. DASAR CUKAI JUALAN DAN CUKAI PERKHIDMATAN (CJCP)

Kerajaan memutuskan untuk melaksanakan Cukai Jualan dan Cukai Perkhidmatan (CJCP) bagi menggantikan Cukai Barang dan Perkhidmatan (GST) mulai 1 September 2018 berdasarkan Akta Cukai Jualan 2018 [Akta 806] dan Akta Cukai Perkhidmatan 2018 [Akta 807].

Akta Cukai Jualan 2018 [Akta 806] dan Akta Cukai Perkhidmatan 2018 [Akta 807] telah berkuat kuasa mulai 1 September 2018. Selaras dengan peruntukan dalam Akta tersebut, perolehan kerja pembinaan tidak dikenakan Cukai Perkhidmatan. Bagi perolehan kerja lain antaranya pengurusan fasiliti dan lain-lain, Agensi Kerajaan hendaklah merujuk kepada Jadual Pertama di bawah Peraturan Cukai Perkhidmatan 2018 dan peraturan semasa yang berkuat kuasa.

Agensi Kerajaan hendaklah menggunakan anggaran jabatan tanpa kenaan CJCP untuk menentukan kaedah perolehan.

Bagi pengeluaran Surat Setuju Terima (SST), Agensi hendaklah merujuk kepada 1PP/PK4.2 atau pekeliling berkaitan SST yang berkuat kuasa.

Bagi memastikan urusan perolehan dan pembayaran dapat dilaksanakan dengan lancar selaras dengan perkembangan dan peraturan terkini, satu panduan perlu disediakan.

9. PERINGATAN MENGENAI KESALAHAN RASUAH

Semua Penyebut Harga adalah diingatkan supaya tidak terlibat dalam aktiviti jenayah rasuah berkaitan dengan perolehan ini. Sehubungan dengan itu, para Penyebut Harga diberi peringatan berikut:

- 9.1 Sebarang perbuatan 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 satu kesalahan jenayah di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).
- 9.2 Sekiranya mana-mana pihak ada menawar atau memberi apa-apa suapan kepada mana-mana anggota perkhidmatan awam, maka pihak yang ditawarkan atau diberi suapan dikehendaki membuat aduan dengan segera ke pejabat Suruhanjaya Pencegahan Rasuah atau balai polis yang berhampiran. Kegagalan berbuat demikian adalah merupakan suatu kesalahan di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).
- 9.3 Tanpa prejudis kepada tindakan-tindakan lain, tindakan tatatertib terhadap anggota perkhidmatan awam dan menyenaraihitamkan Kontraktor boleh diambil sekiranya pihak-pihak terlibat dengan kesalahan rasuah di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).
- 9.4 Mana-mana Kontraktor yang membuat tuntutan bayaran berkaitan perolehan ini walaupun tiada kerja dibuat mengikut spesifikasi yang ditetapkan dan mana-mana anggota perkhidmatan awam yang mengesahkan tuntutan berkenaan adalah melakukan kesalahan di bawah Akta Suruhanjaya Pencegahan Rasuah Malaysia 2009 (Akta 694).

10. PEMATUHAN AKTA 342 DAN NORMA BAHARU DALAM SEKTOR PEMBINAAN DAN DALAM MENANGANI EPIDEMIK DAN PANDEMIK COVID 19

- 10.1 Penyebutharga yang berjaya dikehendaki mematuhi Akta Pencegahan dan Pengawalan Penyakit Berjangkit 1988 (Akta 342) dan semua Garis Panduan dan Prosedur Operasi Piawai yang berkaitan dalam menangani Epidemik dan Pandemik seperti wabak Covid 19 yang dikeluarkan oleh Kementerian Kesihatan Malaysia, CIDB dan Jabatan Kerja Raya Malaysia.
- 10.2 Penyebutharga dikehendaki mengambilkira dalam harga tawaran untuk pematuhan perkara 60.1.
- 10.3 Kegagalan mematuhi Akta, Garis Panduan dan Prosedur Operasi Piawai yang telah ditetapkan menyebabkan tindakan boleh di ambil oleh agensi agensi yang berkenaan dan sebarang tuntutan akibat tindakan ini tidak akan dipertimbangkan

11. ADDENDA SEBUTHARGA

- 11.1 Sebelum tarikh akhir bagi penyerahan sebutharga, Jabatan/Agensi boleh mengeluarkan Addenda Sebutharga untuk menerangkan, membetulkan, mengurangkan atau membuat tambahan mana-mana bahagian Kandungan dokumen sebutharga. Semua Addenda Sebutharga akan dikeluarkan secara rasmi kepada semua penyebutharga melalui Jabatan/Agensi yang memanggil sebutharga.
- 11.2 Setiap Addenda Sebutharga yang dikeluarkan akan diedarkan kepada semua penyebutharga dan akan menjadi sebahagian daripada dokumen sebutharga. Penerimaan setiap Addenda Sebutharga hendaklah diakui melalui Borang Bukti Penerimaan yang disertakan bersama-sama Addenda Sebutharga. Borang Bukti Penerimaan bagi Addenda Sebutharga yang terlibat hendaklah dikembalikan bersama-sama dengan dokumen sebutharga bagi tujuan penilaian dan tindakan selanjutnya. Ianya menjadi sebahagian daripada syarat wajib dalam proses penilaian sebutharga yang dilakukan. Kegagalan berbuat demikian boleh menyebabkan sebutharga berkenaan ditolak.
- 11.3 Penyebutharga hendaklah juga mengesahkan penerimaan semua Addenda Sebutharga yang dikeluarkan dalam Senarai Semakan Mengemukakan Sebutharga. Kegagalan berbuat demikian boleh menyebabkan sebutharga berkenaan ditolak. Semua Addenda Sebutharga yang dikeluarkan adalah menjadi sebahagian dari Kontrak.
- 11.4 Penyebutharga hendaklah mengambil tindakan sewajarnya terhadap apa-apa maklumat atau arahan yang dinyatakan dalam Addenda Sebutharga.

12. HARGA INDIKATIF JABATAN

- 12.1 Harga Indikatif Jabatan bagi sebutharga ini adalah Ringgit Malaysia : **TIGA RATUS SEPULUH RIBU SAHAJA (RM310,000.00)**
- 12.2 Harga Indikatif Jabatan ini merupakan suatu anggaran sahaja dan amaun tersebut tidak mengikat Kerajaan atau mana-mana pihak lain juga bagi maksud mengelakkan kekeliruan yang mungkin berbangkit.
- 12.3 Pihak Kerajaan tidak menjamin bahawa syarikat akan dipilih atau boleh menyiapkan kerja dengan bersandarkan Harga Indikatif Jabatan.

SURAT AKUAN PEMBIDA

SURAT AKUAN PEMBIDA

Bagi

**KERJA-KERJA MEMBAIKPULIH SERTA BERKAITAN DI KAFETERIA ATLET
TIME OUT MSN BUKIT JALIL, KUALA LUMPUR**

NO SEBUTHARGA :

Saya, nombor K.P.....yang mewakili
.....nombor
Pendaftaran.....atau mana-mana individu yang mewakili syarikat ini
tidak akan menawar atau memberi rasuah kepada mana-mana individu dalam
MAJLIS SUKAN NEGARA atau mana-mana individu lain, sebagai sokongan untuk
dipilih dalam 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 **MAJLIS
SUKAN NEGARA** atau mana-mana individu lain sebagai sogokan untuk dipilih
dalam Sebut Harga seperti di atas, maka saya sebagai wakil syarikat bersetuju
tindakan-tindakan berikut diambil:

- 2.1 Penarikan balik tawaran kontrak bagi Sebut Harga di atas ; atau
- 2.2 Penamatan kontrak bagi Sebut Harga di atas;
- 2.3 Disabitkan dibawah Kanun Keseksaan (Akta 574); dan
- 2.4 Tindakan tatatertib lain 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 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.K.P :

Cop Syarikat :

SYARAT² SEBUT HARGA

SYARAT-SYARAT SEBUT HARGA

1. PEMERIKSAAN TAPAK BINA

Kontraktor disifatkan telah memeriksa dan meneliti tapak bina dan sekitarnya, bentuk dan jenis tapak bina, takat dan jenis kerja, bahan dan barang yang perlu bagi menyiapkan kerja, cara-cara perhubungan dan laluan masuk ke tapak bina dan hendaklah mendapatkan sendiri segala maklumat yang perlu tentang risiko, luar jangkaan dan segala hal-keadaan yang mempengaruhi dan menjejaskan sebut harganya. Sebarang tuntutan yang timbul akibat daripada kegagalan Kontraktor mematuhi kehendak ini tidak akan dipertimbangkan.

2. INSURANS

- 2.1. Kontraktor hendaklah atas nama bersama Kerajaan dan Kontraktor mengambil Insurans Liabiliti Awam dan Insurans Kerja (sekiranya dinyatakan di dalam Butir-butir Ringkasan Sebut Harga) bagi tempoh pelaksanaan Kerja termasuk tempoh kecacatan dan ditambah tiga (3) bulan dan empat belas (14) hari. Kontraktor hendaklah juga mengemukakan Nombor Kod Pendaftaran dengan PERKESO.
- 2.2. Kontraktor hendaklah mengemukakan kepada Pegawai Inden semua polisi insurans dan Nombor Kod Pendaftaran dengan PERKESO yang tersebut di atas sebelum memulakan Kerja. Bagaimanapun untuk tujuan memulakan Kerja sahaja Nota-nota Perlindungan dan resit-resit bayaran premium adalah mencukupi. Sekiranya Kontraktor gagal mengemukakan semua polisi insurans selepas tempoh sah nota-nota perlindungan, tanpa sebarang sebab yang munasabah, Pegawai Inden berhak mengambil tindakan.

3. BON PELAKSANAAN

Bon Pelaksanaan dikecualikan bagi perolehan yang bernilai sehingga **RM200,000.00.**

4. PERATURAN PERLAKSANAAN KERJA

- 4.1. Kerja-kerja yang dilaksanakan hendaklah mematuhi Spesifikasi, pelan-pelan, butir-butir kerja dalam Ringkasan Sebut Harga dan Syarat-syarat yang dinyatakan dalam Dokumen Sebut Harga ini dan Pegawai Inden atau Wakilnya.

-
- 4.2. Kerja-kerja elektrik yang dilaksanakan di samping mematuhi kehendak di perenggan 4.1 di atas, hendaklah juga mematuhi semua peraturan dan pekeliling, undang-undang dan undang-undang kecil yang diluluskan oleh:

- 4.2.1. Suruhanjaya Tenaga
- 4.2.2. Jabatan Keselamatan Pekerjaan dan Kesihatan (JKKP)
- 4.2.3. Pemegang Lesen dan Pihak Berkuasa Bekalan Elektrik
- 4.2.4. Jabatan Bomba dan Penyelamat
- 4.2.5. Pihak Berkuasa Tempatan
- 4.2.6. Suruhanjaya Pengurusan Air Negara (SPAN)

5. 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-sebab yang munasabah, Inden akan dibatalkan oleh Pegawai Inden dan tindakan tatatertib akan diambil terhadap kontraktor.

6. SUB-SEWA DAN MENYERAH HAK KERJA

Kontraktor tidak dibenarkan mengsub-sewakan Kerja kepada Kontraktor-kontraktor lain. Kontraktor tidak boleh menyerah hak apa-apa faedah di bawah Inden ini tanpa terlebih dahulu mendapatkan persetujuan bertulis daripada Pegawai Inden.

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

- 7.1. Pegawai Inden atau Wakilnya berhak menolak bahan, barang dan mutu hasil kerja dari jenis piawaian yang 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.
- 7.2. Kontraktor hendaklah dengan sepenuhnya atas perbelanjaan sendiri menyediakan sampel bahan dan barang-barang untuk ujian.
- 7.3. Tiada penggantian untuk peralatan, bahan dan cara kerja yang telah ditentukan di dalam spesifikasi atau ditawarkan dan telah diterima, dibenarkan kecuali mendapat persetujuan daripada Pegawai Inden secara bertulis.

8. RINGKASAN SEBUT HARGA

- 8.1. Ringkasan Sebut Harga hendaklah menjadi sebahagian daripada Borang Sebut Harga ini dan hendaklah menjadi asas Jumlah Harga Sebut Harga.
- 8.2. Harga-harga dalam Ringkasan Sebut Harga hendaklah mengambil kira semua kos termasuk kos pengangkutan, cukai, duti, levi, bayaran dan caj-caj lain yang perlu dan berkaitan bagi penyiapan Kerja dengan sempurnanya.
- 8.3. 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 sebut harga atau dalam tempoh Kerja.
- 8.4. Harga-harga dalam ringkasan Sebut Harga yang dikemukakan oleh Kontraktor hendaklah tertakluk kepada persetujuan sebelumnya Itu daripada Pegawai Inden tentang kemunasabahannya. Persetujuan sebelumnya itu dan apa-apa pelarasan kemudiannya kepada harga-harga dalam Ringkasan Sebut Harga hendaklah dibuat sebelum Inden Kerajaan dikeluarkan.
- 8.5. Apa-apa pelarasan harga dalam Ringkasan Sebut Harga menurut perenggan 8.4 tersebut di atas dan apa-apa kesilapan hisab dalam Ringkasan Sebut Harga hendaklah dilaraskan dan diperbetulkan sebelum Inden Kerajaan 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.
- 8.6. **Sekiranya sebut harga berasaskan senarai kuantiti sementara, pengukuran semula hendaklah dibuat dan harga sebut harga diselaraskan.**

9. PERCANGGAHAN DAN KECUKUPAN DOKUMEN SEBUT HARGA

- 9.1. Borang Perjanjian Inden Kerja, Surat Akuan Pembida Berjaya yang ditandatangani oleh Kontraktor dan Dokumen Sebut Harga hendaklah disifatkan menjadi dan dibaca serta ditafsirkan sebagai sebahagian daripada Kontrak ini.
- 9.2. 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 hendaklah difahamkan dengan munasabahannya dari Dokumen Sebut Harga itu.

-
- 9.3. Jika Kontraktor mendapati apa-apa percanggahan dalam Dokumen Sebut Harga dia hendaklah merujuk kepada Pegawai Inden untuk mendapatkan keputusan.

10. 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) Kontraktor masih gagal menyiapkan Kerja dalam tempoh masa yang telah ditetapkan;
- (b) Kemajuan Kerja terlalu lembap di mana Kontraktor didapati gagal menjalankan kerja dengan tekun dan teratur 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) Pegawai Inden berhak membatalkan Inden sekiranya Kontraktor diisytiharkan bankrap oleh pihak yang sah.

~~11. BAYARAN PENDAHULUAN~~

~~Bayaran pendahuluan dibenarkan bagi kontrak yang bernilai melebihi RM 200,000.00 hingga RM 500,000.00~~

12. BAYARAN INTERIM/ KEMAJUAN

Pegawai Inden dibenarkan membuat bayaran interim sehingga kerja-kerja siap dilaksanakan.

13. KERJA PERUBAHAN

- 13.1. Pegawai Inden boleh menurut budi bicaranya mengeluarkan arahan-arahan yang berkehendakkan sesuatu perubahan kerja dengan secara bertulis. Tiada apa-apa perubahan yang dikeluarkan oleh Pegawai Inden atau yang disahkan kemudian oleh Pegawai Inden boleh membatalkan Sebut Harga ini.
- 13.2. Semua kerja perubahan dan/ atau tambahan yang diluluskan oleh Pegawai Inden akan diukur atau dinilai dengan menggunakan kadar harga yang ada dalam Senarai Kuantiti/ Ringkasan Sebut Harga. Jika tidak terdapat sebarang kadar harga yang bersesuaian, kadar harga yang dipersetujui oleh Pegawai Inden dan Kontraktor hendaklah digunakan.

14. PENGUKURAN KUANTITI SEMENTARA

Setelah kerja-kerja yang melibatkan Kuantiti Sementara disiapkan di tapak, pengukuran semula kuantiti hendaklah dibuat secara bersama.

15. LANJUTAN MASA

Pelanjutan masa adalah tertakluk kepada Jawatankuasa Sebut Harga terlebih dahulu.

16. TEMPOH TANGGUNGAN KECACATAN (DLP)

- 16.1. Tempoh Tanggungan Kecacatan bagi sebut harga hendaklah sekurang-kurangnya enam (6) bulan dari tarikh kerja diperakukan siap. Bagi kerja-kerja mekanikal dan elektrik di mana tempoh waranti ke atas alat-alat dan loji-loji adalah dua belas (12) bulan dan dalam kes-kes tertentu oleh sebab jenis dan kerumitan kerja, tempoh tanggungan kecacatan yang lebih lama daripada enam bulan (6) boleh dikenakan.
- 16.2. Kontraktor dipertanggungjawabkan untuk memperbaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain seperti 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 memperbaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain atas Kos Kontraktor sendiri.

-
- 16.3. Sekiranya Kontraktor gagal memperbaiki kecacatan, ketidaksempurnaan, kekecutan atau apa-apa jua kerosakan lain seperti yang diarahkan, Pegawai Inden berhak memotong kos memperbaiki dari baki wang yang akan dibayar kepada kontraktor atau, jika baki itu tiada mencukupi, mengeluarkan surat pengesyoran kepada Lembaga Pembangunan Industri Pembinaan Malaysia (CIDB) dan Pusat Khidmat Kontraktor (PKK) untuk menggantungkan pendaftaran Kontraktor, dan menghantar salinan-salinan tersebut kepada Pengarah Kerja Raya Negeri/ Ketua Jabatan, Bahagian Pembangunan Bumiputera, Kementerian Kerja Raya dan Lembaga Pembangunan Industri Pembinaan. Bagi Kerja-kerja elektrik/ mekanikal, salinan surat hendaklah dihantar kepada Pengarah Cawangan Kerja Elektrikal/ Pengarah Cawangan Kerja Mekanikal.
- 16.4. Tempoh tanggungan liabiliti kecacatan (DLP) sepertimana yang dinyatakan pada Surat Irian Kepada Inden Kerajaan/Surat Setuju Terima iaitu bermula dari tarikh diambil milik dan penyerahan projek.

17. PERATURAN MEMBAYAR SELEPAS SIAP

Bayaran sepenuhnya hanya akan dibayar setelah kontraktor menyiapkan kerja dengan sempurna dan Perakuan Siap Kerja dikeluarkan. Walaubagaimanapun Pegawai Inden hendaklah membuat potongan atau menahan sejumlah amaun dari wang yang akan dibayar kepada Kontraktor sebagai kos untuk memperbaiki apa-apa kecacatan yang tidak dapat dibaiki oleh Kontraktor di dalam tempoh tanggungan kecacatan. Kontraktor hendaklah mengembalikan Inden Kerajaan (Pelaksanaan Kerja) dan Inden Kerajaan (Penyiapan Kerja) sepertimana yang telah ditetapkan dalam Pekeliling Perbendaharaan Malaysia (PK 4.2) kepada Pegawai Inden.

18. PERAKUAN SIAP KERJA

Pegawai Inden hendaklah mengeluarkan Perakuan Siap Kerja sebaik sahaja kerja disiapkan dengan sempurna dan memuaskan sejajar dengan syarat-syarat Dalam Dokumen Sebut Harga. Tempoh Tanggungan Kecacatan bermula daripada tarikh siap kerja.

19. 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.

20. 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.

21. PENAMATAN BERSABIT RASUAH, AKTIVITI MENYALAH UNDANG-UNDANG ATAU AKTIVITI HARAM

Tanpa menjejaskan apa-apa hak Kerajaan yang lain, jika kontraktor, personel, kakitangan atau pekerja disabitkan bersalah oleh mahkamah kerana rasuah atau aktiviti menyalahi undang-undang atau aktiviti haram yang berkait dengan Perjanjian/ Kontrak ini atau mana-mana perjanjian lain yang Kontraktor mungkin ada dengan Kerajaan, Kerajaan berhak untuk menamatkan Perjanjian / Kontrak ini pada bila-bila masa, dengan memberi notis bertulis dengan segera yang membawa maksud sedemikian kepada Kontraktor.

Setelah penamatan tersebut, Kerajaan berhak terhadap semua kerugian, kos, ganti rugi dan perbelanjaan (termasuk apa-apa kos dan perbelanjaan sampingan) yang ditanggung oleh Kerajaan yang timbul daripada penamatan tersebut.

Bagi mengelakkan keraguan, kedua-dua pihak Kerajaan dan Kontraktor bersetuju bahawa Kontraktor tidak layak terhadap sebarang bentuk kerugian termasuk kehilangan keuntungan, ganti rugi, tuntutan atau apa sekalipun setelah penamatan Kontrak ini.

22. PERAKUAN KERJA TIDAK SIAP

Pegawai Inden hendaklah mengeluarkan Perakuan Kerja Tidak Siap apabila penyediaan Kerja didapati telah terlambat dan sebab kelambatan tidak melayakkan Kontraktor mendapat lanjutan masa, maka kerugian atau ganti rugi yang dialami oleh Kerajaan akibat daripada kelambatan tersebut adalah ditanggung oleh Kontraktor. Kerugian atau ganti rugi yang dialami oleh Kerajaan akan diperolehi semula daripada Kontraktor melalui Ganti Rugi Tertentu dan Ditetapkan.

23. KENAAN DENDA/TOLAKAN/ *LIQUIDATED AND ASCERTAINED DAMAGE* (LAD) BAGI SEBUT HARGA KERJA

Kelewatan dalam menyiapkan projek boleh menyebabkan peningkatan kos projek. Jika syarikat gagal memenuhi obligasi kontrak, denda/ganti rugi hendaklah dituntut daripada syarikat. Jika syarikat gagal membayarnya, denda/ganti rugi hendaklah dituntut daripada bayaran kemajuan atau daripada sebarang baki bayaran yang syarikat berhak menerima.

*** Pengenalan LAD boleh ditetapkan berdasarkan formula seperti berikut :**

$$\text{LAD} = \frac{\text{Base Landing Rate (BLR)}}{100} \times \frac{\text{Harga Kontrak}}{365 \text{ (hari)}}$$

* '*Prime Rate*' yang dikeluarkan oleh mana-mana bank perdagangan

BORANG SEBUT HARGA

BORANG SEBUTHARGA

Sebutharga Bil :

BAHAGIAN KEWANGAN

MAJLIS SUKAN NEGARA

KOMPLEKS SUKAN BUKIT JALIL

SERI PETALING

57000 KUALA LUMPUR

MALAYSIA

Tuan,

Sebut Harga untuk :-

KERJA-KERJA MEMBAIKPULIH SERTA BERKAITAN DI KAFETERIA ATLET TIME OUT MSN BUKIT JALIL, KUALA LUMPUR

Di bawah dan tertakluk kepada Arahan Kepada Penyebut Harga, Syarat-syarat Sebutharga untuk kerja, Spesifikasi Kerja dan Lukisan, saya yang bertandatangan di bawah ini adalah dengan ini menawarkan untuk melaksanakan dan menyiapkan kerja-kerja tersebut bagi jumlah harga pukal sebanyak Ringgit Malaysia:

.....
.....(RM)

2. Saya bersetuju menyiapkan kerja-kerja ini dalam masa
minggu dari tarikh mula kerja seperti yang ditetapkan di bawah Perenggan 2 Borang Perjanjian Inden Kerajaan.

Bertarikh pada haribulan 20.....

.....
(Tandatangan Kontraktor)

Nama Penuh :

No. K/P :

Alamat :

.....

.....

Atas sifat :

.....
(Tandatangan Saksi)

Nama Penuh :

No. K/P :

Alamat :

.....

.....

.....
Meteri atau Cap Kontraktor

SENARAI KUANTITI

RINGKASAN SEBUTHARGA

BIL	SPESIFIKASI KERJA	JUMLAH	
		RM	SEN
1.	KERJA-KERJA MEMBAIKPULIH SERTA BERKAITAN DI KAFETERIA ATLET TIME OUT MSN BUKIT JALIL, KUALA LUMPUR		
	1.KERJA-KERJA AWALAN		
	2.KERJA-KERJA PENGUBAHSUAIAN		
	3.SILING DAN KEMASAN SILING		
	4.DINDING DAN KEMASAN DINDING		
	5.KEMASAN LANTAI		
	6.PINTU DAN PERALATAN (<i>IRONMONGERY</i>)		
	7.' <i>BUILT IN FITTINGS</i> '		
	8.KERJA MEKANIKAL		
	9.KERJA ELEKTRIK		
	JUMLAH KESELURUHAN		
Ringgit Malaysia :			

Tandatangan Penyebutharga

Tandatangan Saksi

Nama Penyebutharga

Nama Saksi

No. K/P Penyebutharga

No. K/P Saksi

Jawatan

Jawatan

Cop Syarikat

Alamat:

Alamat:

Telephone :

Facsimile :

E-Mail :

Tarikh :

Telephone :

Facsimile :

E-Mail :

Tarikh :

PERHATIAN :

Sebarang pertanyaan boleh dimajukan kepada ;

MUHAMAD FAEZAL MD NOH
(Bahagian Fasiliti Sukan)
Tel : 03-89929600/89929837
Fax : 03-90583380

Nota :

1. Kontraktor dinasihatkan melihat sendiri tapak cadangan untuk mengetahui selok-belok kerja.
2. Harga tawaran sah selama 3 bulan dari tarikh tutup panggilan sebutharga dibuat.
3. Bersama-sama ini juga sila lampirkan profile syarikat untuk rujukan.
4. Majlis tidak terikat dengan mana-mana sebutharga yang terendah.

.....
(Tandatangan Kontraktor)

Nama : _____
Cop/Alamat : _____

No. Tel. : _____
No. Fax. : _____

**KERJA-KERJA MEMBAIKPULIH SERTA BERKAITAN DI KAFETERIA ATLET TIME OUT
MSN BUKIT JALIL, KUALA LUMPUR**

BIL	BUTIRAN KERJA	UNIT	KUANTITI	KADAR HARGA (RM) / KUANTITI	JUMLAH (RM)
1.	<u>KERJA-KERJA AWALAN</u>				
1.1	Kerja-kerja permulaan (Preliminaries) mengikut spesifikasi am, spesifikasi tambahan termasuk Insurans Tanggungan Awam, Insurans Kerja, Insurans Pampasan Kerja dengan membayar premium atau nombor pendaftaran PERKESO bagi semua pekerja.	Pukal	Pukal		
1.2	Menyediakan pekerja, peralatan keselamatan dan kebersihan semasa kerja-kerja sedang dijalankan seperti tali-tali halangan, kon, tanda amaran dan tali merah-putih sehingga kerja-kerja disiapkan mengikut arahan Pegawai Penguasa.	Pukal	Pukal		
1.3	Menyediakan laporan foto kemajuan kerja (sebelum, semasa dan selepas) sebanyak dua (2) set berwarna pada setiap tuntutan bayaran (Hard copy & soft copy – dalam thumb drive).	Pukal	Pukal		
1.4	Mengadakan dan menyediakan tong sampah mudah alih menggunakan lori mengikut kesesuaian tapak bagi menampung kapasiti sampah agar kebersihan tapak adalah sentiasa terjamin. Sampah sarap ini perlu dibawa keluar daripada tapak bina yang diluluskan oleh pihak berkuasa tempatan apabila penuh atau di atas arahan Pegawai Penguasa.	Pukal	Pukal		
1.5	Pihak kontraktor mestilah memindahkan segala peralatan sedia ada ke kawasan yang sesuai dan memindahkan semula termasuk kemasan ke tempat yang diarahkan oleh pihak MSNM	Pukal	Pukal		
2.	<u>KERJA PENGUBAHSUAIAN</u>				
2.1	Membekal bahan binaan dan pekerja untuk kerja meroboh (<i>Hacking</i>) kaunter bufet, kawasan berkaitan dan ruang M&E sediaada. (Anggaran keluasan : 1,400 K/p)	Pukal	Pukal		
3.	<u>SILING DAN KEMASAN SILING</u>				
3.1	Kerja menanggal kepingan asal siling yang rosak untuk menerima kemasan siling baharu di ruang memasak terbuka. (Sistem ekzos baharu akan dipasang)	K/p	800		
3.2	Membaikpulih permukaan siling dan memasang struktur baharu siling	K/p	800		
3.3	Kerja mengecat pada siling baharu	K/p	800		
3.4	Kerja mengecat pada siling dan lantai yang diubahsuai	Pukal	Pukal		

BIL	BUTIRAN KERJA	UNIT	KUANTITI	KADAR HARGA (RM) / KUANTITI	JUMLAH (RM)
4.	<u>DINDING DAN KEMASAN DINDING</u>				
4.1	Kerja memperbaiki dinding dan pintu termasuk :-				
4.1.1	Kerja melepa dan mengecat semula	Pukal	Pukal		
4.1.2	Kerja memasang jubin dinding, mengganti jubin rosak dan membaikpulihan dinding yang mengelupas	Pukal	Pukal		
4.2	Kerja mengecat dinding bahagian dalaman	Pukal	Pukal		
4.3	Kerja mengganti dinding kaca berwarna yang pecah kepada warna kaca asal. (Ketepatan warna adalah tidak sekata)	M2	12		
5.	<u>KEMASAN LANTAI</u>				
5.1	Kerja memperbaiki dan membaikpulihan jubin lantai, mengganti dan membaikpulihan kepingan jubin yang rosak atau retak	Pukal	Pukal		
5.2	Memasang jubin penamat (<i>Termination tiles</i>) pada sekeliling kaunter bufet yang baharu	Pukal	Pukal		
6.	<u>PINTU DAN PERALATAN (IRONMONGERY)</u>				
6.1	Memasang, memperbaiki dan mengganti lapisan pintu sediada (pintu dua daun)	No.	2		
7.	<u>'BUILT IN FITTINGS'</u>				
7.1	Paparan Hidangan Panas dengan Masakan Terbuka				
	Menukar reka bentuk baru dengan struktur keluli tahan karat (SS) dan lengkap dengan sistem pintu, rangka SS, penutup papan culaka 16mm tebal, dan kemasan laminat pilihan. Bahagian atas, penutup sisi, dan penutup dengan kemasan kuartz pilihan, lengkap dengan kompartmen pinggan dan sistem pencahayaan. (Anggaran : 4030 x 1,110mm (D) x 900mm (H))				
7.1.1	Struktur dengan rangka keluli tahan karat (SS) dan bata	Set	2		
7.1.2	Penutup batu ' <i>Kuartz</i> ' pilihan termasuk kompartmen untuk pinggan	M2	5.7		
7.1.3	Sistem pencahayaan LED dengan pemacu kuasa, (Anggaran panjang : 5 meter bagi setiap kaunter)	Set	2		
7.1.4	Pintu kabinet dengan rangka keluli tahan karat (SS) dan papan celuka yang dilaminat pilihan serta barang hiasan.	Pukal	2		
7.1.5	Dapur gas 2 ring dengan ' <i>Reset</i> '	Set	1		

BIL	BUTIRAN KERJA	UNIT	KUANTITI	KADAR HARGA (RM) / KUANTITI	JUMLAH (RM)
7.1.6	Pemasak induksi 300mm dimensi 3Kw yang dibina untuk memanaskan makanan	No.	2		
7.1.7	Hood keluli tahan karat (SS) (Anggaran saiz : 1200 x 300 x 600mm)	Unit	1		
7.1.8	Penutup batu 'Kuartz' pilihan termasuk 'Compartmen' untuk pinggan	Set	2		
7.1.9	Pemasangan semula perkhidmatan 'Banmarie' sedia ada 2 unit	Pukal	1		
7.1.10	Penutup 'Hood' dengan kerja tukang kayu terpilih, digantung dari siling, 1 set, dan satu set dummy (Anggaran saiz : 2000 x 800 x 500mm (tinggi))	Set	2		
7.2	Kawasan Paparan Pastro dan Hidangan Sejuk Menukar reka bentuk baru dengan struktur keluli tahan karat (SS) dan lengkap dengan sistem pintu, rangka SS, penutup papan culaka 16mm tebal, dan kemasan laminat pilihan. Bahagian atas, penutup sisi, dan penutup dengan kemasan kuartz pilihan, lengkap dengan kompartmen pinggan dan sistem pencahayaan. (Anggaran : 5610 x 1210mm (D) x 900mm (H).)				
7.2.1	Struktur dengan rangka keluli tahan karat (SS) dan bata	Set	1		
7.2.2	Penutup batu kuartz pilihan termasuk kompartmen untuk pinggan	M2	20.7		
7.2.3	Sistem pencahayaan LED dengan pemacu kuasa, (Anggaran panjang : 5 meter bagi setiap kaunter)	Set	2		
7.2.4	Pintu kabinet dengan rangka keluli tahan karat (SS) dan papan celuka yang dilaminat pilihan serta barang hiasan.	Pukal	Pukal		
7.2.5	Pemasangan semula dan penyelenggaraan pemanas sup sedia ada, 2 unit	Pukal	Pukal		
7.2.6	Pemasangan semula dan penyelenggaraan chiller sedia ada.	Pukal	Pukal		
7.2.7	Penutup kompartmen pinggan dengan batu kuartz, 2 unit bagi setiap kaunter	Set	1		

BIL	BUTIRAN KERJA	UNIT	KUANTITI	KADAR HARGA (RM) / KUANTITI	JUMLAH (RM)
7.3	Kaunter Minuman dan Kawasan Buah Menukar reka bentuk baru dengan struktur keluli tahan karat (SS) dan lengkap dengan sistem pintu, rangka SS, penutup papan culaka 16mm tebal, dan kemasan laminat pilihan. Bahagian atas, penutup sisi, dan penutup dengan kemasan kuartz pilihan lengkap dengan kompartmen pinggan dan sistem pencahayaan. (Anggaran : 5610 x 1210mm (D) x 900mm (H).)				
7.3.1	Struktur dengan rangka keluli tahan karat (SS) dan bata	Set	1		
7.3.2	Penutup batu kuartz pilihan termasuk kompartmen untuk pinggan	M2	22.3		
7.3.3	Sistem pencahayaan LED dengan pemacu kuasa, (Anggaran panjang : 7 meter bagi setiap kaunter)	Set	2		
7.3.4	Pintu kabinet dengan rangka keluli tahan karat (SS) dan papan celuka yang dilaminat pilihan serta barang hiasan.	Pukal	Pukal		
7.3.4	Pemasangan semula dan penyelenggaraan 'Chiller' sedia ada.	Pukal	Pukal		
7.3.5	Penutup kompartmen pinggan dengan batu 'Kuartz' 2 unit bagi setiap kaunter	Set	1		
7.3.6	Kompartmen baru untuk penempatan cap berbentuk L dengan reka bentuk baru dan pencahayaan.	Pukal	Pukal		

BIL	BUTIRAN KERJA	UNIT	KUANTITI	KADAR HARGA (RM) / KUANTITI	JUMLAH (RM)
8.	<u>KERJA MEKANIKAL</u>				
8.1.1	Kerja-kerja membekal dan memasang sistem perpaipan bekalan air daripada punca terdekat ke 'Buffet island' termasuk kelengkapan/aksesori serta kerja-kerja berkaitan.	Pukal	Pukal		
8.1.2	Kerja-kerja membekal dan memasang sistem perpaipan sanitary ke saluran buangan terdekat termasuk kelengkapan/aksesori serta kerja-kerja berkaitan.	Pukal	Pukal		
8.1.3	Membekal dan memasang sesalur udara (Ducting) dari kawasan memasak (buffet island), termasuk pembukaan lubang plaster siling, pengubahsuaian tingkap, pembukaan siling, dan membaikpulih keluar bangunan termasuk kekemasan pendakap (Bracket)	Meter	14		
8.1.4	Membekal kipas 'Axial' serta 'Kitchenhood' 350CFM baru dengan pendawaian elektrik, panel kawalan serta yang berkaitan.	Pukal	Pukal		
8.2.1	Kerja-kerja menutup 'Diffuser' dan sesalur penghawa dingin sediaada. Kerja-kerja membekal dan memasang 'Diffuser' dan sesalur ke kawasan baru lengkap dengan mengganti hos fleksibel baru dan bukaan dinding baru. (6 nos)	Pukal	Pukal		

BIL	BUTIRAN KERJA	UNIT	KUANTITI	KADAR HARGA (RM) / KUANTITI	JUMLAH (RM)
9.	<u>KERJA ELEKTRIK</u>				
9.1	Membekalkan pekerja dan bahan bagi kerja memindah powerpoint dan menggantikan socket suis, memeriksa pendawaian yang tidak dalam keadaan baik dan menggantikan dgn pemasangan baru. (Kaunter baru)	Pukal	Pukal		
9.2	Tambahan 'Powerpoint' termasuk pendawaian daripada Papan Agihan Elektrik (<i>Distribution Board</i>)	No.	15		
9.3	Membekal dan mengganti 'Lighting' sediaada selepas pemasangan siling baru, serta perubahan lokasi pemasangan termasuk pendawaian daripada Papan Agihan Elektrik (<i>Distribution Board</i>)	No.	14		
JUMLAH KESELURUHAN					

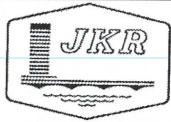
Notis makluman :-

*Kadar Kuantiti Yang Dinyatakan Dalam Sebutharga Ini **HANYALAH ANGGARAN UKURAN KUANTITI SEMENTARA**. Pihak Penyebutharga Dinasihatkan Membuat Ukuran Sendiri Di Tapak*

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1. General

- 1.1. Unless otherwise specified or shown on the Drawings, all ceilings shall be of gypsum plasterboards or as approved by the S.O. with class 'O' fire rating and all ceiling installation shall comply with the classification of fire spread as stipulated in the 8th Schedule Uniform Building By-Law 1984.
- 1.2. All conceal ceilings shall be provided with service access to the ceiling void for maintenance of services above the ceiling space in accordance to the Drawings and approval of the S.O..
- 1.3. All sprinkler heads (drops) shall have 12.5mm diameter oversize ring, sleeve or adaptor through the ceiling tile to allow for free movement of the sprinkler pipes. It shall also comply with the local fire regulations and to the S.O.'s approval.
- 1.4. The Contractor shall not commence the ceiling installation works until the building is effectively weather-tight and the work area of wet trades has been completed and dried.

2. Submittals

- 2.1. Unless otherwise specified, the Contractor shall submit manufacturer's shop drawings and design calculations for the complete proprietary ceiling system showing compliance to all specifications including the method of installation of the ceiling board/panels, hangers, fittings and all accessories duly certified by an Architect registered with the Board of Architects or a P.E. with practising certificate registered with the Board of Engineers Malaysia.
- 2.2. The contractor shall submit method statement from the proprietary ceiling system supplier/manufacturer of the installation works to the S.O. for approval prior to the commencement of the works at site. No installation of ceiling works shall commence until approval is given in writing by the S.O..

3. Setting Out

- 3.1. The ceiling layout shall be planned prior to installation to determine the grid configuration, direction et cetera to ensure that all fixings points are compatible with the structural members or other services, or both.
- 3.2. Mechanical and electrical services shall be completed before installation of the suspension systems. Mechanical services and electrical wiring systems, including cable trays, conduits, junction boxes, down-lights and other appurtenances shall be independently supported and independently braced from the ceiling support system. Suspension hangers may be installed before or during installation of services with the approval of the S.O..
- 3.3. The shop drawings used for the ceiling installation shall contain sufficient information to allow the installer to set out the ceiling grid. The finished height of the ceiling shall be shown clearly on the drawings.
- 3.4. Sufficient information should be clearly indicated on the drawings to enable the ceiling module and setting out points in each ceiling area applicable to all relevant trades to be established early. All trades shall work to the same setting out points and data.
- 3.5. The ceiling height in each area shall be marked in relation to the elevation benchmarks and then transferred by means of a water level, rotating laser or other

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approved devices. Setting out lines should be in both directions and squared accurately at the outset.

4. Acoustic Requirements

- 4.1. Acoustic requirements specified or shown on the Drawings, such as sound absorption, sound insulation and impact sound insulation shall be tested in accordance with BS EN 13964, BS EN ISO 140 or other acceptable standards.
- 4.2. A full test report shall be submitted to the S.O. as proof of compliance. It shall relate to the entire specified system. Any variations shall be endorsed by the test laboratory or field testing. Test reports, comments and the testing authority shall be stated in the manufacturer's trade literature or be made available upon request or both.
- 4.3. All acoustic ceilings shall be of proprietary system using mineral fibre boards or spray applied cellulose on ceiling and/or soffit of slab as approved by the S.O. and conforms to class 'O' fire rating classification comply with BS 476 Part 6 & Part 7.

5. Materials and Ceiling Components

5.1. Zinc-Coated and Aluminium/Zinc Coated Steel

Zinc-coated and aluminum/zinc-coated steel used for the construction of suspended ceiling components shall comply with MS 1196 or other equivalent Standards. The Contractor shall provide proof of compliance to the approval of the S.O.. Where sections have been cut from zinc-coated or aluminium/zinc-coated sheets, the cut edges shall be treated with protective anti-rust paint to prevent corrosion. All pre-painted finish for ceilings shall be as specified under SECTION G: ROOFING.

5.2. Linear Strip Ceiling

Unless otherwise specified or shown on the Drawings, linear strip ceiling shall be aluminium pre-painted anodized comprising of 150mm width x 12.5mm deep x 0.6mm thick panel fixed in accordance to manufacturer's recommendation and to S.O.'s approval.

5.3. Plasterboard

- 5.3.1. All plasterboards dimensions, its tolerances and flexural breaking load shall comply with BS EN 520. The board shall carry class 'O' approval from DGFR.
- 5.3.2. Unless otherwise specified in the Drawings the size for plasterboard ceiling shall be 600mm x 1200mm x 9mm thick minimum and shall be suspended from the soffit with adjustable hanger rods in accordance to manufacturer's recommendation and S.O.'s approval.

5.4. Plasterboard with improved core adhesion at high temperature (Type F)

The type of board and test requirements shall be in accordance with BS EN 520, and to the approval of the S.O.. The board shall carry Class 'O' approval from DGFR.

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5.5. Plasterboard with reduced water absorption (Type H)

The types of moisture resistance board to receive paint finish shall be in accordance with BS EN 520 and to the approval of the S.O.. The board shall carry Class 'O' approval from DGFR.

5.6. Mineral Fibre Boards

5.6.1. Unless otherwise specified, the board size shall be 600mm x 1200mm x 15mm thick square edges. The board shall carry Class 'O' approval from the DGFR and the minimum sag resistance shall be of RH 99.

5.6.2. Surface coating of the board shall be applied with vinyl latex paint in white colour at factory and the surface design/texture of the board shall be to S.O.'s approval.

5.7. Fibre Cement Ceiling Panel

Fibre cement ceiling panel shall be asbestos free and shall be an autoclaved cellulose fibre cement flat board. The basic composition consists of cement, refined sand and cellulose fibre. The material shall be classified as Class 'O' and shall be 'Fire- Listed' under SIRIM QAS Fire Listing Scheme.

5.8. Acoustic Glass Wool Ceiling Panel

Acoustic glass wool ceiling panel shall be lightweight fibre glass wool material with high acoustical sound absorption of NRC: 0.90-1.00 (ASTMC 423). Unless otherwise specified the size of the panel shall be 600mm x 1200mm x 20mm thick, square edge fixed to aluminium tee exposed grid systems, suspended from the soffit with adjustable hanger rods in accordance to manufacturer's recommendation and S.O.'s approval.

5.9. Glass Fibre Reinforced Gypsum (GRG)

5.9.1. GRG Boards are manufactured by glass fibre reinforced gypsum and comprise of non-combustible high-grade gypsum casting plaster with glass fibre membranes. Unless otherwise specified shall be in sizes of 1200mm X 900mm x 9mm thick. The board shall conform to the following:

Fire performance : GRG Boards are rated non-combustible as defined in BS 476: Part 4.

Dry Density : Approx. 1660kg/m²

5.9.2. GRG boards shall be installed in accordance to the manufacturer's recommendation and to S.O.'s approval.

5.10. Cornice

5.10.1. Unless otherwise specified, cornice shall be provided of the same ceiling material for all plaster ceiling materials.

5.10.2. Cornice shall be fixed to the walls and ceiling using proprietary adhesive or as recommended by the manufacturer and approved by the S.O..

5.10.3. Large cornices shall be fixed using screws together with cornice adhesive as recommended by the cornice manufacturer and to S.O.'s approval.



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5.10.4. Cornice should be carried and handled carefully to avoid cracking the core or wrinkling the paper liner. Where possible, the contractor shall use full lengths of cornice and mitre all joints.

5.10.5. The Contractor shall ensure accurate and level placement by marking ceilings and walls with a line at the cornice edge.

5.10.6. Cornice with shorter length shall be installed first followed by the longer lengths by bowing out to spring mitres fit into place.

5.11. Reinforcing/Joining tape

The tape shall not be less than 50mm width paper tape in accordance with ASTM C475 from an approved manufacturer, and to the approval of the S.O..

5.12. Jointing compound

Jointing compound shall setting type or pre-mixed multi-purpose gypsum based air drying type compound, in accordance with BS EN 13963 and to the approval of the S.O..

5.13. Sealants

The application of fire sealant for plasterboard with improved core adhesion at high temperature (Type F) and wet area sealant for plasterboard with reduced water absorption (Type H) shall be in accordance with BS 8212 and to the approval of the S.O.. The appropriate type of sealant shall be used for the required type of plasterboard. Elastomeric sealants can be used at the perimeter of the dry lining or partitioning to provide an airtight construction and to the approval of the S.O..

5.14. Control joint

Unless otherwise specified, control joints shall be provided in a long continuous run of ceiling, spaced at not more than 12 meters centres maximum and recommended by the manufacturer and to the approval of the S.O..

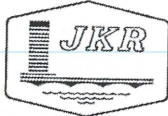
5.15. Anchors and Fasteners

5.15.1. The Contractor shall submit the details of the proposed proprietary anchor to the S.O. for approval.

5.15.2. Notwithstanding the above, the alternative anchor proposed shall be made of carbon steel galvanized to minimum thickness of 5 µm or stainless steel in accordance to European Technical Approval Guideline ETAG 001 Metal Anchors for Use in Concrete.

5.15.3. The size of the anchor fixing shall not be less than 6mm diameter (M6) with effective anchorage depth of not less than 30mm measured from the soffit of the floor slab. The hole for the anchor shall be drilled using drill bit of corresponding size to the proprietary anchor. The design resistance in all load directions shall not be less than 1.10kN.

5.15.4. Shot-fired alternative anchors shall not be allowed. Shot-fired (hybrid-pin) alternative anchors shall not be used to install the suspended ceiling hangers to the concrete soffit. Screws with nylon wing plugs shall not be used as ceiling anchors to install the suspended ceilings.

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5.15.5. Fasteners shall have a corrosion-resistant finish and be appropriate for intended use, in accordance with BS EN 14566. The heads of fasteners shall be shaped so that they can be driven slightly below the surface of the plasterboard without punching through the paper liner.

5.16. Acoustical Cellulose Insulation

5.16.1. Spray Applied Acoustical Cellulose Insulation on ceiling and/or soffit of slab shall be:

5.16.1.1. Thickness – minimum 30mm

5.16.1.2. Thermal conductivity (k-value) = 0.0029 W/mK tested to ASTM C-177.

5.16.1.3. Fire retardant Class “O” complying with BS476 Part 6 & 7 and endorsed by Jabatan Bomba Dan Penyelamat Malaysia.

5.16.1.4. Average moisture absorption of not more than 15% as per ASTM C739.

5.16.1.5. Tested Noise Reduction Coefficient of NRC 0.75 at 30mm thickness.

5.16.1.6. Tested to be non-toxic and asbestos free, contain no carcinogenic materials and shall not cause any skin irritation to humans

5.16.2. Where required, appropriate surface preparation and treatment should be done on the surface of the substrate according to manufacturer's recommendation.

5.16.3. The application of cellulose insulation shall be applied strictly to manufacturer's method statement and to S.O.'s approval

6. Ceiling Suspension System

6.1. General

6.1.1. Batten system (furring channels) as vertical ceiling hangers shall not be allowed for the installation of proprietary ceiling system.

6.1.2. Where grid ceiling suspension system are installed exposed to wind condition (outside building), all lay-in ceiling panels/boards shall be secured to the suspension system with minimum two proprietary 'hold-down clip' for each tile as recommended by the manufacturer and approved by the S.O..

6.1.3. Only proprietary adjustable butterfly type locking clips (rod joiner) shall be used with a minimum thickness of 0.48mm and galvanize coating mass of minimum 80g/sq.m. The locking clips shall be of minimum steel grade SK-5 or approved equivalent with a minimum pull off strength of 110kgs.

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6.2. Fixed Ceiling System

- 6.2.1. Timber framing or metal framing system shall be designed and installed to support the fixed ceiling panels/boards on the external or outside space of the building as shown on the Drawings.
- 6.2.2. All timber materials used shall be treated and as specified under SECTION H: TIMBER, JOINERY AND IRONMONGERY. Unless otherwise specified, ceiling boards fixed to the timber frames shall be with butt 'V' joint using nails or screws as recommended by the ceiling manufacturer and to S.O.'s approval.
- 6.2.3. Where conceal ceiling are used, all ceiling panels/boards fixed to the metal frames shall be screwed permanently to the metal framing system as recommended by the ceiling manufacturer and to S.O.'s approval.
- 6.2.4. All screw fixings of the ceiling panel/boards to the framing system shall be completely sealed to match with the ceiling surface. All external ceiling shall be painted with weather resistant paint as specified under SECTION O: PAINTING.

6.3. Grid Ceiling Suspension System

6.3.1. Vertical suspension members

- 6.3.1.1. Ceiling hangers shall be galvanized mild steel machine straightened hanger rods of minimum 4mm diameter consisting of 2 pieces length with a galvanization thickness of minimum 80g/sq.m and tensile strength of minimum 350MPa., held together by a galvanized rod joiner (adjustable type galvanized locking clips). Only proprietary adjustable locking clips (butterfly type) shall be used as a rod joiner.
- 6.3.1.2. Proprietary anchor fixing shall not be less than 6mm diameter (M6) with effective anchorage depth of not less than 30mm measured from the soffit of the floor slab. The hole for the anchor shall be drilled using drill bit of corresponding size to the anchor. The proprietary anchor is fixed to the structural soffit at a distance 200mm away from the wall and then spaced equal to or not more than 1200mm centre to centre (c/c) to form the grid of the ceiling hanger
- 6.3.1.3. One end of the hanger shall be attached to a pre-drilled galvanized mild steel L-shaped soffit cleat 25mm x 25mm x 50mm (width) and minimum base metal thickness of 2mm with a galvanization thickness of minimum 80g/sq.m for suspending the pre-straightened hanger rod. The other end of the hanger shall be secured using proprietary locking clips to the primary T-section. The T-sections shall be fixed accordingly to the required ceiling level by adjusting the length of the ceiling hanger through the rod joiner.
- 6.3.1.4. One end of the pre-straightened hanger rod shall be hooked to the pre-drilled soffit cleat and the other end of the hanger shall be secured to the primary T-section using proprietary locking clips. The T-sections shall be fixed accordingly to the required ceiling level by adjusting the length of the ceiling hanger through the rod joiner

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- 6.3.1.5. The proprietary adjustable locking clips (butterfly type rod joiner) shall be 0.5mm minimum thickness with galvanize coating mass of minimum 80g/sq.m. The locking clips shall be of minimum steel grade SK-5 and with a minimum pull off strength of 110kgs.

6.3.2. Horizontal suspension members

- 6.3.2.1. The T-grid system shall be manufactured to a minimum 24mm width x 30mm height T-section rigidized (rotary stitching) on all T-sections and with a load carrying capacity of minimum 20kgs/m² per ASTM C635. All T-sections shall be in powder coated colour white. Installation shall refer to manufacturer's method statement.

- 6.3.2.2. Perimeter wall angles shall be securely fixed to the adjacent perimeter walls using appropriate fixings forming part of the grid ceiling system as recommended by the manufacturer and approved by the S.O..

6.4. Concealed Ceiling Suspension System (Soffit-ceiling distance < 1800mm)

Unless otherwise shown on the Drawings and when the distance between the concrete soffit and the suspended ceiling board is less than 1800mm in vertical height, the concealed ceiling suspension system shall be as follows:

6.4.1. Vertical suspension members

- 6.4.1.1. Ceiling hangers shall be rigidized galvanize mild steel 25mm x 25mm angle section with 0.5mm base metal thickness OR galvanized mild steel machine straightened hanger rods of minimum 4mm diameter with a galvanization thickness of minimum 80g/sq.m and tensile strength of minimum 350MPa. The rod shall be in 2 pieces and should be used in conjunction with the adjustable suspension (butterfly type) clip/rod joiner. Levelling of the ceiling shall be executed in accordance with manufacturer's method statement.
- 6.4.1.2. Proprietary anchor fixing shall not be less than 6mm diameter (M6 or ¼") with effective anchorage depth of not less than 30mm measured from the soffit of the floor slab. The hole for the anchor shall be drilled using drill bit of corresponding size to the anchor. The proprietary anchor shall be fixed to the structural soffit at a distance 200mm away from the wall and then spaced equal to or not more than 1000mm centre to centre (c/c) to form the grid of the ceiling hanger
- 6.4.1.3. Where hanger rods are used, one end of the hanger rod shall be attached to a pre-drilled galvanized mild steel L-shaped soffit cleat 25mm x 25mm x 50mm (width) with minimum base metal thickness of 2mm. The other end of the hanger shall be secured using proprietary locking clips to the primary channel (main runners).
- 6.4.1.4. Where mild steel angle sections are used as ceiling hangers, one end of the ceiling hanger shall be connected to the pre-drilled proprietary anchor fastener to the soffit slab. The other end of the hanger shall be secured using proprietary locking

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clips or suspension brackets to the primary channel (main runners).

6.4.2. Horizontal members

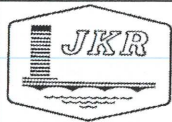
- 6.4.2.1. Primary rigidized galvanised steel channel (main runners) shall be 34mm x 12mm x 0.4mm minimum BMT at a distance of 100mm away from the wall and spaced equal to or not more than 1000mm c/c (the minimum thickness may varies according to the profile with larger cross section values with appropriate justification from manufacturer). Installation shall refer to manufacturer's method statement.
- 6.4.2.2. Secondary rigidized galvanize steel channel 34mm x 12mm x 0.4mm minimum BMT shall be secured using proprietary locking clips or suspension brackets to the primary channel.
- 6.4.2.3. The primary and secondary channels shall be connected using galvanized proprietary locking clips or suspension brackets with minimum thickness of 0.5mm (the minimum thickness may varies according to the profile with larger cross section values with appropriate justification from manufacturer) and screwed as recommended by the manufacturer. And no tilting movement are allowed on Primary channel once secured with locking clips.
- 6.4.2.4. Unless otherwise specified, a single layer 9mm thick gypsum plasterboard ceiling shall be screwed using galvanized wafer head dry wall screw Ø 4mm x 25mm length fixed at maximum distance of 200mm c/c to the secondary channel as recommended by the manufacturer.

6.5. Concealed Ceiling Suspension System (Floor-ceiling distance > 1800mm)

Unless otherwise shown on the Drawings or when the distance between the concrete soffit and the suspended ceiling board exceeds 1800mm in vertical height, the concealed ceiling suspension system shall be as follows:

6.5.1. Vertical suspension members

- 6.5.1.1. Ceiling hanger system shall be galvanized mild steel threaded rods of not less than 6mm diameter.
- 6.5.1.2. Fixing of vertical suspension hangers to soffit slab shall be by using threaded rod and proprietary anchor (drop in anchor or equivalent). Identify the actual location of suspended point on site, mark the position for drilling, the position should no more than 100mm away from the perimeter wall, drilling at least 28mm depth. Insert corresponding diameter drop-in anchor or equivalent, for best result hammer the "pin" slightly inside the drop-in-anchor. Cut threaded rod to require suspension length and screw fix the threaded rod into the corresponding diameter drop-in-anchor or equivalent. Slightly pull the threaded rod to check the fixing.
- 6.5.1.3. One end of the threaded ceiling hanger rod shall be connected to the pre-drilled anchor fastener (drop-in anchors or equivalent) and the other end of the threaded rod shall be secured to the proprietary locking clips or suspension

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brackets with two M6 nuts and locked to the primary channel (main runners).

6.5.2. Horizontal members

- 6.5.2.1. Primary channel shall be galvanised steel 38mm x 12mm x 1mm thick minimum placed at a distance of 100mm away from the wall and spaced equal to or not more than 1000mm c/c. The primary channel shall have the characteristic strength of at least 250N/mm². Installation shall refer to manufacturer's method statement
- 6.5.2.2. The dimension of the secondary channel shall be at not less than 50mm x 20mm x 0.5mm thick minimum place at 450mm c/c minimum for 9mm thickness board and 600mm c/c minimum for 12mm thickness board. The secondary channel shall have the characteristic strength of at least 250N/mm².
- 6.5.2.3. The primary and secondary channel shall be connected using galvanize proprietary locking clip with minimum thickness of 0.5mm (the thickness may vary according to the profile with larger cross section values with appropriate justification from manufacturer) and screw as recommended by the manufacturer.
- 6.5.2.4. Unless otherwise specified, a single layer 9mm thick minimum plasterboard ceiling shall be screwed using galvanized dry wall screw Ø4mm x 25mm length at maximum 200mm c/c to the secondary channel as recommended by the manufacturer.

6.6. Performance and Installation Requirements

- 6.6.1. Suspended ceiling systems are not designed for and shall not be regarded as structural elements. Electrical wiring systems, including cable trays, conduits, junction boxes, lighting fixtures, air-conditioning ducts, air diffusers and other appurtenances shall not be placed directly on the ceiling and shall be independently supported and independently braced from the structure.
- 6.6.2. Suspended ceilings shall be designed to ensure that detrimental levels of water and condensation are not formed within or on the surfaces of the ceiling and related components and the ceilings shall be designed according to Class C conditions of BS EN 13964.
- 6.6.3. Other steel components of the substructure such as supporting member, perimeter trim, et cetera shall have a characteristic strength of at least 250N/mm² and their tolerances shall comply with BS EN 13964. No bends or notches or drilling or other alterations from its original state are allowed on steel components unless allowed by the manufacturer.
- 6.6.4. Where not specified, tolerances for the ceiling shall comply with BS EN 13964. The maximum deflection between two suspension points shall not exceed L/500 where L is the suspension distance between the two points.
- 6.6.5. The top fixing of all suspension components shall be made to the primary structural framing element, unless specifically designed otherwise. The contractor shall ensure the fixings are of a corrosion-



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resistant material suitable for the intended application, and fixings shall be compatible with the material of the structure to which they are to be fitted.

6.7. Structural steel fixing

- 6.7.1. Self-drilling screws are not allowed for structural steel, unless specifically designed otherwise. These screws shall not be placed in tension unless specifically designed for that purpose.
- 6.7.2. Penetrations made into the structural steel by drilling shall be duly approved by the S.O..
- 6.7.3. Clips shall be installed strictly in accordance with the manufacturer's recommendations.

6.8. Cold formed truss/timber truss fixing

- 6.8.1. Suspended ceiling system fixings to cold formed trusses shall only be allowed by using steel plate straps. For the case of proprietary truss systems, the Contractor shall obtain written approval from the Truss System Provider and the S.O..
- 6.8.2. Fixings to timber joists shall be made into the side of the timber, with five times the diameter of the fastener clear edge distances.

6.9. Glued laminated timber fixing

Top fixing to glued laminated timber members shall only be allowed with the approval of a P.E. The glued laminated timber shall be fabricated as specified under SECTION H: TIMBER, JOINERY AND IRONMONGERY.

6.10. Concrete fixing

- 6.10.1. Shot-fired fasteners are not allowed to be installed directly to a concrete flat roof slab. Separate structural framing element for ceiling fixing shall be specifically designed if required, and it shall be approved by the S.O..
- 6.10.2. Fixing to aerated/lightweight concrete shall only be made in accordance with the manufacturer's recommendations.

6.11. Purlin fixing

- 6.11.1. Fixings shall be made of steel plate straps. No connections requiring drillings to the web/lip of the purlins are allowed, unless specifically designed otherwise.
- 6.11.2. Where flange connections are necessary, they should be made as close as possible to the web of the purlin, and design calculations shall be provided to ensure the structural capacity of the purlin is not compromised.
- 6.11.3. Fixings shall be selected and installed in accordance with the manufacturer's specification and approved by the S.O..

- 6.12. All concrete expansion bolts shall be installed in accordance with the manufacturer's recommendations taking due care to maintain minimum edge distances, spacing and embedment depth.

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6.13. Ceiling hangers shall be installed in accordance to the ceiling system manufacturer's recommendation. Bends as means of levelling the ceiling or to avoid plenum services, shall not be made in the ceiling hangers. Where ceiling hangers cannot be secured at the specified spacing, secondary members shall be installed to manufacturer's recommendation.

6.14. In areas where the suspended ceiling is adjacent to rooms or areas with twenty four (24) hours air-conditioning and the concrete soffits are applied with PU foam, the ceiling suspension hanger shall be secured to the concrete soffit using M6 x 30mm A4 stainless steel (DIN17440) anchor bolts as specified or shown on the Drawings.

6.15. Unless otherwise shown on the Drawings, plasterboard partitions shall be fixed to the primary framing members of the ceiling suspension system in accordance with of BS 8212.

6.16. Suspended Ceiling Exposed to Wind (Outside Building).

6.16.1. Wind Load

6.16.1.1. The minimum basic wind speed shall be 35 m/s. However, the minimum basic wind speed shall be increased to 41m/s for lightweight covering.

6.16.1.2. The requirement of wind load shall be as stated in the MS 1553 – Code of Practice on Wind Loading for Building Structures. The minimum basic wind speed shall be as specified above or as per the value stated in MS 1553 whichever higher.

6.16.1.3. Load combinations shall be clearly identified (as per MS EN 1993 Part 1 to Part 3 or other equivalent standards recognised internationally) and itemised to enable design checking to be carried out upon the most adverse conditions or the effect (e.g. effect of uplift) under consideration.

6.16.1.4. Where grid ceilings system is installed to areas exposed to wind condition (outside buildings), all lay-in ceiling panels/boards shall be secured to the suspension system with minimum two proprietary 'hold-down clip' for each tile as recommended by the manufacturer and approved by the S.O.. Installation shall refer to manufacturer's method statement.

6.17. Testing and Inspection

6.17.1. The Contractor shall carry out in-situ Pull-Out Test for the complete ceiling suspension (hanger) system inclusive of the rod joiner and the anchors. The sampling rate shall be 5 samples for every 200 number of hangers installed and the points of testing shall be carried out subject to S.O.'s approval.

6.17.2. The minimum load for the pull-out test shall be 0.5 kN applied to each complete ceiling suspension sample inclusive of rod joiner where applicable. The test sample shall be left for the duration of 8 hours and the observation shall be recorded and submitted to the S.O. for approval.

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6.17.3. The Contractor shall inform the S.O. in writing to request for inspection and approval prior to closing up of the ceiling suspension system with ceiling panels.

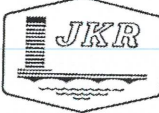
6.18. Warranty

6.18.1. When a proprietary ceiling system is used, the Contractor shall submit to the S.O. a warranty from the manufacturer with the following provisions:

- 6.18.1.1. The products used are genuine and free from manufacturing defects;
- 6.18.1.2. The complete ceiling suspension (hanger) system are installed in accordance with the manufacturer's method statement, recommendation, guidance and specifications that will deliver the specified level of performance;
- 6.18.1.3. 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 manufacturer's registered panel installer.

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1. General

This section provides the generally applicable requirements for steel and metal for the construction of structures, building components and related works. All materials shall conform to the relevant Malaysian or British or European Standards.

2. Hot Rolled Structural Steelworks

2.1. All hot rolled structural steelworks design, materials, drawings, workmanship, protective treatment, fire protection, Quality Assurance and Quality Control shall be in accordance with the *Specification for Structural Steelworks No. JKR 20601-0191-12*.

2.2. Quality Assurance and Quality Control (QA & QC)

The Contractor shall submit a Quality Assurance and Quality Control programme as specified in the *Specification for Structural Steelworks* as in sub-section 2.1..

2.3. Drawings and Design Calculations

2.3.1. The Drawings to be submitted by the Contractor based on construction drawings are as follows:

- 2.3.1.1. Fabrication drawings;
 - Shop drawings;
 - Erection drawings;

2.3.1.2. As-built drawings.

2.3.2. In the event that the Contractor is required to provide the design, he shall prepare Drawings with details in accordance with *MS EN 1993* or other relevant standards. The Drawings and design calculations shall be certified by a Professional Engineer. He shall also prepare Drawings and arrangements of temporary steelworks for the different stages of construction in compliance with the requirements specified in the *Specification for Structural Steelworks* as in sub-section 2.1..

2.4. Records

2.4.1. The Contractor shall submit to the S.O., document and records which shall include but not limited to:

- 2.4.1.1. Drawings as in sub-section 2.3. and documentation register;
- 2.4.1.2. Mill certificates for materials and certification for consumables;
- 2.4.1.3. Calibration of equipment;
- 2.4.1.4. Weld procedures, concessions et cetera;
- 2.4.1.5. Inspection and laboratory test reports;
- 2.4.1.6. Delivery schedules and method statements for fabrication and installation;
- 2.4.1.7. Surveys and final inspection results.
- 2.4.1.8. Completion of erection and hand over certification.

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2.5. Installation of Long Span Steel Trusses

The S.O. shall ensure that the installation of long span trusses more than 20m clear span is in accordance to the checklist of requirement and condition in **Appendix J/1**.

3. Prefabricated Cold Formed Steel Roof Trusses

3.1. All prefabricated components shall be manufactured only by reputable licensed truss suppliers listed in *J-TRUSS system online (Application and Approval of Truss System Provider)* 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 Cold Formed Steel Roof Trusses (JKR 20601-0186-11)*.

3.2. System Provider

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

3.3. Duties of Professional Engineer

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

3.3.1.1. Preparation of roof truss analysis and design;

3.3.1.2. Preparation of drawings;

3.3.1.3. Design changes in every stage of work;

3.3.1.4. Certification for completion of roof truss installation;

3.3.1.5. Final certification for roof truss installation prior to issuance of Certificate of Practical Completion for the whole Works to the Contractor.

3.4. Fabricator

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

3.5. Installer

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

3.6. General Truss Limitation

3.6.1. Prior to any prefabricated cold formed roof trusses works, the following general limitation shall be applied:

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- 3.6.1.1. Maximum unsupported truss span 13 m with permitted deviation of $\pm 0.05\text{m}$.
- 3.6.1.2. Maximum truss spacing of 1.2m with permitted deviation of $\pm 0.025\text{ m}$.
- 3.6.1.3. The minimum basic wind speed shall be 35m/s. However, the minimum basic wind speed shall be increased to 41m/s for lightweight roof covering.
- 3.6.1.4. Minimum base steel thickness for main truss member shall be:
 - a) 1mm for unsymmetrical section or open cross section;
 - b) 0.6mm for symmetrical machine-manufactured box or closed cross section.
- 3.6.1.5. Minimum base steel thickness for other truss element shall be:
 - a) 0.5mm for batten or purlin;
 - b) 1.2mm for wall plate;
 - c) 1mm for all bracings.

3.7. Analysis, Design Report and Drawings Submission

- 3.7.1. The S.P. through the Contractor shall propose to the S.O. for 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 20601-0186-11*.
- 3.7.2. All details in the construction drawings shall be sufficient to enable checking against the analysis and design report, including specifying and providing the truss layout and configuration, steel grades, section properties of members, length of members in each truss configuration, properties of truss accessories, specification of corrosion protection, specification of fastener and anchor, tie-down and anchoring details and all types of connection details including the connection of all attachments to the trusses.
- 3.7.3. Technical specifications or mill certificates for base steel, fastener and anchor shall also be included in the submission. Verification test certificate from an approved accredited laboratory on the technical parameter specified in the technical specifications or mill certificates shall be submitted upon request by the S.O..

3.8. Warranty

- 3.8.1. When a prefabricated cold formed steel roof truss system is used, the Contractor shall submit to the S.O. a warranty from the S.P. with the following provisions:
 - 3.8.1.1. The products used are genuine and free from manufacturing defects;

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3.8.1.2. The prefabricated cold formed steel roof truss system is installed in accordance with the S.P.'s instructions, guidance and specifications that will deliver the specified level of performance;

3.8.1.3. 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.

4. Metal Frames for Doors and Windows

4.1. Steel Frames

4.1.1. The Contractor shall supply, assemble and fix steel frames for doors and windows as shown on the Drawings. The steel frames shall comply with *BS 6510*, and shall be from an approved source and shop-primed with two coats of red lead oxide or other approved rust resisting primer.

4.1.2. The steel frames shall be manufactured from sections rolled from good commercial grade galvanized mild steel in single sections, mechanically straightened with all corners pre-cut with a 45 degrees mitre joint giving a snug and accurate fit, fully electrically welded, and carefully ground and cleaned, or shall be mechanically jointed by an approved method.

4.1.3. All screws, nuts, bolts and washers shall be of stainless steel.

4.1.4. Steel frames shall be painted as specified in SECTION O: PAINTING.

4.2. Aluminium Frames

4.2.1. The Contractor shall supply, assemble and fix aluminium frames for doors and windows as shown on the Drawings. Unless otherwise specified, all aluminium frames for windows shall be fabricated from sections extruded from aluminium alloy conforming to *MS 832*. All aluminium frames for glass sliding doors shall be fabricated from sections extruded from aluminium alloy and in compliance with *MS 1017*.

4.2.2. Unless otherwise shown on the Drawings or described in the Bills of Quantities, aluminium surfaces shall be natural anodised finish, free from alloy defects, dye marks, scratches and other surface blemishes in accordance with *BS 3987* with an anodic coating of 15µ minimum thickness complying with *BS EN 12373-1*.

4.2.3. All coloured anodized finish to aluminium exposed surfaces shall be subject to the S.O.'s approval.

4.2.4. All aluminium extrusion or sheet exposed surfaces after anodizing and after colouring, if required by the S.O., shall be sealed, and the adequacy of the sealing shall be given special emphasis.

4.2.5. All fasteners such as bolts and screws shall be of stainless steel type A2-70 (minimum) in compliance with *ISO 3506* or other suitable materials as specified in the Drawings. Rivets shall be stainless steel or aluminium alloy appropriate to the applications.

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- 4.2.6. Extruded aluminium framing members shall be fabricated from designated alloys complying with *MS 2289*. Ancillary members such as sills, couplings and the like formed from sheet materials, they shall be fabricated from designated alloys complying with *MS 2040*.
- 4.2.7. Where friction stays and hinges are fastened onto the framing section, the portion that receives the fastener shall not be less than 2.5mm thick.
- 4.3. Frames for Adjustable Louvre Windows
- 4.3.1. The Contractor shall supply, assemble and fix frames for adjustable louver windows as shown on the Drawings in compliance with *MS 1057*.
- 4.3.2. Unless otherwise specified, the frames shall be of approved manufacture. The frames shall be supplied complete with weather seal and non-ferrous bearings, spring clips, locking device and weather stripping with all necessary spacing pieces. The frames, coupling mullions and spacer brackets shall be minimum 1.2mm thick (18 SWG) or otherwise specified cold-rolled steel strip galvanised with hot-dipped process. Unless otherwise specified on the Drawings, the clips and pivots to receive the louvers shall be of durable nylon material and sample submitted shall be to S.O.'s approval.
- 4.3.3. The operating rods shall be 2.13mm thick (14 SWG). The handle and lock shall be 2.642mm thick (12 SWG) steel.
- 4.3.4. Unless otherwise specified, the finish shall be anodized coating of 15 μ (average) minimum complying with *BS EN 12373-1*.
- 4.4. Accessories
- 4.4.1. Accessories for each steel or aluminium frame for doors and windows shall be supplied complete with:
- 4.4.1.1. Sufficient number of built-in stainless steel hinges as per Schedule of Ironmongery under SECTION H: TIMBER, JOINERY AND IRONMONGERY;
- 4.4.1.2. Two (2) rubber buffers per closing jamb, to reduce noise and vibration;
- 4.4.1.3. Welded mortar guard; Adjustable stainless steel striker plate with a gently curved lead-in edge; Removable spreader bars, to ensure a perfect square during transportation and installation; and
- 4.4.1.4. Minimum of eight (8) pieces of 4mm brick ties, to ensure a tight permanent fit.
- 4.5. Samples
- Samples of steel or aluminium sections with complete accessories for the doors and windows, together with complete set of shop drawings of all works shall be submitted to the S.O.'s for approval prior to the commencement of any work.

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4.6. Installation

- 4.6.1. Unless otherwise specified or shown on the Drawings, all types of window and door frames shall be fixed or installed using the sub-frame method in accordance with the manufacturer's recommendation and to the S.O.'s approval.
- 4.6.2. All joints on the window and door frames shall be sealed using polyurethane (PU) type joint sealant.
- 4.6.3. Where buildings are located near to the coastal area, the bolts, nuts and screws used shall be of stainless steel unless otherwise specified.
- 4.6.4. Unless otherwise specified in the Drawings, the adjustable louver side frames shall fix to the aluminium frames and shall be installed using the sub-frame method in accordance with the manufacturer's recommendation and to the S.O.'s approval.

5. Collapsible Gates, Roller Shutters and Et Cetera

The Contractor shall provide and fix approved collapsible steel gates, folding shutters, roller shutters and et cetera complete with all necessary accessories as approved by the S.O. to the sizes and positions as shown on the Drawings. Unless otherwise specified in the Drawings, they shall be galvanised and fixed in accordance with the manufacturer's instructions.

6. Sundries

- 6.1. Unless otherwise specified in the Drawings, mild steel shall be used for balustrades to staircases, verandahs, balconies, et cetera and shall be fixed as shown on the Drawings.
- 6.2. All iron and steel for the sundries shall be of the quality approved by the S.O.. Screws and bolts shall have washers where appropriate. Hooks for carrying ceiling fans shall be formed from 13mm diameter mild steel rods bolted to timber ceiling members or ragged into concrete.
- 6.3. Welded mesh, expanded metal, aluminium sheets et cetera shall be provided and fixed as shown on the Drawings.
- 6.4. Mild steel grilles, drain cover gratings shall be provided and fixed as shown on the Drawings. Unless otherwise stated, all steelworks shall be joined by continuous welding.
- 6.5. Ant caps shall be of 16 gauge galvanised iron sheets formed to shape as shown on the Drawing. The caps shall be fixed between concrete stumps/brick piers or walls and timber posts or plates as required. The caps shall project 60mm and inclined at 45° from the surface.

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APPENDIX J/1

CHECKLIST **FOR THE INSTALLATION OF LONG SPAN STEEL TRUSSES** (For Trusses exceeding 20m in Clear Span)

This checklist is to provide assistance to the S.O./Supervising Engineer prior to the commencement of any installation of long span steel roof trusses. Please tick and indicate whether all the items / conditions have been adhered fully.

No	ITEM	Compliance (√)
A	DOCUMENTATIONS	
A1	Approved Structural Drawings by the Designer	
A1.1	For JKR's in house design, the drawings must be approved and signed by the HODT.	
A1.2	For design by Consultants, all drawings must be approved and endorsed by the submitting Professional Engineer.	
A2	Shop drawings for erection purposes <i>issued</i> by the Steel Installer	
A2.1	The Professional Engineer (PE) appointed by the Steel Installer must ensure that, these shop drawings are in accordance to the design and any assumptions made for the design. Any additional joints/splicing and any other deviations required for the purpose of erections must be accompanied by the calculations and approved by this Professional Engineer.	
A2.2	Quality Assurance documentations for the fabrication of steel members must be approved by the PE appointed by the Steel Installer.	
A2.3	Competency certification from approved establishment for all erection supervisors and installers.	

B.	METHODOLOGY	
B1	The Contractor shall prepare and submit the Method Statement to the S.O. for approval at least three (3) weeks prior to the erection commencement. A copy of the Method Statement must be submitted to the Designer's office for verification.	
B2	The Method Statement with the concurrence of the Designer shall be approved by the S.O.. (Item 12.4, Section A, <i>Standard Specification of Building Works, 2014</i>)	
B3	The Method Statement shall among others include the following:	
B3.1	Pre-erection survey and formal acceptance of site	
B3.2	Phased component delivery (if any)	
B3.3	Safety and environmental controls	
B3.4	Operative certification	
B3.5	Plant and equipment certification	
B3.6	Detailed Sequencing of Installation, and showing the movements of any plant/machinery required for the installation. The installation sequencing must be divided into several major/critical stages for the purpose of verification.	
B3.7	Quality Assurance documentations required for the installation	
B4	Erection must adhere fully to the Method Statement. Each stages of erection must be verified and approved by the Supervising Engineer or the S.O..	

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C.	SAFETY	
C1	All internal or external temporary bracings required for the installation must be designed and approved by the P.E. appointed by the Steel Installer.	
C2	All temporary bracings must be shown in the Shop Drawings.	
C3	The Contractor shall prepare plan showing width and level of access, level of prepared working area for site traffic and plant movements, and areas available for temporary storage.	
C4	Unless required and approved by the S.O. otherwise, all welding works shall to be done at ground level.	
D	CERTIFICATION OF COMPLETION	
D1	The Contractor shall certify that he/she has made all the necessary inspections to ensure all steelworks and the corresponding connections has been erected and constructed in accordance with the work's drawings, specification and contract requirements.	

Saya telah menyemak dan bersetuju

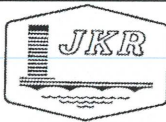
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Tarikh

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1. General

1.1. Cement

1.1.1. The cement, unless otherwise described shall be Ordinary Portland Cement, complying with MS EN 197-1 as specified in SECTION D: CONCRETING or Masonry Cement complying with MS EN 413-1.

1.1.2. White and coloured cement shall be of approved manufacture.

1.2. Plasticiser

The plasticizer shall be of approved manufacture and used strictly in accordance with the manufacturer's recommendation.

1.3. Plasterlime

The plasterlime shall be of approved manufacture and shall comply with BS 890 and shall be applied strictly in accordance with the manufacturer's recommendation.

1.4. Sand

The sand for external rendering, internal plastering and floor screeding shall comply with MS 30 for fine aggregates. Sand for plastering using gypsum shall comply with MS 701.

1.5. Water

Water for mixing shall be clear and free from harmful matter as specified in SECTION D: CONCRETING.

1.6. Mixing

1.6.1. All mixing of mortar for plaster and screed shall be done by machine. Hand mixing shall only be allowed for small quantities and with the approval of the S.O.. Hand mixing shall be done on a clean platform. The water content of the mix shall be only the minimum required to give a workable mix.

1.6.2. Mortar for plaster and screed shall be used up within forty five (45) minutes after mixing.

1.6.3. For gypsum plaster, mixes shall be used up within one (1) hour after mixing.

1.6.4. No remaking of the mix shall be permitted thereafter.

1.7. Surface Preparation

1.7.1. Where possible cement paving, screeding and rendering on concrete surface shall be laid while the concrete is still green that is after the final set but not later than twenty-four (24) hours of laying concrete. The concrete surfaces shall be brushed with a stiff broom before it has hardened to remove laitance and give a roughened surface. Hardened concrete surfaces shall be thoroughly hacked to form a key to the approval of the S.O..



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1.7.2. Before any paving, screeding or rendering is applied, all surfaces shall be thoroughly cleaned and wetted and be in damp state at the time the paving, screeding or rendering is applied.

1.7.3. Where plastering and rendering are to be applied in several coats, the surface of each preceding coat shall be scratched while still green to form key for the subsequent coat.

1.8. Bay

Paving and screeding shall be laid in alternate bays. On hardened concrete bases, each bay shall not exceed 15m². On the surface where the concrete is still green, each bay shall not exceed 30m². Where bays are not square, the ratio of the length between adjacent sides of each bay shall be approximately 1:1.5. The joints in paving screed shall coincide as nearly as possible with joints in the base.

1.9. Curing and Protection

Unless otherwise specified hereinafter, the screeds shall be cured for three (3) to seven (7) days after laying, and protected from rapid drying by covering with polyethylene sheets or tarpaulins and shall also be protected from any damage.

1.10. Making Good

1.10.1. Defective screeds shall be cut out and made good with fresh screed and sufficient time shall be allowed for the screed to dry prior to the laying of the floor finish.

1.10.2. Defective plastering and rendering shall be made good by cutting out the defective part to a rectangular shape, and the edges shall be undercut to form dovetail-key and finished flush with the surrounding work.

1.11. Samples

The Contractor shall supply the S.O. with samples of materials and/or sample of finished work for approval. Approved samples shall be kept at site for reference.

1.12. Tools

Proper tools shall be used for all scribing, scoring, splicing, smoothing edges, making angles et cetera of tiles, bricks and others so as to produce neat and fit joints.

1.13. Types of Finishes

The appropriate type of finishes to be used in the various locations of the works shall be as shown on the Drawings or as tabulated in the schedule of finishes. Unless otherwise shown on the Drawings or described in the B.Q., the finishes and their dimensions shall be as specified hereinafter.

1.14. Cornices and Angles

1.14.1. The cornices and moulded work shall be clean and accurately formed to the section shown on the Drawings. All mitres, stops and enrichments and moulding shall follow the details as shown on the Drawings, all to the approval of the S.O..

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- 1.14.2. All rounded and moulded angles shall be of the same material mix as the adjacent finish. For narrow reveal, splays and returns under 30mm wide, Class D plaster to BS 1991 shall be used.

2. Plaster Work

2.1. Plain Plaster

- 2.1.1. Plain plaster shall consist of one (1) part masonry cement to six (6) parts sand by volume. Where CEM 1 is used, plasticizer or plasterlime shall be added to the mix in accordance with the manufacturer's instruction.
- 2.1.2. The plaster shall be applied in two coats generally to a total thickness of 20mm to brickwall and 12mm to soffits, beams, columns, brick-walls and other smooth surfaces.
- 2.1.3. The first coat shall consist of rough plastering to a thickness of 10mm for 20mm plainface, and 6mm for 12mm plainface. The second coat shall be finished with a steel trowel for internal surfaces and with a straight-edged wood float for external surfaces.
- 2.1.4. All external walls, unless otherwise specified shall be finished with rough surface cement plastering.
- 2.1.5. All internal walls, unless otherwise specified shall be finished with smooth skimmed surface cement plastering.

2.2. Granolithic Plaster

- 2.2.1. Granolithic plaster shall consist of by volume, two (2) parts cement, one (1) part sand, five (5) parts granite chipping passing 6mm mesh and retaining upon 3mm mesh, applied in two (2) coats to a total thickness of 10mm to a backing coat, finished smooth with wood float.
- 2.2.2. The backing coat shall consist of 12mm thick plain plaster as described herein before. The finished surface shall be brushed lightly to achieve the required texture after it has reach initial set.
- 2.2.3. Shanghai plaster shall consist of two (2) parts approved coloured cement, one (1) part sand and five (5) parts of selected lime-stone chipping passing 6mm mesh and retaining upon 3mm mesh by volume applied in two (2) coats to a total thickness of 10mm to the backing coat, finished smooth with wood float.
- 2.2.4. The backing coat shall consist of 12mm thick plain plaster as described hereinbefore. The finished surface shall be brushed lightly to achieve the required texture after it has reached initial set.

2.3. Shanghai Plaster

- 2.3.1. Shanghai plaster shall consist of two (2) parts approved coloured cement, one (1) part sand and five (5) parts of selected lime-stone chipping passing 6mm mesh and retaining upon 3mm mesh by volume applied in two (2) coats to a total thickness of 10mm to the backing coat, finished smooth with wood float.

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- 2.3.2. The backing coat shall consist of 12mm thick plain plaster as described hereinbefore. The finished surface shall be brushed lightly to achieve the required texture after it has reached initial set.

2.4. Textured Finish Plaster

- 2.4.1. Textured finish plaster shall consist of a 20mm thick backing coat of plain plaster as described hereinbefore ruled into a plain and even surface and a finishing coat as on the Drawings and described hereinafter.
- 2.4.2. For rough cast finish, the mix shall consist of selected cement, sand and aggregate in the proportion to give the required finish to the approval of the S.O..
- 2.4.3. For Tyrolean finish, the mix shall consist of one (1) part selected coloured cement, and two (2) parts sand by volume applied to the backing coat by means of a Tyrolean machine in accordance with the manufacturer's recommendation. The finish shall be built up in three (3) layers to a total thickness of not exceeding 6mm. Each coat shall be allowed to dry before the application of a subsequent coat.
- 2.4.4. For pebble-dash finish, the dry pebble for the finish shall be thrown onto the backing coat while the latter is still wet. The pebbles to be used shall be clean and of size and quality approved by the S.O..
- 2.4.5. For pebble-wash finish, the selection of pebbles shall be clean and of size, colour and quality approved by the S.O.. The selected pebbles shall be mixed with plain plaster and applied while it is still wet in a single coat generally to a total thickness of 12mm to a backing coat. The applied surface is tapped to set the pebbles in position. The pebbles shall be brushed and washed lightly to achieve the required texture after it has reached the initial set. Loose pebbles shall be placed back in position and by tapping the surface to set.

2.5. Gypsum Plaster

- 2.5.1. Gypsum plaster, or plaster of Paris, is produced as a proprietary dry plaster powder and when it is mixed with water, it re-forms into gypsum. The ratio of the gypsum powder mix to the amount of water shall be as recommended by the manufacturer.
- 2.5.2. The setting of unmodified plaster starts about ten (10) minutes after mixing and is complete in about forty-five (45) minutes; but not fully set for seventy two (72) hours. The total gypsum plaster thickness for vertical and horizontal masonry and concrete surfaces shall be 16mm.
- 2.5.3. The resulting paste hardens as it cools, forming a relatively soft, pliable finished product. Unlike mortar or cement, which dries much harder, gypsum plaster can be sanded or otherwise manipulated once cured, making it a good option for aesthetic, non-load bearing purposes.
- 2.5.4. Gypsum plaster is renowned for its use as an art medium and is often use in conservation works especially for decorative embellishment. It is also used to simulate the appearance of surfaces of wood, stone or metal.

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2.6. Lime Plaster

- 2.6.1. Typical lime plaster mix shall consist of one (1) part lime putty to three (3) parts of washed, well graded sand. The lime putty is mixed at one (1) to three (3) ratios, creates a compact plaster.
- 2.6.2. Water is added to produce slaked lime (calcium hydroxide), which is sold as a wet putty or white powder. Water is added to the white powder mix as per the manufacturer's recommendation.
- 2.6.3. Water is added to the proprietary lime plaster mix as per the manufacturer's recommendation to form a workable paste prior to use. Lime plaster is used as an alternative to or in combination with ordinary Portland cement. It is commonly used for decorative works such as mural paintings on walls, ceilings or any type of flat surface.
- 2.6.4. Once the water is mixed it shall be stored in an air-tight container. Once exposed to the atmosphere, the calcium hydroxide turns back into calcium carbonate, causing the plaster to set.

2.7. Barium Plaster

The plastering of internal surfaces of X-Ray room walls shall be of barium plaster consisting of one (1) part cement, one (1) part barytes (barium sulphate) fines and three (3) parts barytes sand by volume.

2.8. Plaster to Sides of Manholes, Inspection Chambers and Septic Tanks

Plastering to sides of manholes, inspection chambers and septic tanks shall be as specified under SECTION F: SEWERAGE.

3. Paving Work

3.1. Cement Paving

- 3.1.1. Unless otherwise shown on the Drawings or described in the B.Q., cement paving shall be 20mm thick consisting of one part cement to three parts sand by volume. The paving shall be thoroughly rammed within 30 minutes of laying and trowelled smooth after it has stiffened sufficiently to prevent laitance being brought to the surface. Paving to apron shall finish to a slight fall towards surface drains.
- 3.1.2. Unless otherwise shown on the Drawings or described in the B.Q., skirtings shall be formed to a height of 150mm and thickness of 20mm, coved at bottom and rounded at top.

3.2. Granolithic Paving

- 3.2.1. Granolithic paving shall be 20mm thick, consisting of two (2) parts cement and five (5) parts granite chipping passing 6mm mesh and retained upon 3mm mesh by volume.
- 3.2.2. The chipping shall be washed and free from dust. The paving shall be trowelled smooth to proper level or fall where appropriate. After initial set the surface shall be brushed lightly to achieve the required textured finish.



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3.2.3. Unless otherwise shown on the Drawings, granolithic skirting shall be 100mm high and 20mm thick, coved at bottom and slightly rounded at top.

3.2.4. Unless otherwise shown on the Drawings or described in the B.Q., the edge of threshold and treads of concrete stairs shall be finished with 150mm x 75mm x 12mm thick vitreous non-slip nosing tiles laid lengthwise bedded and pointed in 1:3 cement and sand mortar. The sides of open stringers shall be finished with granolithic plaster worked to profile of treads and risers to the approval of the S.O..

3.3. In-situ Terrazzo

3.3.1. In-situ terrazzo shall consist of one (1) part approved coloured cement and three (3) parts selected limestone chipping passing through 12mm mesh and retained upon 3mm mesh by volume.

3.3.2. The terrazzo topping shall be 20mm thick laid on 20mm thick cement and sand (1:3) screed. The concrete base to receive the screed shall be thoroughly cleaned and wetted.

3.3.3. While laying the screed, aluminium or brass strips of size 32mm wide x 3mm thick shall be set in vertically on edge into the screed to form panels. Each panel shall not exceed 4m² with top edges of the strips standing sufficiently high to finish flush with the finished terrazzo floor level. The terrazzo shall be trowelled to a dense even finish.

3.3.4. When sufficiently hard but not less than two (2) days after being laid it shall be rubbed down to a smooth surface by means of carborundum stone.

3.3.5. Tile impregnator then shall be applied strictly in accordance to the manufacturer's recommendation onto the terrazzo surface to prevent future staining.

3.3.6. Unless otherwise shown on the Drawings or described in the B.Q., the edge of the threshold and treads of concrete stairs shall be finished with 150mm x 76mm x 12mm vitreous non-slip nosing tiles of approved colour laid lengthwise bedded and pointed. The sides of open stringers shall be finished with in-situ terrazzo working to profile of treads and risers to the approval of the S.O..

3.4. Waterproof Paving to Roof Slabs

Waterproof paving to roof slabs shall be as specified under SECTION D: CONCRETING.

3.5. Precast Concrete Paving

3.5.1. Unless otherwise shown on the Drawings or described in the B.Q., precast concrete paving slabs shall be of size 600mm x 600mm x 50mm thick each and made of 1:2:4-20mm concrete reinforced with 'A6' fabric reinforcement to MS 145. The top surfaces of slab shall be brushed with stiff broom or wire brush after the initial set to give a rough finish.

3.5.2. Paving slabs shall be laid to the pattern as shown on the Drawings or approved by the S.O.. The slabs shall be bedded on 25mm thick semi-dry cement and sand (1:3) screed laid on 100mm thick properly compacted and blinded hardcore.



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3.5.3. The joints between the paving slabs shall be 20mm wide filled with cement mortar (1:3) and raked to a depth of 6mm.

3.6. Interlocking Concrete Paving

3.6.1. Taking the existing sub-grade/soil conditions and the anticipated traffic loading into consideration, an adequate thickness of well compacted base course must be provided to ensure good pavement performance. Unless otherwise specified, existing bitumen or concrete surfaces need not be removed and can act as good sub-grade.

3.6.2. Interlocking concrete paving blocks shall comprise of segmental interlocking concrete paving units laid on minimum 30mm thick sand bedding course.

3.6.3. A layer of sand should be loosely spread and screed to a uniform thickness such that its compacted thickness would be approximately 30mm thick. It is important that the sand layer remains undisturbed prior to the laying of blocks.

3.6.4. The grade of the concrete and thickness of the paving blocks shall be as detailed in the Drawings.

3.6.5. Concrete edge restraints shall be provided at the perimeter of the pavement to ensure the paving blocks are tightly abutted and to separate areas of different laying pattern.

3.6.6. The paving blocks are placed side by side on the sand bed with gaps of approximately 2mm between adjoining blocks. The gap between the paving blocks shall be filled with fine sand of different grading to that required for the bedding sand.

3.6.7. The paving blocks can be cut to fit edges and awkward corners. The pavement which has been laid shall be compacted with a hand-guided plate vibrator until it is firmly embedded in the sand layer.

3.6.8. The general specification of the precast concrete paving blocks shall comply with MS 1380.

3.7. In-situ Concrete Paving Footpath

3.7.1. In-situ concrete paving shall consist of 75mm thick concrete of 1:3:6-20mm mix by volume as specified in Section D: CONCRETING, laid on 100mm thick properly compacted and blinded hardcore to panels as shown on the Drawings or as approved by the S.O..

3.7.2. The concrete shall be well compacted and floated with a wooden float to smooth and even finish. After the concrete has achieved the initial set, the surface shall be brushed with stiff broom or wire brush to give a rough finish.

3.7.3. The joints between the panels shall be filled with approved cold-poured polyurethane joint filler.

3.8. Brick Paving

3.8.1. Bricks for paving shall be of semi-vitreous bricks 225mm x 75mm x 50mm thick of approved quality and colour.



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- 3.8.2. The bricks shall be soaked as specified in SECTION E: WALL SYSTEM before laying and shall be laid flat on 25mm semi-dry cement and sand (1:3) screed with 6mm spacing to the pattern as shown on the Drawings or as approved by the S.O..
- 3.8.3. The screed shall be laid on 75mm thick concrete (1:3:6-19mm) base founded on properly compacted and blinded 100mm thick hardcore. The joints shall be filled with cement mortar (1:2) and finish flush.

4. Tiling Work

4.1. Ceramic Tile

- 4.1.1. In general, all ceramic tiles manufactured locally are using the 'dry-pressed' manufacturing process and the ceramic tiles are categorized based on their water absorption rate as defined in the MS 1294, MS ISO 13006 or the International Standard Organization (ISO) Standards (ISO 13006).
- 4.1.2. The methods and materials used in the installation of ceramic tiles under normal internal conditions shall comply with MS 1294-1 and the installation of ceramic tiles under normal external conditions shall comply with MS 1294-2.
- 4.1.3. The installation of tiling works requires skilled operatives working safely using protective clothing and equipment where appropriate; workmanship shall comply with BS 8000-11 for ceramic tiles.
- 4.1.4. Unless otherwise shown on the Drawings, ceramic tiles to internal and external floor for heavy duty areas shall be vitrified with water absorption less than 0.5% [Classification Group Bla] also referred to as heavy duty tiles shall comply with MS ISO 13006 and the size shall be tiles 300mm x 300mm.
- 4.1.5. Unless otherwise shown on the Drawings, ceramic tiles to internal floor areas under normal condition shall be vitrified with water absorption less than 3% [Classification Group Bla or, Blb] shall be vitreous hard wearing non-slip glazed complying with MS ISO 13006 and the tile size shall be 300mm x 300mm.
- 4.1.6. Unless otherwise specified in the Drawings or described in the B.Q., ceramic tile skirting shall match the flooring tiles and shall be 300mm x 100mm laid lengthwise on cement and sand (1:3) screed as described. All angles to skirting shall be neatly cut to fit all abutments.
- 4.1.7. Unless otherwise specified in the Drawings, accessories such as skirting (bull nose or cove base), step tiles, step nosing, edging strips, angle tiles (internal and external), etc. shall be of an approved type standard manufacture from the same material to match flooring. Unless otherwise shown on the Drawings, skirting shall be 100mm high, stair nosing shall be minimum 20mm wide laid full length of the treads and of bull nose profile, and edging strips 25mm wide.

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- 4.1.8. Unless otherwise shown on the Drawings, ceramic tiles for internal walls shall be scuff-resistant glazed vitrified tiles with water absorption less than 6% [Classification Group BIb or BIIa] shall comply with MS ISO 13006. Unless otherwise specified, the minimum tile size shall be of 300mm x 300mm.
- 4.1.9. Unless otherwise shown on the Drawings, ceramic tiles for external walls up to first floor height shall be scuff-resistant glazed vitrified tiles with water absorption less than 3% [Classification Group BIa or BIb] and shall comply with MS ISO 13006. The tiles maximum size shall be of 300mm x 300mm.
- 4.1.10. Unless otherwise shown on the Drawings, ceramic tiles for external walls used above first floor height shall be scuff-resistant glazed vitrified tiles with water absorption less than 0.5% [Classification Group BIa] shall comply with MS ISO 13006. The tiles maximum size shall be of 300mm x 300mm.
- 4.1.11. Unless otherwise specified in the Drawings, all ceramic tiles for walls and floors shall be of 1st Grade or Grade A with approved surface finish & texture, colour and manufacture.
- 4.1.12. Ceramic tiles used for walls which have high water absorption characteristics shall be bedded with approved tile adhesive to the manufacturer's specification on 20mm thick cement and sand (1:3) render which has sufficiently cured. The tiles shall be laid with 2mm to 3mm gap and all joints shall be filled with approved tile proprietary grout to match. Exposed edges of tiling shall be finished with rounded on edge tiles. Ceramic tiles of Classification Group BIII with water absorption >10% shall not be used under any conditions.
- 4.1.13. Porous tiles shall be soaked before fixing to prevent rapid suction and subsequent failure in bonding with the mortar bed. Tiles should be removed from their cartons and completely immersed in clean water for at least thirty (30) minutes. After soaking, they should be stacked tightly together, with the end tiles face outwards, on a clean surface and allowed to drain. Tiles classified in MS ISO 13006 in Groups BIIb and BIII require this saturation treatment; soaking of tiles of Group BIa, BIb and BIIa is unnecessary, refer to MS 1294-1.
- 4.1.14. Unless otherwise instructed by the manufacturer, the tiles should be fixed dry. All tile installation shall use approved type cementitious adhesives. The selection and application of ceramic tile adhesives for internal and external tile installations on walls and floors shall comply with MS ISO 13007-1 and MS 1294.
- 4.1.15. Grouts used shall be of proprietary grout with good working characteristics, low shrinkage and good adhesion to edges of the tiles complying with MS ISO 13007-3. The selection of the type of grout shall be to the manufacturer's recommendation. Sanded grout shall be used for tile joint width of 4mm or more. Non-sanded grouts shall be used for installation in joints of 4mm width or less. The application of ceramic tile grouts for internal and external tile installations on walls and floors shall comply with MS 1294.
- 4.1.16. Tiles shall be laid with joints not exceeding 3mm wide to be filled with coloured grout. Admixtures shall be used in accordance with the manufacturer's recommendation and they shall not be added to the proprietary grout unless approved by the grout manufacturer. Admixtures



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are added for improving the resilience and reducing the water permeability of the hardened grout mortar.

4.1.17. Unless otherwise shown on the Drawings, movement joints should be located in the tiles installation to coincide and be continuous with all existing structural movement joints, although they are actually formed as separate joints isolated by suitable thickness of back-up material.

4.1.18. Unless otherwise shown on the Drawings, the movement joints with consultation with the designers shall be positioned at the following locations:

4.1.18.1. Over existing and/or structural movement joints;

4.1.18.2. Where tiling abuts other materials;

4.1.18.3. Where tiling is continuous across junctions of different background materials;

4.1.18.4. In large tile areas, at internal vertical corners and at 3m to 4.5m centers horizontally and vertically; and

4.1.18.5. Where stresses are likely to be concentrated, for example at changes of alignment.

4.1.19. Unless otherwise specified in the Drawings, joint sealant materials for movement joints shall be selected and applied in accordance with the guidance given BS 6213.

4.1.20. Where large format ceramic tiles are required for walls and to be fixed above first floor height, they shall be secured by mechanical means. When the thickness of tile exceeds 12.5mm and the weight of tile is more than 32kg/m², mechanical fixing is recommended. All mechanical fixing methods shall be certified by a competent Professional Engineer and to the approval of the S.O..

4.1.21. Pull-out test shall be carried out after twenty-eight (28) days installation for every maximum area 500m² or on the tiles that are suspected of hollowness, at the instruction of the S.O..

4.1.22. Adhesion strength of the pull-out test shall exceed 0.5 N/mm² for walls with cement: sand mortar bedding or 1.0N/mm² with adhesive bedding. Pull-out test shall be carried out in accordance to MS ISO 13007-2 and as recommended by the tile adhesive manufacturer. Location and number of test point for the pull-out test shall be as requested by the S.O..

4.2. Precast Terrazzo Tiles

4.2.1. Unless otherwise shown on the Drawings, precast terrazzo tiles of an approved manufacture shall be 100mm x 300mm x 20mm thick machine-pressed tiles comprising of 6mm limestone aggregate and coloured cement.

4.2.2. The tiles shall be soaked prior to laying and shall be laid butt jointed on 20mm thick semi-dry cement and sand screed. The laying shall be done while the screed is still green. All joints between the tiles shall be grouted with coloured cement to match.



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- 4.2.3. The tiles shall be rubbed down to a smooth surface after a minimum of two days or laying by means of Carborundum stone. Tile impregnator shall then be applied strictly in accordance with the manufacturer's recommendation on to the terrazzo surface to prevent future staining.
- 4.2.4. Unless otherwise stated in the Drawings, nosing and edging tiles to edges of flooring and treads of concrete stairs shall be of an approved type and to match with the flooring accessories such as skirting (bull nose or cove base), step tiles, step nosing, edging strips, angle tiles (internal and external), etc. shall be of an approved type from the same material to match flooring.
- 4.2.5. Unless otherwise shown on the Drawings, skirting shall be 100mm high, stair nosing shall be minimum 20mm wide laid full length of the treads and of bull nose profile, and edging strips 25mm wide.
- 4.3. Mosaic
- 4.3.1. Unless otherwise shown on the Drawings, mosaic tiling to floors shall be semi-glazed tiles and shall be of an approved colour and manufacture.
- 4.3.2. Unless otherwise shown on the Drawings, mosaic tiling to walls shall be fully glazed tile and shall be of approved colour and manufacture.
- 4.3.3. Unless otherwise shown on the Drawings or described in the B.Q., all skirting shall be 100mm high to match floor tiling. The tiles at the bottom of the skirting shall be set at 45° to the horizontal and the top finished with cove tiles or edging strips to manufacturer's recommendation. The tiles required to form angles to skirting shall be neatly cut and fit to all abutments.
- 4.3.4. Mosaic tiling to floors shall be bedded on 20mm thick semi-dry cement and sand (1:3) screed, laid on the concrete base which has been thoroughly cleaned and wetted.
- 4.3.5. Mosaic tiling to walls shall be evenly buttered with cement:sand mortar before bedding on 20mm thick cement and sand (1:3) screed which has sufficiently cured. Alternatively the tiling shall be bedded with approved proprietary adhesive to manufacturer's recommendation onto the cement screed.
- 4.3.6. During bedding, the surface of the mosaic shall be checked and any unevenness shall be made good. Any misaligned or defective tiles shall be adjusted or replaced. All joints shall be grouted with approved proprietary grout or coloured cement and sand grout to match. The tiling shall be allowed to mature under damp condition for at least four (4) days before cleaning down.
- 4.3.7. The selection and application of tile adhesives for internal and external mosaic installations on walls and floors shall comply with MS ISO 13007-1. The selection and application of tile grouts for mosaic installations on walls and floors shall comply with MS ISO 13007-3.
- 4.4. Quarry Tiles
- 4.4.1. Quarry tiles shall be of non-slip type 150mm x 150mm x 12mm thick complying with MS 1091. The tiles shall be bedded on 20mm thick semi-dry cement and sand (1:3) screed with joints about 2mm wide, laid on the



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concrete base which has been thoroughly cleaned and wetted. All tiles shall be soaked overnight before laying.

- 4.4.2. All skirting shall be 100mm high with rounded top edge to match the tiles flooring. The tiles required to form angles to skirting shall be neatly cut and fit to all abutments.

4.5. PVC Tiles/Sheets

- 4.5.1. PVC tiles or sheets shall be of approved type, pattern and colour. PVC tiles or sheets are to be of non-slip type and shall comply with MS 602. Tiles shall be 250mm x 250mm x 2mm thick minimum. Sheets shall be 2 m roll width x 2mm thick minimum.
- 4.5.2. Accessories such as skirting, stair nosing, edging strips etc. shall be of the same manufacture from similar material to match flooring. Unless otherwise described skirting shall be 100mm high; stair nosing shall be 60mm wide laid full length of the treads and of bullnose profiles; and edging strips shall be 25mm wide.
- 4.5.3. The final appearance and performance of the floor covering will be determined and affected, in part, by the condition of the subfloor. It is essential that all subfloors are solid, smooth, flat, even, permanently dry, clean and free from all foreign materials such as dust, paint, grease, oils, solvents, curing and hardening compounds, sealers, asphalt and old adhesive residue. The dryness of the subfloor is of the utmost importance and it must be determined by testing the moisture level in the subfloor. Enough drying time must be allowed in the building program to achieve a relative humidity (RH) reading of below 75% or in compliance to the manufacturer's RH recommendation.
- 4.5.4. Installation area for the flooring must be clean, fully enclosed, weathertight and maintained at uniform temperature at least forty-eight (48) hours prior to, during and after the installation is completed.
- 4.5.5. The tiles or sheet shall be laid and jointed on 20mm thick cement and sand (1:3) screed subfloor with an approved proprietary waterproof adhesive strictly in accordance with manufacturer's recommendation. The screed shall be finished smooth with a steel trowel to an even surface and shall be dry, clean and free from dust and sand before laying the tiles and sheets. A self-leveling sub-floor smoothing compound shall be applied on uneven surfaces to provide a quality finish to receive the floor coverings or as recommended by the manufacturer.
- 4.5.6. For ground floor or basement areas, an approved damp proof membrane shall be installed prior to the application of sand/cement screeds.
- 4.5.7. Adhesive; when not specified otherwise, type to be as recommended and approved by the PVC tile/sheet covering manufacturer. Use acrylic adhesive/solvent based adhesive on dry, dustless sub floors in areas not subjected to spillages. Use two parts polyurethane adhesive on the sub-floors in areas subject to excessive spillage of water. Floors must be kept free of traffic until the PU adhesive is fully set, recommended minimum eight (8) hours.
- 4.5.8. The floor coverings should be adhered in acrylic adhesive or approved equivalent. All joints on the floor must be cut in, grooved and hot welded. Cove up skirting shall be 100mm height, to enable the self-coving of the floor covering. In areas that are not subjected to spillages of water onto



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the wall surfaces, the top of the covering is to be finished with PVC capping seal. This should be adhered to the wall surface approximately 100mm-150mm high prior to self-coving floor covering. The material is then cut and fitted into the capping seal, capping seal should be adhered with contact adhesive.

- 4.5.9. In areas that are subjected to spillages of water onto the wall surfaces, the top of the covering is finished with aluminium trimming, a specially designed section for forming water-tight joint in conjunction with the surface of the wall finishes. It is recommended that the aluminium trim to be screwed on the wall surface.
- 4.5.10. Where area of excessive spillages of water, it is important that a watertight joint be achieved at junction of drains, gratings, access covers etc.
- 4.5.11. On completion, the flooring shall be well-cleaned and treated or polished in accordance with the manufacturer's recommendation.
- 4.6. Timber Strip Flooring
- 4.6.1. Unless otherwise shown on the Drawings, timber strip flooring shall be ready-made, laminated three (3) ply timber strips or floorboards of approved manufacture. The timber species for use in timber strip flooring shall be as specified in SECTION H: TIMBER, JOINERY AND IRONMONGERY.
- 4.6.2. The flooring shall be laid to the pattern as approved by the S.O., on 20mm thick cement and sand (1:3) screed with an approved waterproof adhesive applied in accordance with manufacturer's recommendation. The screed shall be finished smooth with a steel trowel to an even surface and it shall be dry, clean and dust free before laying the timber strip flooring. After the adhesive has set, the timber strip flooring shall be sanded to a true smooth and even surface using suitable sanding machine. Any misaligned or defective timber strip shall be adjusted or replaced.
- 4.6.3. Unless otherwise shown on the Drawings or described in the B.Q., skirting to timber strip flooring shall consist of 100mm x 12mm thick wrot timber skirting rounded at the top, and fixed to the wall or column using 38mm masonry nails spaced approximately at 600mm centres in two (2) rows 26mm away from the top and bottom edges. The nails shall be punched below the surface and the holes filled with approved putty. Any jointing of the skirting shall use splayed butt joints.
- 4.6.4. The face edges of the flooring shall be lined with wrot timber edging to match. The edging strips shall be 38mm wide approximately x 12mm thick fixed to the base using adhesive as specified hereinbefore, projecting 12mm from the finished sides of floor slabs. Edging strips shall be jointed using glued splayed butt joints.
- 4.6.5. After sanding the flooring shall be cleaned, any gap sealed with approved sealer, stained and finished with three (3) coats of approved polyurethane paint. Each coat shall be applied strictly in accordance with the manufacturer's recommendation.

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4.7. Parquet Tile Flooring

- 4.7.1. Unless otherwise shown on the Drawings, parquet tiles shall be ready-made 120mm x 120mm x 10mm thick consisting of 120mm x 25mm x 10mm pressure treated kempas, keruing or other approved medium hardwood timber battens. The timber species for use in parquet flooring shall be as specified in SECTION H: TIMBER, JOINERY AND IRONMONGERY WORKS.
- 4.7.2. The flooring shall be laid to the pattern as approved by the S.O., on 20mm thick cement and sand (1:3) screed with an approved waterproof adhesive applied in accordance with manufacturer's recommendation. The screed shall be finished smooth with a steel trowel to an even surface and it shall be dry, clean and dust free before laying the parquet flooring. After the adhesive has set, the parquet flooring shall be sanded to a true smooth and even surface using suitable sanding machine. Any misaligned or defective parquet shall be adjusted or replaced.
- 4.7.3. Unless otherwise shown on the Drawings or described in the B.Q., skirting to parquet flooring shall consist of 100mm x 12mm thick wrot timber skirting rounded at the top, and fixed to the wall or column using 38mm masonry nails spaced approximately at 600mm centres in two (2) rows 26mm away from the top and bottom edges. The nails shall be punched below the surface and the holes filled with approved putty. Any jointing of the skirting shall use splayed butt joints.
- 4.7.4. The face edges of the flooring shall be lined with wrot timber edging to match. The edging strips shall be 38mm wide approximately x 12mm thick fixed to the base using adhesive as specified hereinbefore, projecting 12mm from the finished sides of floor slabs. Any edging strips shall be jointed using glued splayed butt joints.
- 4.7.5. After sanding the flooring shall be cleaned, any gap sealed with approved sealer, stained and finished with three (3) coats of approved polyurethane paint and sanding between coats. Each coat shall be applied strictly in accordance with the manufacturer's recommendation. The required type of flooring finish shall be to S.O.'s approval.

4.8. Granite Slabs

- 4.8.1. Unless otherwise shown on the Drawings, granite slabs for flooring shall be 600mm x 600mm x 25mm thick shall be bedded with cement: sand mortar or alternatively with 9mm thick approved proprietary tile adhesive onto 25mm thick cement and sand (1:3) screed as described hereinbefore. The slabs shall be laid butt-joint. Any gap shall be filled with approved mixture of adhesive and grout powder. After grouting, the surface then shall be polished, buffered and finished with a layer of impregnator.
- 4.8.2. If used in wet or exposed areas, or on ground floor, waterproofing system shall be installed prior to the laying of granite slabs. The floors or the exposed wet areas shall be applied with two coats of approved waterproof coating.
- 4.8.3. The reverse side of granite slabs in contact with the ground floor or exposed wet wall surface shall be applied with approved waterproof coating.



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4.9. Marble Slab

- 4.9.1. Unless otherwise shown on the Drawings, marble slabs for flooring shall be 600mm x 600mm x 25mm thick shall be bedded with cement: sand mortar or alternatively with 9mm thick approved tile adhesive onto 25mm thick cement and sand (1:3) screed. The slabs shall be laid butt-joint. Any gap shall be filled with approved mixture of the adhesive and grout powder. After grouting, the surface then shall be polished, buffered and finished with a layer of impregnator.
- 4.9.2. If used in wet or exposed areas, or ground floor, waterproofing system shall be installed prior to the laying of marble slabs. The floors or the exposed wet areas shall be applied with two coats of approved waterproofing coating.
- 4.9.3. The reverse side of marble slabs in contact with the ground floor or exposed wet wall surface areas shall be applied with approved waterproof coating.

4.10. Vinyl

- 4.10.1. Vinyl sheet or vinyl tile flooring shall be high performance homogenous-heterogeneous type and specified in accordance to the following type and performances:
- 4.10.1.1. Vinyl Type 1: Heavy duty to withstand heavy traffic of trolleys.
- 4.10.1.2. Vinyl Type 2: Anti-static to cater for aseptic and dust free environment.
- 4.10.1.3. Vinyl Type 3: Anti-slip to cater for wet areas as well as slippery areas.
- 4.10.1.4. Vinyl Type 4: Heavy duty, fully flexible and resilient for sports flooring and children play areas (Designed specially that combines tough wear layer with a resilient backing for comforts and under floor sound deadening properties and attractive good looks).
- 4.10.1.5. Vinyl Type 5: High Resistant to Chemical.
- 4.10.2. All joints to be hot welded and matching coloured. The skirting to the vinyl floor must be of the same vinyl to 150mm high with approved cove former and finished with matching coloured UPVC capping strips with approved recommended acrylic adhesive strictly to manufacturer's method of installation.
- 4.10.3. Vinyl sheet shall have Polyurethane Reinforced (PUR) surface treatment for easy maintenance.
- 4.10.4. Colours and patterns of vinyl flooring shall be to the PD's concurrence. Approved metal dividing clips shall be installed when vinyl flooring meets with other floor finishes.
- 4.10.5. Prior to the application of vinyl floor covering, the contractor shall ensure that the floor substrate has a perfectly even surface, dry and free from. Vinyl sheets shall be installed onto floor flatness tolerance of not more than $\pm 3\text{mm}$ for every 3 m length floor area ready to receive vinyl flooring. Self-levelling compound of approved quality to be installed before



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finishing with vinyl flooring. The flatness tolerance shall strictly adhere to manufacturer's method of installation.

- 4.10.6. Types of adhesive with low VOC shall be used strictly in accordance with the recommendation of the manufacturer of the proposed type of vinyl flooring.
- 4.10.7. Laying of all type's vinyl flooring shall only be carried out by specialists from the approved supplier of the material.
- 4.10.8. The contractor shall incorporate damp proof treatment before laying the vinyl flooring to ensure that the floor slab/ or base screed is free from rising damp.
- 4.10.9. For waiting areas, corridors and other specific areas, the vinyl floors shall be completed with designed motifs, graphics and interplay of colours to the P.D.'s concurrence.
- 4.10.10. Stainless steel floor trap and gratings provided in vinyl flooring area shall be of special approved type that is suitable for vinyl flooring and shall be installed to manufacturer's specification and instructions.
- 4.10.11. Approved anti-slip nosing strips shall be used wherever vinyl is being laid on steps or staircases. Special approved type of metal grating suitable for vinyl flooring shall be used.

4.11. Indoor Sport Floors - Cushion PVC Sport Flooring

- 4.11.1. Unless otherwise specified on the Drawings, multi purposed game court surfaces shall be finished with Cushion PVC Sport Flooring sheets endorsed and recommended surfacing systems with excellent shock absorption, elasticity, flexibility, strong protective membrane, waterproof, resilience and slip resistance to ensure great sports performance.
- 4.11.2. Cushion PVC Sport Flooring sheets shall be minimum overall thickness of 7.5mm comprising of surface layer with protecsol treated, calendered and grained 100% PVC sheet.
- 4.11.3. Its reinforced by double layer of non-woven fiberglass grid and double density closed cell foam. Shall undergone Sanosol treatment for fungistatic and bacteriostatic, surface treated with Protecsol cross-linked dirt protection treatment.

Weight: 4.7kg/m²,
Shock Absorption (EN 14808): P1
Impact Protection Index (IPI) (AC-P90-205) =76%,
Vertical Deformation (EN 14809): < 2mm,
Energy Return (pr EN WI 217): 0.4 m/s,
Abrasion Resistance (EN ISO 5470-1): <350mg,
Sliding Coefficient (EN 13036-4): 80-100,
Indentation Resistance (EN1516) : < 0.5mm,
Abrasion resistance EN ISO 5470-1) < 350mg.
Ball bounce (EN12235) >90%
Fire (EN13501-1): Cfl-S1
Complied to GREEN Label/ Certificate
Low VOC

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- 4.11.4. Cushion PVC flooring sheets shall comply with approved or accredited by major sport federations, namely BWF, FIBA, ITTF, AFC, FIVB, IFF.
- 4.11.5. The final appearance and performance of the floor covering will be determined and affected, in part, by the condition of the subfloor. The general requirement for the subfloor must be absolutely hard, smooth finished level, dry, structurally sound, free from cracks and other irregularities, free from contaminated with paint, plaster, oil, grease or any substances that could affect the adhesion. A damp proof membrane must be laid under the concrete to act as a barrier against underling hydrostatic pressure and moisture (for ground floor only). Cracks or hollowness must be repaired and filled with an appropriate material. The subfloor must be level with a tolerance of 3mm over 2 meter straight edge.
- 4.11.6. The floor covering should be underlayment 5mm self levelling compound (eg. CL 11 or NC146) with Primer and applied in accordance with manufacturer's instruction. The tensile Bending strength after 28 days is 6N/mm² and Compressive Strenght after 28 days is 30N/mm². Self levelling compound shall complied with green label certification.
- 4.11.7. The top of the covering is finished with Damp Proof Membrane (For Ground floor only) (eg. HydroEpoxy 300 or PE146), a 2 component water based epoxy polyamide membrane/barrier coating. The cured membrane shall withstand 250kPa hydrostatic pressure which is equivalent to a 25m head of water. Application is in accordance with manufacturer's instruction.
- 4.11.8. Cushion PVC Sport Flooring sheets installation shall only use low VOC adhesives.

5. Carpet

5.1. Carpet Tiles

- 5.1.1. Unless otherwise specified on the Drawings, all carpets shall be of high quality, durable, loop pile type of 100% Nylon type 6 fibre (ASTM D 629-72/ANSI), 1/12 gauge, minimum 7mm overall thickness of pile height and cushion backing, 16 oz per sq yard pile weight (normal traffic area), 24 oz per sq yard pile weight (heavy traffic area).
- 5.1.2. Carpets shall be coated with protective coating (eg. 3M Scotchgard™) for stain resistant and easier cleaning.
- 5.1.3. All ground floor areas, which are specified using carpet tiles, shall have approved damp-proof membrane on the ground floor slabs.
- 5.1.4. Unless otherwise specified on the Drawings, wall edges shall be with approved minimum 100mm height timber skirting.
- 5.1.5. The contractor shall be required to submit samples of the various colours/patterns and SIRIM Eco-Label certification.
- 5.1.6. Aluminium dividing strips or other suitable rust proof metal gripper strips shall be laid at junctions of different floor finishes and finishing flushed with flooring.



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- 5.1.7. Carpet tiles can be laid over any smooth, hard floor like parquet, laminated flooring and stone. Ensure the surface is clean, level and dry before installation.
- 5.1.8. All floor areas, which are specified using carpets, must be dry, level, and free from dirt, grease, oil, paint, sealer, old adhesives, and other residues.
- 5.1.9. Carpet tiles installation shall only use low formaldehyde water-based adhesive.
- 5.1.10. Carpet tiles used shall be laid with close butt joints, stretched and balanced so that all seams are parallel with minimum bows with suitable rustproof metal gripper strips securely installed. The carpets shall be installed in largest practical pieces and salvage shall be trimmed as required to assure color uniformity and pattern match at seams. All carpet shall have its edges trimmed and neatly fitted around all perimeters, openings and obstructions.
- 5.1.11. The carpets shall be installed in largest practical pieces and salvage shall be trimmed as required to assure color uniformity and pattern match at seams. All carpet shall have its edges trimmed and neatly fitted around all perimeters, openings and obstructions.
- 5.1.12. Warranty minimum 2 years on manufacturing defect. Supply and install by approved installer by manufacturer.
- 5.2. Broadloom Carpet (Roll Carpet / wall to wall carpet)
- 5.2.1. Machine Tufted Carpet
- 5.2.1.1. Unless otherwise specified on the Drawings, the machine tufted carpet shall be of high quality, durable, loop pile type or cut pile type or combination of both of 100% Nylon type 6 fibre (ASTM D 629-72/ANSI), 1/12 gauges, minimum 7mm overall thickness of pile height and PVC backing underlay, minimum 18 oz per sq yard pile weight (normal traffic area), minimum 24 oz per sq yard pile weight (heavy traffic area).
- 5.2.1.2. Broadloom carpets shall be coated with protective coating (eg. 3M Scotchgard™) for stain resistant and easier cleaning.
- 5.2.1.3. All ground floor areas, which are specified using carpets, shall have approved damp-proof membrane applied on the floor slabs. Unless otherwise specified on the Drawings, all carpets shall be laid with 6mm thick rubber-crumble underlay.
- 5.2.1.4. Unless otherwise specified on the Drawings, wall edges shall be with approved minimum 100mm height timber skirting.
- 5.2.1.5. All floor areas, which are specified using carpets, must be dry, level, and free from dirt, grease, oil, paint, sealer, old adhesives, and other residues.
- 5.2.1.6. The contractor shall be required to submit samples of the various colours/patterns and SIRIM Eco-Label certification.
- 5.2.1.7. Aluminium dividing strips or other suitable rust proof metal gripper strips shall be laid at junctions of different floor finishes and finishing flushed with flooring.



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5.2.1.8. Broadloom carpets used shall be laid with close butt joints with underlay, stretched and balanced so that all seams are parallel with minimum bows with suitable rustproof metal/ wood gripper gripper strips securely installed. The carpets shall be installed in largest practical pieces and salvage shall be trimmed as required to assure color uniformity and pattern match at seams. All carpet shall have its edges trimmed and neatly fitted around all perimeters, openings and obstructions.

5.2.1.9. The carpets shall be installed in largest practical pieces and salvage shall be trimmed as required to assure colour uniformity and pattern match at seams. All carpet shall have its edges trimmed and neatly fitted around all perimeters, openings and obstructions.

5.2.1.10. Warranty minimum 2 years on manufacturing defect. Supply and install by approved installer by manufacturer.

5.2.2. Axminster Carpet

5.2.2.1. Unless otherwise specified on the Drawings, the axminster carpet shall be of high quality, durable, cut pile type of 80% Wool 20% Nylon type 6 fibre (ASTM D 629-72/ANSI), 1/12 gauges 7/7 rows and pitch, minimum 7mm overall thickness of pile height and jute backing, minimum 32 oz per sq yard pile weight (normal traffic area), minimum 42 oz per sq yard pile weight (heavy traffic area).

5.2.2.2. Broadloom carpets shall be coated with protective coating (eg. 3M Scotchgard™) for stain resistant and easier cleaning.

5.2.2.3. All ground floor areas, which are specified using carpets, shall have approved damp-proof membrane applied on the floor slabs. Unless otherwise specified on the Drawings, all carpets shall be laid with 6mm thick rubber-crumbs underlay.

5.2.2.4. Unless otherwise specified on the Drawings, wall edges shall be with approved minimum 100mm height timber skirting.

5.2.2.5. All floor areas, which are specified using carpets, must be dry, level, and free from dirt, grease, oil, paint, sealer, old adhesives, and other residues.

5.2.2.6. The contractor shall be required to submit samples of the various colours/patterns and SIRIM Eco-Label certification.

5.2.2.7. Aluminium dividing strips or other suitable rust proof metal gripper strips shall be laid at junctions of different floor finishes and finishing flushed with flooring.

5.2.2.8. Broadloom carpets used shall be laid with close butt joints with underlay, stretched and balanced so that all seams are parallel with minimum bows with suitable rustproof metal/ wood gripper gripper strips securely installed. The carpets shall be installed in largest practical pieces and salvage shall be trimmed as required to assure color uniformity and pattern match at seams. All carpet shall have its edges trimmed and neatly fitted around all perimeters, openings and obstructions.



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- 5.2.2.9. The carpets shall be installed in largest practical pieces and salvage shall be trimmed as required to assure colour uniformity and pattern match at seams. All carpet shall have its edges trimmed and neatly fitted around all perimeters, openings and obstructions.
- 5.2.2.10. Warranty minimum 5 years on manufacturing defect. Supply and install by approved installer by manufacturer.

**REKOD PENGALAMAN KERJA
DALAM 5 TAHUN LEPAS –
BORANG D**

BORANG D – REKOD PENGALAMAN KERJA PENYEBUTHARGA
(Senarai semua kerja yang disiapkan dalam 5 tahun lepas +)

Bil.	Nama	Nilai Kontrak (RM)	Nilai Penyebutharga* Bertanggungjawab	Tempoh Kontrak **	Tarikh Milik Tapak	Tarikh Siap		Nama dan Alamat Penguasa/ Jurutera Perunding	Nama Alamat Majikan
						Kontrak	Sebenar		

+ Salinan Perakuan/Pengesahan Siap Kerja bagi setiap kerja yang disenaraikan hendaklah disertakan.
 * Hanya perlu diisi sekiranya penyebutharga melaksanakan kerja sebagai ahli syarikat gabungan.
 ** Tempoh kontrak hendaklah termasuk lanjutan masa yang diluluskan.

SENARAI KAKITANGAN TEKNIKAL - BORANG E

BORANG E – KAKITANGAN TEKNIKAL

(Butir-butir Kakitangan Teknikal Yang Ada Dalam Penggajian Penyebutarga Masa Kini)

*Nama dan No. K/P	Umur	Kelulusan Professional/ Pendedikan**	Tahun Kelulusan	Tarikh Diambil Bekerja	Jawatan yang Disandang/ Tugas-Tugas semasa	Pengalaman Lepas (Jawatan disandang, Nama projek dan majikan dan tempoh Bekerja dan sebagainya)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

* Salinan Borang KWSP 'A' setiap pekerja bagi bulan caruman terakhir dan salinan perjanjian perkhidmatan ahli professional yang diambil khidmat secara kontrak hendaklah disertakan.

** Sila sertakan salinan Sijil Kelulusan atau Sijil Keahlian Badan-badan Professional

**SENARAI KEEMPUNYAAN LOJI
DAN PERALATAN UTAMA -
BORANG F**

BORANG F – KEEMPUNYAAN LOJI DAN PERALATAN PEMBINAAN UTAMA

(Senarai Loji dan Peralatan Pembinaan Utama kepunyaan penyebutharga yang sesuai yang boleh digunakan untuk projek)

Bil.	Butiran (Jenis, model, buatan dan keupayaan/ saiz)	Dimiliki, Disewa-beli Atau Disewapajak*	Bilangan Setiap satu	Nilai Semasa (RM)	Umur (dari tarikh belian asal)	Tempat simpanan/ digunakan sekarang	Catatan
A.	Loji dan Peralatan Asas **: i) Lorry / Tipper / Dumper / 4x4 ii) Sky lift						
B.	Loji dan Peralatan lain : i) Drill and Cutter ii) Welding Machine iii) Pneumatic Jackhammers						

* Salinan kad pendaftaran dan/ atau dokumen-dokumen lain bukti keempunyaan hakmilik penyebutharga atau perjanjian sewabeli/ sewapajak atas setiap Loji dan Peralatan yang disenaraikan hendaklah disertakan.

** Pegawai yang menyediakan Dokumen Sebutharga hendaklah menyenaraikan butiran-butiran Loji dan Peralatan Asas bagi projek berkenaan (tanpa bilangan AKM).

PRESTASI KERJA SEMASA

BORANG G

BORANG G - SENARAI KERJA/ KONTRAK SEMASA PENYEBUTHARGA

(Senarai semua kerja di dalam tangan/sedang berjalan dan belum siap termasuk kontrak yang baru diawadkan)

Bil	Nama Kontrak/Projek+	Nilai Kontrak (RM)	Nilai Penyebutharga* Bertanggung jawab	Tempoh Kontrak **	Tarikh Milik Tapak	Tarikh Siap Kontrak	Kemajuan Kerja+		Nama dan Alamat Jurutera Projek	Nama dan Alamat Majikan
							Ikut Jadual (%)	Sebenar Dicapai (%)		

* Hanya perlu diisi sekiranya penyebutharga melaksanakan kerja sebagai ahli syarikat gabungan
 ** Tempoh Kontrak hendaklah termasuk lanjutan masa yang diluluskan.

+ Peringatan Penting

Bagi setiap kerja semasa dalam tangan yang disenaraikan, penyebutharga wajib mengemukakan Laporan Penyelia Projek seperti format di Borang GA/GA1.

SULIT

BORANG GA – LAPORAN PENYELIA PROJEK ATAS PRESTASI KERJA (BUKAN PROJEK MSN) SEMASA PENYEBUTHARGA

(Borang ini hendaklah dilengkapkan oleh Penyelia Projek atau Pembantu Kanannya yang mengawasi projek dan diserahkan kepada Kontraktor dalam satu sampul berlakri untuk disertakan bersama-sama sebutbutharganya)

Kepada: Pengarah.....
.....
.....
(u/p:.....)

Nama Kontraktor:
Nama Projek Yang Dilaksanakan
.....

No. Kontrak :

Harga Kontrak (termasuk anggaran nilai kerja perubahan) : RM
Wang Kos Prima dan Peruntukan Sementara : RM
Nilai Kerja Pembina : RM

Tarikh Milik Tapak : Tempoh Kontrak: Minggu
Tarikh Penyiapan Asal :

Lanjutan Masa Yang Telah Diluluskan : hari

Lanjutan Masa Seterusnya:

Yang difikir/ dijangka layak diperakukan : hari

Atas Sebab-sebab : (i)
(ii)

Kemajuan Kerja (berdasarkan penilaian kerja yang telah dilaksanakan):

Pencapaian sebenar: % Mengikut Jadual: %

Tarikh Kerja dijangka akan dapat disiapkan:

Nilai Bahagian Kerja Yang Telah Siap : RM

Nilai Baki Kerja Yang Belum Siap : RM

Ulasan-ulasan mengenai Prestasi Kontraktor:

(Nyatakan apa-apa kepujian dan/ atau kelemahan kontraktor dan juga apa-apa tindakan/ perakuan yang diambil/ dipertimbang berhubung dengan prestasi Kontraktor melaksanakan Kontrak)

Tandatangan Penyelia Projek :

Nama :

Jawatan :

Tarikh:

SULIT

BORANG GA1 – LAPORAN JURUTERA PROJEK ATAS PRESTASI KERJA SEMASA PENYEBUTHARGA

(Borang ini hendaklah dilengkapkan oleh Jurutera Projek atau Pembantu Kanannya yang mengawasi projek apabila diminta berbuat demikian oleh Pegawai Penilaian dan hendaklah dihantar segera dengan menggunakan mesin Fax/Email)

Kepada: Pengarah.....
.....
.....
(u/p:.....)

Nama Kontraktor:
Nama Projek Yang Dilaksanakan
.....

No. Kontrak :

Harga Kontrak (termasuk anggaran nilai kerja perubahan) : RM
Wang Kos Prima dan Peruntukan Sementara : RM
Nilai Kerja Pembina : RM

Tarikh Milik Tapak : Tempoh Kontrak: minggu
Tarikh Penyiapan Asal :

Lanjutan Masa Yang Telah Diluluskan : hari

Lanjutan Masa Seterusnya:

Yang difikir/ dijangka layak diperakukan : hari
Atas Sebab-sebab : (i)
(ii)

Kemajuan Kerja (berdasarkan penilaian kerja yang telah dilaksanakan):

Pencapaian sebenar: % Mengikut Jadual: %
Tarikh Kerja dijangka akan dapat disiapkan:

Nilai Bahagian Kerja Yang Telah Siap : RM
Nilai Baki Kerja Yang Belum Siap : RM

Ulasan-ulasan mengenai Prestasi Kontraktor:

(Nyatakan apa-apa kepujian dan/ atau kelemahan kontraktor dan juga apa-apa tindakan/ perakuan yang diambil/ dipertimbang berhubung dengan prestasi Kontraktor melaksanakan Kontrak)

Tandatangan Pegawai Penguasa/
Jurutera Projek/ Wakilnya :

Nama :
Jawatan :

Tarikh:

SENARAI SUB-KONTRAKTOR PAKAR - BORANG H

LIST OF SPECIALIST SUB-CONTRACTORS TO BE ENGAGED IN THIS PROJECT

NAME AND ADDRESS OF SUB- CONTRACTORS	REGISTRATION WITH CIDB / MOF (Submit copies of relevent registration)	TYPE OF WORK UNDERTAKEN	YEARS OF EXPERIENCE

BORANG H

**SENARAI SUB KONTRAKTOR UNTUK KERJA PAKAR
(PEMBUAT / PEMBEKAL)**

SUB KONTRAKTOR DAN PEMBEKAL YANG DINIATKAN UNTUK KONTAK INI			
Penyebutharga hendaklah menyenaraikan nama-nama sub-kontraktor yang dicadangkan.			
No.	Bidang Kerja dan Maklumat Am Kontraktor Pakar	Pendaftaran Dengan CIDB (Gred / Kategori / Pengkhususan)	Pendaftaran Dengan Lain-Lain Jabatan Berkaitan / MOF
1	Skop Pembekalan a) Jenis Skop : b) Nama Pembekal : c) Alamat Pembekal :		
2	Pembuat Pakar a) Jenis Skop Kerja : b) Nama Pembuat : c) Alamat Pembuat :		
3	d) Profit Produk : e) Profit Projek Dilaksanakan : f) Sample : (wajib dikemukakan bersama dengan dokumen sebutharga)		
3	Pengesahan daripada sub-kontraktor pakar. Kami dengan ini mengesahkan bahawa penyebutharga telah mendapat maklumat kos dan kaedah pembinaan produk kami dan kami bersetuju untuk melaksanakan kerja ini untuk pihak Kerajaan. (Tandatangan) Nama : No. KP : Jawatan : Tarikh : Cop Syarikat :		

Nota :

- 1 Sekiranya kontraktor gagal mengemukakan pengesahan daripada pembekal / pembuat pakar. Sebutharga kontraktor boleh tidak dipertimbangkan oleh Jawatankuasa berkaitan
- 2 Sekiranya sub-kontraktor pakar gagal untuk meyakinkan pihak Kerajaan tentang kualiti daya tahan dan pematuhan kepada syarat yang ditetapkan, kontraktor hendaklah bersetuju untuk menggunakan produk dan perkhidmatan sub-kontraktor pakar yang lain dengan tiada tambahan kos kepada kontrak