

### **Ministry of Environment and Energy**

Male', Republic of Maldives.

وسر مع مر مرور مرسور مرسوع مرسوع مرسوع مرسوع مرسوع

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4	フジ 2 以 2 ツ 2 ラロ ファ
4	1- مُحْرِبُرُونِ
4	ביסיס יג ניסגרני ני"ט ס' ג'יס שתישת הג פאממער בת שתית קתב מש של
5	נייני וו זי ניינטטט נט אר אינע פר בריע אינע אינער אייער אינער אייער אינער אייער אינער אייער אינער אייער אינער אייער אינער אינער אינער אינער אינער אינער אייער אינער אינער אינער אינער אינער איי
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	20 : رَسُورُونَ مُرُورُ وَ 2 : رَسُورُونُ مُرُورُ
9	ره 3: وَسَوْرَهُ عَرْدُونَ مِرْدُونَ وَحْ 3: وَسَوْرِمُونُو مُرْدُونِ
14	2 ؛ رُورِي دُرُرِي دُرُدُ دُرِيْ اللهِ عَلَيْ اللهِ عَلَيْ اللهِ عَلَيْ اللهِ عَلَيْ اللهِ عَلَيْ اللهِ عَلَيْ
٠ , ١ , ٥ ، ١ ٢ , ٢ , ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢ ٢	عَ يُرْوَوُ 1 : 'مُشْرُوْسِ بَرْعِ سُمُعْ مُرْمِرٍ جِ .رُسْ.جٍ بَرْجِ شَجْعُ سُمُسْ سُجُ وِمَجُ / مِرْوْرِ بَرُدُرِمُودُمَاسُدُرُ
آج <sub>ي</sub> َّةٍ 15	
16	ر در
17	ن درورد درورد درورد کرده درورد درور
18	١٤٥٥ : ١٥٥

## e- 3/1/2 2/1/2/0

בְתְרִים אֹ הְלְנֶהְיִם בְּתְרִים אֹמְלְבְּלְנִים בְּתְרִים הְתְנֵי הְתְּלְבֶּלְ הְלְנֶבְיִים בְּבְּבְּ הַפּבְרֶבִי בְבָּת בִינִים בְּבָרָת בִיתִּתְפָבָרָפָ.

مَنْ مِهُ وَ مِنْ وَمُوْمَ وَمُوْرَمُ عَنْ مِنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْدِ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْ مَنْ وَهُوْدِ مِنْ وَهُوْدِ مِنْ وَهُوْدِ وَهُوْدِ وَ وَهُوْدِ وَ وَمُؤْمِدُ وَهُوْدُو وَ وَمُنْ مِنْ وَهُوْدُ وَ وَمُنْ مِنْ وَوَدُو وَ وَنَا مُنْ مُؤْدُ وَ وَالْمُؤْمِدُ وَالْمُؤْمِدُ وَمُؤْمِدُ وَمُؤْمِدُ وَمُؤْمِدُ وَالْمُؤْمِدُ وَالْمُؤْمِ وَالْمُؤْمِدُ وَالْمُؤْمِدُ وَالْمُؤْمِدُ وَالْمُؤْمِدُ وَالْمُؤْمِدُ وَالْمُؤْمِ وَالْمُؤْمِدُ وَالْمُؤْمِ وَالْمُوالِمُولِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُوالْمُوالِمُ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ وَالْمُؤْمِ و

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( אנל ה הנה ב על אניים אל )

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### 1- مُحَبَّرُوْ

### 2. وَوَسُرُورُ مُدُو وَعُسُرِيْرُورُ مِنْ وَسُرُورُ مِنْ مِنْ مُرَّدُ سِرَوْسِ وَسُرَوْسِ وَسُرَوْسِ وَسُرَوْسِ

- 50% 35 •
- وُسَوْرُمُونُ مُونِع بِرَفّ 30%
- i كَارُورُو وَسُورُكُو دُ
- مورد عامرور موروس وجورد 5 درد دور سرورو د ادرورو د ادرورود در درورود در درورود
- مؤثرًا المشرور وعدَّم دُوسُرْمِ وَالْمَرْمُومُوسُ وَسِرْدُمْ رَدَعُ مِوْرُسُ 15 مِسْ المُرْمُدُةُ.
- ڔٷڔٛڎؙڝٛۺڎڔ ۼٛڎڔؙ؆ڎ ؆ٛۯۅؙڔۅٞ ڋۺڎ ڎۻۮ؆ۿۿ؆ڎ ڔۺڎڎ ﴿ رَفَعْ رِوْرَوْسِ 15 ڔڛؙٛڂۯۿۯٷ.
- وَسَمْرُمُ مُ فَهُمْ الْهِ وَسُرُونُ الْوَرْدُ عُلَادُونُ الْوَلْ وَسُرَكُمْ وَسُونَ الْهُ وَلَا الْمُ الْمُلْمُ الْمُ الْمُ الْمُ الْمُ الْمُ الْمُ الْمُ الْمُ الْمُ الْمُلْمُ الْمُ الْمُ الْمُ الْمُ الْمُ الْمُلْمُ الْمُ الْمُلْمُ الْمُ الْمُلْمُ لِمُلْمُ الْمُلْمُ لِمُلْمُ الْمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِلْمُلْمُ لِلْمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لْمُلْمُ لِمُلْمُ لِمُلْمُلِمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُلِمُ لِمُلْمُ لِمُلْمُلِمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُلِمُ لِمُلْمُلِمُ لِمُلْمُلْمُ لِمُلْمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِمُلْمُ لِ

### • ئىشۇسىرۇ قىم ئۇنى ئىب جىشۇش (20%)

- وَهُوْ وَرِدُ 02 دَرَيْنَ هُنْ وَدِ -/1,000,000 (دَرُو وِرَدُسُر) وِوْرِ يَدُوِرُ رَبُرُونُدُ وَجِهُ 03 (1,000,000 وَوَرَدُورُ وَجَهُ 03 وَرَدُرُ وَجَهُ وَمِرُدُ وَجَهُ وَرَدُسُرُ وَ حَرَدُ وَرَدُسُرُ وَ حَرَدُرُ وَ وَرَدُسُرُ وَ حَرَدُ وَرَدُ وَرَدُونُ وَ وَالْمُونُ وَرَدُونُ وَالْمُؤْنُ وَالْمُؤْنُ وَالْمُونُ وَالْمُؤْنُ وَالْمُونُ وَالْمُونُ وَالْمُونُ وَالْمُونُ وَالْمُؤْنُ وَالْمُؤْنُ وَالْمُؤْنُ وَالْمُونُ وَالْمُؤْنُ وَالْمُؤْنُ وَالْمُونُ وَالْمُونُ وَالْمُونُ وَالْمُؤْنُونُ وَالْمُونُ والْمُونُ وَالْمُونُ وَال
- رَّرِ رَّوَهُ هُرُّسُونُهُوَ رُرَزً بِوَهُسُمُونَ هُمِرِسُ 400,000م (رَهَبُرُ وَرُرَ) رَبُرُ وَبُر وَرُرَهُ دَوْوُرَاتُ نَالْ الْمُرْوَرُونُ وَسَادُنَاهُهُمُ وَهُدِي دِوْوُرُدُ سَاسُورُ دِرِ شَاءُ وَسُرَادُو.

### 3. رُسُرُمُو مُورُدُرِدُ رُسُرُو مُرْدُو مُرَادُ مُرْدُو مُرْدُو مُرْدُو مُرْدُو مُرْدُو مُرْدُو مُرْدُو مُرْدُو

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- جِوَ الْمَاتِدُونَ وَهِمْ هِا مُادَرُونِهُ الْمُسْرِّمِ 27 جُهِمْ 2017 وَ رَوْرُو رَسِوْسُ 11:00 وَ رَوْرُو رَسِوْسُ 11:00 وَرَامُ اللهُ الل
- رَوْوَوَرُ رَوَعْ رِوْرِوَسِ 03 كَيْرِي 2017 وَ رَوْدُو رَسِوْسِ 10:30 وَسِرَسَعْمِ رَوْدُ وَسِرَسُعْمِ رَوْدُ وَسِرَسُوْمِ وَمِنْ وَسِرَسُعْمِ وَوَ وَوَدُو رَسِوْسِ 10:30 وَسِرَسُعْمِ رَوْدُ وَسِرَمُوهُ وَمُرْسِرُ وَ مَنْ وَسِرَمُوهُ وَمُرْسِرُ وَسُرَمْ وَمُوْمِرُونَ وَمُرْسِرُونَ وَسُرَمْ وَمُومِرُونَ وَمُرْسِرُ وَ وَسَامُونُ وَمُرْسِرُ وَ وَسَامُونُ وَمُرْسِرُ وَ وَسَامُوهُ وَمُومِرُونَ وَمُرْسِرُ وَ وَسَامُونُ وَمُرْسِرُ وَ وَمُرْسِرُ وَ وَسَامُ وَمُومِرُونَ وَمُرْسِرُ وَ وَسِرَاءُونُ وَمُرْسِرُ وَالْمُومِ وَمُومِرُونَ وَمُرْسِرُ وَ وَمُرْسِرُ وَالْمُومِ وَمُومِونُ وَمُرْسِرُ وَاللَّهُ وَمُومِ وَمُعِمُومُ وَمُعِمُومُ وَمُعِمُومُ وَمُعِمُومُ وَمُعْمِومُ وَمُعْمِومُ وَمُعْمِومُ وَمُعْمُومُ وَمُومِ ومُومِ وَمُومِ وَم

- - رَرُدُو صُوْرُ مُرَارُ وَوْرُو يَ مِنْ اللَّهِ عَلَيْهِ وَمُورُو وَ وَرِوْرُو وَ وَرِوْرِهِ مِنْ اللَّهِ اللَّهُ اللَّالِي الللَّهُ اللَّهُ اللَّهُ اللَّهُ اللَّهُ اللَّا اللَّا اللَّالِي اللَّهُ اللَّا ا
- وَسَارُمَاهُ وَرُورُجَارِ مَا مُحْجَمَّا عَمَرُ 15 رِسْسَارُهُورُ وَ الْمُورُةُ الْمَا قَامُ الْمُورُورُ وَ الْمُورُةُ وَالْمُورُورُ وَ الْمُورُورُ وَالْمُورُورُ وَالْمُؤْرُورُ وَالْمُورُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُورُ وَالْمُؤْرُورُ وَالْمُورُ وَالْمُؤْرُورُ ولِيْلُورُ وَالْمُؤْرُورُ وَلِمُورُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ ولِيْلُورُ وَالْمُؤْرُورُ وَالْمُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالْمُورُورُ وَالْمُؤْرُورُ وَالْمُؤْرُورُ وَالِ
  - دَرِ دَسَمْرَمُوهُ 5 (وَرُمُ) مِسْسَمْمُورُ وَ وَمِسَّ بِعَيْرِ سَاسُوهُ خَوْدُهِ 6 (رَمُرُ) دَسْوُورُدُ دَرْدُومُورُورُ رِيْرُونِيْنَ رَوْرُونِيْنَ وَيَرْدُونِيْنَ وَيُورُونُونَ وَمِنْ سَاسُوهُ خَوْدُورُ وَالْمُرَا
    - ﴿ وَرُرِ دُوْ رَمْدُ وَرُوْدُهُ رَدْسُ وِرُوْدُرُ وَرُسُو وَرُمُّوْمُ وَمِرْدُرُو مُؤْوِدُرُ رَوْسِرُو ا

و کرد و سرسره بر	ב ת מק ב ת ת ב ה מקם.	0/0 (3433) 090 (362) 100 (362)

0/1110 0(1777) 00/17 × 0 144000 00/17 00/1	אָצִער ה ב' מָשֶׁ בּ הַתְּקָשׁ / הב' ה. ה. ה	3018341
0(4))), 0, 0( (1) (1,0), 1,0)+1,0 4 4 4 4 5 1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,00	00 00 00 00 00 00 00 00 00 00 00 00 00	3018433
22224 הקממפת	1.1.21 / 80.20 / E. 1.2 / E. 1	
وُسَارُهُمْ مُرْدُرُ رُدُعُ رِوْرُو سُرَعُ وُسَارُهُمْ مُرْدُرُ رُدُعُ رِوْرُورُ (سروَ بَرْسِ) عن دُرْدِرُعُ مُرْسَادُ مُرْدُرُهُ (سروَ بَرْسِ) عن دُرْدِرُعُ مُرْسَادُ مُرْدُرُ	מיל אית מתת-תל בעל בנתתם תיכילת מתת-תל בעל בנתתם	9981666

\* ﴿ وَوَرُدُ وَمُودُو وَوْ 1 2 وَ مَرِ 4 مَدُورُهُ وَمِرَوُ مَهُمُ مُعْمَدُو.

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מנות שת ב ב תנה של המנות ה מנות שור המנות	۵٬۰۰۰ (۱٬۰۰۶ زنگرهٔ که ترکز کرکز کرکز (۲۰۰۶ ۱۳۶۵ در ۱۳۶۲ و ۱۴۶۲ در ۱۳۶۶ مرکز مرکز س
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	۵ بره د موسر)
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د ۱ ر ۱ ۵ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱	٠٠٥٠٥ ٢٠ مرسوم يري مير و مري و م
	، ه ، ، ، ، و رم <u>م</u> و و .

נננננס:20 2000 ב ממת פת מת מפתח	האיני האיני באר פרות האיני מוצים באר פרות	, 0,00 0,000 15,50 0,000 10,000 10,000		.3
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			ם מין כ ם קמת בן מת המינת תייק בין המינת	
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		(	وُسَادُمُورُ وِرْشُ (دُرِهُ وَرُشُو	

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# CONSTRUCTION OF WASTE COLLECTION CENTRE - SHAVIYANI MAROSHI Bill of Quantities

No	Item	Unit	Quantity	Rate	Amount
1	Preliminaries				
1.1	Mobilization to site	LS	1		
1.2	Site management cost including set up of temporary services for contractor's services as maybe necessary	Months	1		
1.3	Setup sign board on site	LS	1		
1.4	Clean up site upon completion of works	LS	1		
1.5	Demobilization	LS	1		
2	Site Clearance				
2.1	Allow for any remaining site clearance.	LS	1		
3	Earth works				
	Allow for all excavation work for foundations as follows				
3.1	Perimeter fence wall	m3	6.30		
3.2	Perimeter fence footings	m3	2.38		
3.3	Flood light pole	m3	0.29		
3.4	Levelling and compaction of ground for compost slab	m2	75		
3.5	Levelling and compaction of ground for sorting slab	m2	75		
3.6	Setting up a ground water well in the location shown	LS	1		
3.7	Storage area footings	m3	0.58		
3.8	Leachate collection tank	m3	2.48		
3.9	Levelling and compaction of ground for storage area slab	m2	59.54		
3.10	Line footing for 3m high wall	m3	1.47		
4	Concrete works				
4.1	Foundation for perimeter fence column footings	m3	2.38		
4.2	Foundation for lighting poles	m3	0.29		
4.3	Casting of compost slab. Reinforcement shall be provided as shown on drawing	m3	5.80		
4.4	Casting of B1 beams. Reinforcement shall be provided as shown on drawing.	m3	3.51		

4.5	Casting of B2 beams. Reinforcement shall be provided as shown on drawing.	m3	0.79	
4.6	Casting of B3 beams. Reinforcement shall be provided as shown on drawing.	m3	1.35	
4.7	Casting of leachate collection tanks. Reinforcement shall be provided as shown on drawing.	No	1	
4.8	Outdoor concrete sorting slab	m3	7.5	
4.9	Casting of 900mm well with base slab and top cover slab	LS	1	
4.10	Casting of storage area footings	m3	0.58	
4.11	Casting of storage area slab	m3	4.47	
4.12	Casting of line footing for 3m high wall	m3	1.47	
4.13	Casting of indoor sorting platform	m3	0.80	
5	Masonary works			
	200mm thick walls			
5.1	600mm high wall for perimeter fence	m	105	
5.2	850mm high wall for sorting platform	m	2.4	
5.3	50mm lean concrete for fence wall	m	105	
	150mm thick walls			
	130mm thek Walls			
5.3	1500 high wall above for waste storage area	m	13.5	
5.4	3000 high wall in waste storage area	m	34.45	
6	Plastering works			
	200mm thick walls			
6.1	12.5mm plastering on 600mm high wall for perimeter fence	m2	147	
6.2	12.5mm plastering on 850mm high wall for sorting platform	m2	4.08	
	150mm thick walls			
6.3	12.5mm plastering on 1500mm high wall for waste storage area	m2	40.5	
6.4	12.5mm plastering on 3000mm high wall for waste storage area	m2	206.7	
7	Structural steel works			
7.1	Perimeter fence using 50mm & 38mm G.I pipe as shown on drawing. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and, setting up the fence.	m	105	
7.2	Provide 75mm G.I pipe as flood light fixing poles. Rate shall include installation charges as shown on drawing.	Nos	2	

7.3	Provide 75mm G.I pipe to fix roof of waste storage area. Rate shall include all cuts, welds and applying of protective coating for welded joints and setting up of the pipes	Nos	16	
7.4	Provide 38mm G.I bearer pipes as shown on drawing. Rate shall include all cuts, welds and applying protective coating on welded joints	m	46.2	
7.5	Provide 38mm G.I purlin pipes as shown on drawing. Rate shall include all cuts, welds and applying protective coating on welded joints	m	95	
7.6	Provide 38mm G.I pipe between columns and for roof eave. Rate shall include all cuts, welds and fixing of these pipes	m	35.2	
7.7	Fixing of 75mm G.I pipe to support machine room & hazardous waste room door	m	5.6	
8	Painting works			
8.1	Applying primer and 2 paint coats on all fence walls	m2	147	
8.2	Applying primer and 2 paint coats on 1500 high walls of waste storage area	m2	40.5	
8.3	Applying primer and 2 paint coats on 3000 high walls of waste storage area	m2	206.7	
8.4	Applying epoxy paint coating on all metal surfaces.	LS	1	
9	Electrical works			
9.1	Provide 3 phase power sockets in equipment room. Rate shall include connection to circuit breaker	Nos	4	
9.2	Provide single phase power sockets in equipment room and hazardous waste room. Rate shall include connection to circuit breaker	Nos	3	
9.3	Provide 100mm ceiling mount light in hazardous waste room, including switch. Rate shall include connection to circuit breaker	Nos	1	
9.4	Provide wall mount exhaust fan in equipment room and hazardous waste storage room. Rate shall include properly fixing the fan and connection to power socket	Nos	2	

9.5	Provide 500 W flood light for illuminating the waste yard. Rate shall include connecting each light to a weather proof switch and providing power to the switch	Nos	2	
9.6	Provide weather proof switch for all lights	Nos	3	
9.7	Supply and fix electric meter, 4 pole MCCB, Single Phase distribution board and 3 Phase distribution board as shown on drawing. Earth link and connection to earth rod with proper earth pit should be provided as well		1	
9.8	Provide 25 sqmm 5 core power supply cable from nearest distribution box to waste yard distribution board	m	69	
9.9	Provide well water pump. Rate shall include its fixing and connection to power socket.	LS	1	
10	Doors and windows			
10.1	Provide metal door for entrance to equipment room. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and proper fixing of the door. Rate shall include fixing of guide rails and wheels as well.	Nos	1	
10.2	Provide metal door for entrance to hazardous waste area. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and proper fixing of the door. Rate shall include fixing of guide rails and wheels as well.	Nos	1	
10.3	Provide metal door for entrance to waste yard. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the frame and properly fixing the door to the fence.	Nos	2	
11	Poofing			
11.1	Roofing  Supply and fix roof sheets for waste storage area as shown on drawing	m2	85.5	
11.2	Provide flashing sheet on all areas required for roofing area	m	28	
11.3	Provide and fix lysaght gutter	m	19	

11.4	Provide conveyance pipe from down pipe point to water well	LS	1	
11.5	Provide and fix 75mm down pipe	nos	2	
12	Plumbing			
12.1	Provide footvale and 25mm PVC intake pipe for pump from well	LS	1	
12.2	Provide metal tap for distribution points in waste yard as shown on drawing. Rate shall include fixing the tap to boundary wall.	Nos	3	
12.3	Provide 1/2 inch PVC pipe from pump to all distribution points. Rate shall include all joints, bends and burying the pipe 300mm below ground	LS	1	
13	Others			
13.1	50 x 50 PVC coated mesh for fence. Rate shall include properly securing the mesh to G.I steel frame	m2	105	
13.2	Provide HDPE membrane below compost slab	m2	150	
13.3	Provide HDPE membrane below waste storage area slab	m2	60	
13.4	Provide timber top cover over leachate collection tank	Nos	2	
13.5	Cut and place PVC pipe in drain as shown on drawing	m	15	
13.6	Fabricate and Install 600 x 900 sign board on 5mm plastic sheet. All letters, logos and symbols used on the board should be spray painted	LS	1	
13.7	Provide expansion joint as shown on drawing and fill the gaps as indicated	m	25	

TOTAL

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### **CONSTRUCTION OF WASTE COLLECTION CENTRE - SHAVIYANI MAROSHI**

# Bill of Quantities SUMMARY SHEET

Bill No		Item	Amount
1	Preliminaries		
2	Site clearance		
3	Earth works		
4	Concrete works		
5	Masonary works		
6	Plastering works		
7	Structural steel works		
8	Painting works		
9	Electrical works		
10	Doors and windows		
11	Roofing works		
12	Plumbing works		
13	Others		
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#### **Working Site**

The site should be kept clean during the construction work period and should be thoroughly cleaned once the works are completed. Works should be carried out on site in a safe manner to all the workers on site and the people living in the vicinity of site. Disturbance to the neighborhood should be kept to a minimum. Electricity and water supply to the site, during construction period, should be provided by the contractor

#### **Concrete**

Cement conforming to BS12 standards should be used for all concrete, masonry and plastering works. The cement intended for use should be fresh and should not have any traces of hardened cement in the bag.

- 1. All concrete works should be done using one brand of cement
- 2. Sand and aggregate used for concrete works should be well graded-
- 3. Concrete should be mixed in the ratio 1:2:3 which are 1 part cement, 2 parts sand and 3 parts aggregate.
- 4. All foundations should be cast on a lean concrete layer. The lean concrete should be placed on well compacted ground.
- 5. Concrete should be mixed using a concrete mixer. Concrete should not be mixed by hand. When pouring concrete into the formwork, the mix should be compacted using a mechanical vibrator.
- 6. Aggregate used for concrete works should not be larger than 20mm.
- 7. Sand and aggregate used for concrete works should be clear from dust, mud and other debris.
- 8. All reinforcement bars used for the concrete works should be free from rust and grease that could weaken the bonding between the reinforcement bar and the concrete. Care should be taken to use continuous bars rather than short segments joined by laps.

#### **Masonry Works**

- 1. All masonry work should be done using Cement confirming to BS12 standards.
- 2. Masonry blocks should be made from imported sand or local white sand sourced from a permitted sand borrow area. The sand should be free from organic matter and other debris.

- 3. Masonry blocks should be made from mortar mixed at 1:5 ratio with 1 part cement to 5 part sand.
- 4. Average size of sand particles should not exceed 5mm-

#### **Plastering Works**

- 1. All plastering work should be done using Cement confirming to BS12 standards.
- 2. Plaster mix should be made from imported or local sand white sand sourced from a permitted borrow area. The sand should be free from organic matter and other debris.
- 3. Plaster mix should be made by mixing Cement and Sand at a ratio of 1:3 with 1 part Cement to 3 part Sand.
- 4. Average size of sand particles should not exceed 5mm-

#### Structural Steel work

- 1. All steel pipes obtained for the work should be new pipes and free from rust-
- 2. Thickness of pipes should not be less than 2.5mm

#### **Electrical works**

1. All materials used for electrical wiring should comply with MEA standards.

### **Roofing works**

- 1. All materials used for roofing work should be newly purchased for the project-
- 2. All screws or bolts used for roof fixing should be G·I or Zinc finish screws·

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