

**CONSTRUCTION OF ISLAND WASTE AND RESOURCE MANAGEMENT CENTRE
B.THULHAADHOO
Bill of Quantities**

NOTES:

ALL MATERIALS SHALL BE SUBMITTED FOR APPROVAL.

TECHNICAL SPECIFICATIONS SHALL BE FOLLOWED UNLESS OTHERWISE STATED IN DRAWINGS / BOQ.

No	Item	Unit	Quantity	Rate
1	Preliminaries			
1.1	Mobilization to site	LS	1.00	
1.2	Site management cost including set up of tempory services for contractor's services as maybe necessary	LS	1.00	
1.3	Setup sign boards on site as specified	LS	1.00	
1.4	Clean up site upon completion of works	LS	1.00	
1.5	Demobilization	LS	1.00	
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2	Site Clearance			
2.1	Allow for all site clearance work including uprooting and clearing of trees required, relocation of existing waste to a temporary location identified by island council. This shall be carried out in accordance with the ESMP. Refer to ESMP for details of vegetation and site clearance required.	LS	1.00	
2.2	Removal of all top soil from the site as deemed necessary to obtain proper ground condition for construction works. Rate shall include transport of soil to a location identified by island council.	m ²	340.00	
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3	Earth works			
	<i>Filling, ground levelling and compaction of IWMC site.</i>			
3.1	Ground filling with sand, levelling and compaction work for cleared site. Rate shall include for any required cut and fill, removal any waste on the site. Finished site ground level shall match the existing IWRMC level. Demolition waste materials may be used for filling after appropriate gradation along with sand (any steel or other materials must be removed).	m ²	340.00	
	<i>Excavation work for foundations as follows</i>			
	<i>Waste Management Building Block</i>			
3.2	Footings F3	m ³	4.61	
3.3	Tie beams	m ³	9.65	
3.4	Flood light pole	m ³	0.24	
3.5	Setting up rainwater drain pits in the locations shown	LS	1.00	
3.6	Setting up drain pits in the locations shown	LS	1.00	
	<i>Office Block</i>			
3.7	Tie beams	m ³	6.24	
	<i>Hazardous Waste Storage</i>			
3.8	Tie beams	m ³	1.75	
	<i>Fencing</i>			
3.9	Tie beams	m ³	6.15	
			-	
4	Concrete works			
	<i>Rate shall include all formwork, reinforcement, casting of concrete as per drawing and specifications.</i>			
	<i>Waste Management Building Block</i>			

4.1	100mm concrete floor slab according to the slope shown in drawing. Reinforcement for the slab shall be T10@150 BW top and bottom layer	m ³	20.73	
4.2	F3 Footing cast according to drawing, including column stump below ground level. Reinforcement shall be as shown on drawing.	m ³	1.15	
4.3	TB Tie beam cast according to drawing. Reinforcement shall be as shown on drawing	m ³	3.22	
4.4	C1 (column stump above ground level) Concreting cover for GI pipes cast according to drawing.	m ³	1.00	
	<i>Office Block</i>			
4.5	75mm concrete floor slab according to the slope shown in drawing. Reinforcement for the slab shall be R6@150 BW single layer	m ³	3.14	
4.6	C5 Concrete column cast according to drawing.	m ³	1.08	
4.7	TB Tie beam cast according to drawing. Reinforcement shall be as shown on drawing	m ³	2.08	
4.8	RB Roof beams for walls cast according to drawing. Reinforcement shall be as shown on drawing.	m ³	1.06	
4.9	L1, S1 Lintel and sill beams as required cast according to drawing. Reinforcement shall be as shown on drawing.	LS	1.00	
	<i>Hazardous Waste Storage</i>			
4.1	75mm concrete floor slab according to the slope shown in drawing. Reinforcement for the slab shall be R6@150 BW single layer	m ³	0.92	
4.11	C5	m ³	0.42	
4.12	TB Tie beam cast according to drawing. Reinforcement shall be as shown on drawing	m ³	0.58	
4.13	RB Roof beams for walls cast according to drawing. Reinforcement shall be as shown on drawing.	m ³	0.44	
4.14	L1, S1 Lintel and sill beams as required cast according to drawing. Reinforcement shall be as shown on drawing.	LS	1.00	
	<i>Others</i>			
4.15	TB for fencing Tie beam cast according to drawing. Reinforcement shall be as shown on drawing	m ³	2.05	
4.16	C4 Concrete column stump cast according to drawing.	m ³	0.80	
4.17	C7 Concrete column cast according to drawing.	m ³	0.37	
4.18	Rainwater drain pits as shown on drawing.	LS	1.00	
4.19	Drain pits as shown on drawing.	LS	1.00	
4.20	All concrete works of entrance gates. Reinforcement shall be as shown on drawing.	LS	1.00	
4.21	Foundation for flood light poles	m ³	0.28	
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5	Structural steel works		-	

	GENERAL			-
	(a) Thickness of GI pipes shall be as stated in drawings/BoQ.			-
	(b) GI pipes shall be fully galvanized.			-
	<i>Waste Management Building Block</i>			-
5.1	GI column, C1 (on F3) Supply, fabrication and installation of GI columns as shown in drawings. Rate shall include all cuts, welds, cleats, anchor rebars and all other connections deemed necessary to make the column stable	Nos		16.00
5.2	GI truss, TR1 Supply, fabrication and installation of trusses as shown in drawings. Rate shall also include all cuts, welds and other connections deemed necessary to make the structure stable	m		115.16
5.3	GI roof eave truss Supply, fabrication and installation of 25mm dia GI trusses as shown in drawings. Rate shall also include all cuts, welds and other connections deemed necessary to make the structure stable	Nos		8.00
	<i>Perimeter Wall</i>			
5.4	Perimeter fence using 50mm G.I pipe column and horizontal framing pipes as shown on drawing. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and, setting up the fence including wire mesh and barbed wires.	m		47.27
	<i>Flood light pole</i>			
5.5	Provide 75mm G.I pipe as flood light fixing poles. Rate shall include installation charges as shown on drawing.	Nos		2.00
6	Masonry works			
	<i>Masonry walls of 100mm thick masonry blocks</i>			
	<i>Hazardous waste storage room</i>			
6.1	Hollow block masonry walls	m ²		51.10
	<i>Office/Locker Building Block</i>			
6.2	Hollow block masonry walls	m ²		140.46
	<i>Waste Management Building Walls</i>			
6.3	Hollow block masonry walls, 0.1m height from GL	m ²		46.00
	<i>Boundary walls</i>			
6.4	Hollow block masonry walls, 600mm height from GL	m ²		47.27
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7	Plastering works			
	<i>Plastering on masonry block walls, 25mm thickness plastering on each side of walls</i>			
	<i>Hazardous waste storage room</i>			
7.1	Hollow block masonry walls	m ²		102.20
	<i>Office/Locker Building Block</i>			
7.2	Hollow block masonry walls	m ²		280.92
	<i>Waste Management Building Walls</i>			
7.3	Hollow block masonry walls, 0.1m height from GL	m ²		92.00
	<i>Boundary walls</i>			
7.4	Hollow block masonry walls, 600mm height from GL	m ²		94.54
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8	Painting works			
	GENERAL			

	<i>Emulsion paint coating: one primer coat and two top coat. Wall paint color: Nippon paint offwhite 5039 or equivalent</i>			
	<i>Hazardous waste storage room</i>			
8.1	Hollow block masonry walls	m ²	102.20	
	<i>Office/Locker Building Block</i>			
8.2	Hollow block masonry walls	m ²	280.92	
	<i>Waste Management Building Walls</i>			
8.3	Hollow block masonry walls, 0.1m height from GL	m ²	92.00	
	<i>Boundary walls</i>			
8.4	Hollow block masonry walls, 600mm height from GL	m ²	94.54	
	<i>Steel members</i>			
8.5	Apply epoxy protective paint coating SIGMAPRIME200/SIGMACOVER456 (Grey color) OR EQUIVALENT on all exposed surfaces of G.I pipe columns, flood light poles, framing, truss members, metal doors and gates, including MS sheets. Rate shall include redoxide primer on all welded joints, primer and 2 top coats as specified by the paint supplier.	LS	1.00	
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9	Wall cladding works			
	<i>Waste Management Block</i>			
9.1	C-purlins - 50 x 150 x 2.2mm thick. As girts to fix wire meshas shown on drawing. Rate shall include all cuts, welds, cleats, and all other connections deemed necessary	LS	1.00	
9.2	50x50 PVC Coated wire mesh over areas shown on drawing. Rates shall include all laps, flashing, connections and provision of intermediate supports to firmly fix the elements to the main structure.	LS	1.00	
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10	Roofing works			
	<i>Waste Management Block</i>			
10.1	Lysaght roofing sheet (maroon color) Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m ²	235.92	
10.2	Roof flashing. Rate shall include fastening and sealing of joints	m	48.08	
10.3	C-purlins - 50 x 150 x 2.2mm thick. Rate shall include for all fixing, lapping and joints.	m	312.27	
10.4	Provide a 5" lysaght roof gutter with 3" PVC down pipes as shown in drawings. Rates shall include all materials and fastenings. Downpipes shall be installed at each column towards roof eave, and connected to rainwater drain pits.	LS	1.00	
	<i>Office/Locker Building Block</i>			
10.5	Lysaght roofing sheet (maroon color) Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m ²	69.00	
10.60	Roof flashing. Rate shall include fastening and sealing of joints	m	5.75	
10.7	Timber rafters - 100 x 50mm. Rate shall include for all fixing and joints	m	76.67	
10.80	Timber battens - 50 x 38mm. Rate shall include for all fixing and joints.	m	115.00	

10.9	Provide a 5" lysaght roof gutter with 3" PVC down pipes as shown in drawings. Rates shall include all materials and fastenings. Downpipes shall be installed at each column towards roof eave, and connected to rainwater drain pits.	LS	1.00	
<i>Hazardous Waste Storage Block</i>				
10.10	Lysaght roofing sheet (maroon color) Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m ²	18.56	
10.11	Roof flashing. Rate shall include fastening and sealing of joints	m	10.05	
10.12	Timber rafters - 100 x 50mm. Rate shall include for all fixing and joints	m	20.63	
10.13	Timber battens - 50 x 38mm. Rate shall include for all fixing and joints.	m	30.94	
10.14	Provide a 5" lysaght roof gutter with 3" PVC down pipes as shown in drawings. Rates shall include all materials and fastenings. Downpipes shall be installed at each column towards roof eave, and connected to rainwater drain pits.	LS	1.00	
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11	Electrical works			
	GENERAL			
	<i>(a) Design, provide and install electrical network for the entire building complete in accordance to standards set by the local governing body.</i>			
	<i>(c) The cost shall include for: screws, nails, bolts, nuts, standard cable fixing or supporting clips, brackets, straps, rivets, plugs and all incidental accessories.</i>			
	<i>(d) The cost shall also include for trenching including: excavation, maintaining faces of excavations, backfilling, compaction, appropriate cable covers, warning tape and disposal of surplus soil.</i>			
	<i>(e) Rates shall include switches, electrical isolators, conduits, fittings, equipment and similar items shall include for: all fixings to various building surfaces.</i>			
	<i>(h) Contractor shall provide all cabling, wiring, conduits, etc. required for completing all electrical installations.</i>			
	<i>(g) All sockets & switches shall be ABB / clipsal or equivalent</i>			
	<i>Supply and installation:</i>			
11.1	16 sqmm 4 core power supply cable for internal wiring from main distribution board to all other distribution boards.	LS	1.00	
11.2	3-phase 15A power sockets. Rate shall include connection to circuit breaker using 6sqmm power supply cable and all necessary accessories	no	4.00	
11.3	13A double sockets. Rate shall include connection to circuit breaker using 6sqmm power supply cable and all necessary accessories	no	11.00	
11.4	20W LED light Rate shall include switches near respective entrance doors and connection to circuit breaker	no	2.00	
11.5	20W ceiling mount LED light Rate shall include switches near respective entrance doors and connection to circuit breaker	no	9.00	
11.6	20W wall mount exterior LED light Rate shall include switches near respective entrance doors. Rate shall include connection to circuit breaker	no	4.00	

11.7	10W wall mount LED emergency light Rate shall include required sockets and connection to circuit breaker	no	2.00	
11.8	100W swivel type LED flood light for waste management block (interior) Rate shall include connecting each light to a switch near circuit breaker and providing power to the switch	no	7.00	
11.9	200W LED flood light for illuminating the waste yard. (2no.s at each pole) Rate shall include connecting each light to a switch near circuit breaker and providing power to the switch	no	2.00	
11.10	Ceiling fans Rate shall include fan controller near the respective entrance doors, connection to circuit breaker and all necessary accessories	no	2.00	
11.11	12,000BTU AC (Inverter) (Hitachi or equivalent) Rate shall include required socket, connection to circuit breaker and all necessary accessories	no	1.00	
11.12	Exhaust fans Rate shall include provision of switch near the respective entrance, connection to circuit breaker and all necessary accessories	no	3.00	
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12	Plumbing works			
	<i>Water piping works</i>			
12.1	Complete construction of fresh water pipe work including all pipe work, vent pipe work, fittings, valves, etc including outlet pipes to PVC taps, plumbing to toilet and wash area as shown in drawings.	LS	1.00	
12.2	Provide water network connection as shown in the drawings. Rate shall include application to service provider (Fenaka), installation of meter, connection piping, bends, fittings and others as deemed necessary.	LS	1.00	
	<i>Sewer network connection and piping works</i>			
12.3	Provide sewer / drain piping connections as shown in the drawings. Rate shall include connection piping of flush toilet, drains to the septic tank/leachate well, provision of appropriate drain, bends, fittings and others as deemed necessary.	LS	1.00	
12.4	Provide sewer network connection as shown in the drawings. Rate shall include application to service provider (Fenaka), installation of catchpit, connection piping, bends, fittings and others as deemed necessary.	LS	1.00	
	<i>Fittings</i>			
12.5	Wash Closet (one piece) (Cotto C1111 Victor or Equivalent)	no	1.00	
12.6	Wash basin complete with pedestal and gully trap.	no	2.00	
12.7	Muslim shower complete with valve, shower head and hose.	no	1.00	
12.8	PVC tap for wash area	no	1.00	
12.9	Floor drains	no	2.00	
12.10	PVC taps at ends of outlet pipes.	no	2.00	
12.11	Supply 25mm diameter flexible hose	m	25.00	
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13	Doors and windows			
	GENERAL			
	<i>All doors should be lockable.</i>			
	Fabrication and installation of doors:			
13.1	SLIDING DOOR. Supply and installation of sliding door for hazardous waste room and store as per drawings and specifications. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and proper fixing of the door. Rate shall include fabrication and fixing of guide rails and wheels as well.	no	2.00	
13.2	SLIDING GATE. Supply and installation of steel sliding gate as per drawings and specifications. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and properly fixing the door to the boundary wall columns.	no	1.00	
13.3	D2. Supply and installation of aluminium door as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	4.00	
13.4	D3. Supply and installation of aluminium door as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	1.00	
13.5	W1. Supply and installation of aluminium louver window as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	2.00	
13.6	W2. Supply and installation of aluminium sliding window as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	2.00	
13.7	W3. Supply and installation of aluminium louver window as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	1.00	
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14	Fire fighting			
	<i>Supply and installation of fire fighting equipment</i>			
14.1	50KG DCP Trolley for collection bay	no	2.00	
14.2	50LTR Foam Trolley for collection bay	no	1.00	
14.3	Wet Chemical 6Ltr with Cabinet for hazardous waste area	no	1.00	
14.4	Water 9Ltr with Cabinet for Office Area - Outside	no	1.00	
14.5	CO2 2KG with Cabinet for Office Area - Outside	no	1.00	
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15	Tiling works			
15.1	Supply and laying 300x300mm ceramic tiles (white color) for office.	m ²	16.10	

15.2	Supply and laying of 300x300mm ceramic tiles (white color) for toilet floor and ceiling height of walls.	m ²	17.98	
15.3	Supply and laying of 300x300mm ceramic tiles (white color) for wash area, including wall upto 1.2m height.	LS	1.00	
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16	Miscellaneous Works			
	Damp proof membrane			
16.1	Provide 500 gauge HDPE damp proof membrane below floor slabs	m ²	262.00	
	Wash area			
16.2	Construction of wash area as shown in drawing. Rate shall include masonry walls 150mm high, plastering and the likes including provision of appropriate drain, bends, fittings and others as maybe necessary.	LS	1.00	
	Rainwater drain pits			
16.3	Provide rainwater drain pits as shown in drawing. Rate shall include the connection of downpipes to the drain pits, providing gravel, bends, fittings and others as maybe necessary.	no	7.00	
	Ceiling works			
16.4	Provide suspended ceiling using 6mm gypsum board inside office, locker room and toilet. Rate shall include all ceiling support work, applying putty and painting the surface with primer and two coats of finishing paint. (Nippon paint offwhite 5039 or equivalent)	m ²	32.67	
	Sign boards			
16.5	Fabricate and install 900 x 600 IWMC name board on 5mm plastic sheet as per design specifications provided by client. All letters, logos and symbols used on the board should be acrylic painted.	no	1.00	
16.6	Fabricate and install 900 x 300 fire safety sign boards on 5mm plastic sheet as per design specifications provided by client. All letters, logos and symbols used on the board should be acrylic painted.	no	5.00	
16.7	Fabricate and install 900 x 600 collection bay sign boards on 5mm plastic sheet as per design specifications provided by client. All letters, logos and symbols used on the board should be acrylic painted.	no	13.00	
	Expansion joints			
16.80	Provide expansion joints as shown in drawing. Rate shall include supply and installation joint filler foam and sealant.	no	1.00	

Sub Total
Contingency 10%
Total
GST 8%

GRAND TOTAL

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