

BILL OF QUANTITIES

FLOOD MITIGATION IN HOLHUDHOO

CLIENT : MINISTRY OF ENVIRONMENT AND ENERGY

SUMMARY OF BILLS OF QUANTITIES
FLOOD MITIGATION IN HOLHUDHOO

DESCRIPTION	AMOUNT (MRF)	%
Bill №: 01 - GENERAL WORKS		
Bill №: 02 - DRAINAGE SYSTEM		
Subtotal of Bills		
Total for ADDITIONS AND OMMISSIONS		
Total for PROVISIONAL SUMS		
TOTAL AMOUNT	-	

Note: Client reserves the right to remove items listed as (optional) in which case the price of the items will be deducted from the bill

DESCRIPTION	AMOUNT (MRF)	%
BILL NO. 01 - GENERAL AND PRELIMINARIES		
BILL NO. 02 - SITE PREPARATION		
TOTAL AMOUNT		

FLOOD MITIGATION IN HOLHUDHOO**01 GENERAL WORKS**

Male', Republic of Maldives

BILL OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
BILL NO. 01 - GENERAL AND PRELIMINARIES					
1.1.00	Project Management cost				
1.1.01	Allow for all on and off site management cost including costs of foreman and assistants, temporary services, telephone, fax, hoardings & similar.	1 Item			
1.2.00	Contractual Requirements				
1.2.01	Provide & Maintain all necessary Insurances, Guarantees and Securities.	1 Item			
1.3.00	Specified Requirements				
1.3.01	Provision and Erection of Notice Boards 3m x 4m size as per drawing and specification, including complete cost and conveyance of materials, labour charges, & etc.	1 Item			
1.3.02	Provision of photographs of important activities of the work during the progress of work as directed by the Engineer.	1 Item			
1.3.04	Submission of detailed drawings for approval by the Engineer prior to commencement of work	1 Item			
1.3.05	Detailed survey of each road where the drainage elements are proposed and prepare site layout and identify household catchpit and water supply connection overlap locations from the existing sewerage network.	1 Item			
1.4.00	Temporary Works				
1.4.01	Arrange during dewatering of trenches, for pumping ground water of salinity greater than 2500 microsiemens to be pumped out to sea.	1 Item			
1.5.00	Dewatering				
1.5.01	Dewatering as required as per EPA regulation 2013/R-1697	1 Item			
1.4.00	TOTAL OF BILL No: 01 - Carried Over To Summary				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	BILL NO. 02 - SITE PREPARATION				
2.1.00	Clearing grass, bushes, shrubs, saplings, uprooting rank vegetation all along the pipeline route and removal & disposal of rubbish to approved tips anywhere in the island as directed by the Engineer-in-charge	1.00	Item		
2.2.00	Cutting of trees, including trunks, branching and removal of stumps, roots, stacking of serviceable materials with all lifts and up to all lead within project area and earthfilling in the depression/pit, including excavation & backfilling				
2.2.01	Girth size up to 300mm	1.00	item		
2.2.02	Girth size from 300mm to 600mm	1.00	item		
2.2.03	Girth size from 600mm to above	1.00	item		
2.3.00	Dismantling of existig structures like pillars, walls, slabs and any other structureconstructed of Brick or coral stone masonry, cement concrete, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material	1.00	item		
2.5.0	TOTAL OF BILL №: 02 - Carried Over To Summary				

SUMMARY OF BILLS OF QUANTITIES
FLOOD MITIGATION IN HOLHUDHOO
02 DRAINAGE SYSTEM

DESCRIPTION	AMOUNT (MRF)	%
BILL NO. 01 - CIVIL WORK FOR DRAINAGE ELEMENTS		
BILL NO. 02 - SUPPLY AND INSTALLATION OF PUMPS		
BILL NO. 03 - MECHANICAL AND ELECTRICAL WORKS		
BILL NO. 04 - GRAVITY DRAINAGE MAINS		
BILL NO. 05 - SUPPLY OF O&M EQUIPMENT AND SPARES		
BILL NO. 06 - TESTING AND COMMISSIONING		
BILL NO. 7- ADDITIONS AND OMISSIONS		
TOTAL AMOUNT		

FLOOD MITIGATION IN HOLHUDHOO**02 DRAINAGE SYSTEM**

Male', Republic of Maldives

BILL OF QUANTITIES

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 01 - CIVIL WORK FOR DRAINAGE ELEMENTS				
1.1.00	General Notes				
	(a) Cement for all structural works shall be Sulphate resistant portland cement to BS4027:1996 unless specified otherwise				
	(b) All structural reinforcement steel shall be epoxy coated reinforcement to ASTM A775 / A775M				
	(c) The required soil bearing pressure for the foundation is 150kn/m ² . The contractor shall carryout geotechnical testing to ensure that this is achieved and necessary ground improvements and piling shall be done if required				
	d) rates shall include the pump sump, valve chamber, control panel cabinet and valves, fittings inside the valve chamber and vent structures				
	(e) All internal concrete surfaces shall be protected with epoxy coating of thickness 500 microns				
	(f) Bituminous coating shall be provided to all external surfaces of concrete works below ground				
1.2.00	Excavation Works				
1.2.01	Excavation for Box Culvert	240.00			
1.2.02	Excavation for Pump Line	220.00			
1.2.03	Excavation for Pumping Station	60.00			
1.2.04	Excavation for Drainage Inlet	60.00			
1.3.00	Concrete Works				
1.3.01	Lean concrete for Box Culvert Sections	30.00			
1.3.02	Lean concrete for Pumping Station	10.00			
1.3.02	Lean concrete for Drainage Inlet	10.00			
1.3.03	Reinforced concrete for Box Culvert Section	120.00			
1.3.04	Reinforced concrete for Pumping Station	12.00			
1.3.04	Reinforced concrete for Drainage Inlet	12.00			
1.4.00	Plastering works				
1.4.01	Plastering works for Pumping Station	40.00			
1.4.02	Plastering works for Drainage Inlet	40.00			
1.5.00	Internal coating (500 Micron Epoxy coating)				
1.5.01	Coating for Pumping Station	40.00			
1.5.02	Coating for Drainage Inlet	40.00			
1.5.03	Coating for Box Culvert	120.00			
1.6.00	Bituminous External coating				
1.6.01	External coating for PS1	40.00			
1.6.02	External coating for Box Culvert	1,000.00			
1.6.03	External coating for Drainage Inlet	200.00			

Sewarage system in Himmafushi

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.7.00	Drainage Covers and ancillaries				
1.7.01	Access covers for Box Culvert	12.00			
1.7.02	Access cover for Drain Inlet	1.00			
1.8.00	TOTAL OF BILL №: 01 - Carried Over To Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 02 - SUPPLY AND INSTALLATION OF PUMPS				
2.1.00	General Notes (a) Rates shall include for supply and installation as per approved drawings and manufacturers details b) rates shall include costs for Power cable, duckfoot bend, discharge connection, stainless steel lifting chain, level control switches as per drawing and specifications. (C) Rates shall include for all internal piping and connections as per detail				
2.2.00	Pumps				
2.2.01	Dry Mounted Pumps (Pump Station 01) - Pump Capacity,Pump Capacity, Qdp=40 l/s, Head=10 m each	2.00			
2.4.00	Monitoring system				
2.4.01	Monitoring system for Pump stations including all necessary cabling and wiring or GSM modules.	1.00			
2.5.00	Pumping Main				
2.5.03	Pumping main 350mm dia. HDPE PE100 SDR11 PN8 pipe	240.00			
2.6.00	TOTAL OF BILL №: 02 - Carried Over To Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 03 - MECHANICAL AND ELECTRICAL WORKS				
3.1.00	General Notes (a) The rate shall include for any necessary excavation of trenches, backfilling after laying and testing, jointing, installing house connection wyes on the main line, dewatering if absolutely necessary, and any other required accessories, including dismantling of road layers and reinstatement after works (b) The rate shall include for making good any areas affected by below works				
3.2.00	Main feeder cable from island grid to pump station including , materials and accessories required for complete works	1.00			
3.5.00	Preparation of electrical drawings and obtaining approval from MEA	1.00			
3.6.00	Testing and Commissioning of the complete electrical system.	1.00			
3.6.00	TOTAL OF BILL №: 03 - Carried Over To Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 04 - GRAVITY DRAINAGE MAINS				
4.1.00	General Notes (a) The rate for pipe laying shall comprise excavation of trenches, backfilling after laying and testing, jointing pipes, installing house connection wyes on the main line, dewatering if absolutely necessary, providing granular bedding for pipe laying, including dismantling of road layers and reinstatement after works (b) all gravity drainage pipes shall be UPVC to BS EN1401-1:2009. (c) All gravity drainage mains shall be 350 mm dia HDPE of wall thickness & stiffness rated to SN8 & SDR41. (d) All gravity drainage mains shall have minimum 0.4% slope. (e) All gravity drainage pipes shall be jointed using rubber ring push fit jointing method & rubber rings comply with BS 2494 (type2).				
4.2.00	Pipe laying All pipes are measured in linear meters on plan view. Contractor shall adjust for slopes				
4.2.01	200 mm dia, uPVC gravity drainage main (SN8, SDR41)	2,540.00			
4.3.00	Maintenance shaft (a) Rates shall include for all connections, concrete protections and necessary ancillary items, as per drawing and technical specifications				
4.3.01	600mm dia. Concrete Maintenance shaft	12.00			
4.4.00	Drainage Grills				
4.4.01	Drainage Grills on roads	130.00			
4.6.00	TOTAL OF BILL No: 04 - Carried Over To Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 05 - SUPPLY OF O&M EQUIPMENT AND SPARES				
	Spares for :				
5.1.00	Safety Tools				
	Supply and Delivery of the following safety equipments and tools:				
5.1.01	Wooden First Aid Box	1.00			
5.1.02	Fire Bucket sand with 3 nos. of round bottom buckets.	1.00			
5.1.03	Rubber mat of 1.1kV grade of size 6mm thick.	1.00			
5.1.04	Fire Safety Rules chart.	1.00			
5.1.05	Shock Treatment Chart	1.00			
5.2.00	Maintenance Tools				
	Supply and Delivery of standard maintenance tools / equipments to Engineer's approval.	1.00			
5.3.00	TOTAL OF BILL №: 07 - Carried Over To Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
BILL NO. 06 - TESTING AND COMMISSIONING					
6.1.00	Preparation of all O&M manuals, training documents and as-built drawings	1.00			
6.2.00	Provision of one year warranty of system including all required maintenance and provision of spare parts (including pump spares) during this period	1.00			
6.3.00	Training of employee's nominees in operation and maintainance as per employer's requirement	1.00			
6.4.00	Testing and comissioning of system	1.00			
6.5.00	TOTAL OF BILL №: 08 - Carried Over To Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BILL NO. 7- ADDITIONS AND OMISSIONS				
7.1.00	ADDITIONS				
7.1.01	BILL NO. 01 - CIVIL WORK FOR DRAINAGE ELEMENTS				
7.1.02	BILL NO. 02 - SUPPLY AND INSTALLATION OF PUMPS				
7.1.03	BILL NO. 03 - MECHANICAL AND ELECTRICAL WORKS				
7.1.04	BILL NO. 04 - GRAVITY DRAINAGE MAINS				
7.1.05	BILL NO. 05 - SUPPLY OF O&M EQUIPMENT AND SPARES				
7.1.06	BILL NO. 06 - TESTING AND COMMISSIONING				
7.2.00	OMMISSIONS				
7.2.01	BILL NO. 01 - CIVIL WORK FOR PUMP STATIONS (2 nos.)				
7.2.02	BILL NO. 02 - SUPPLY AND INSTALLATION OF PUMPS				
7.2.03	BILL NO. 03 - MECHANICAL AND ELECTRICAL WORKS				
7.2.04	BILL NO. 04 - GRAVITY SEWER MAINS				
7.2.05	BILL NO. 05 - ADMIN BUILDING				
7.2.06	BILL NO. 06 - STP				
7.3.00	TOTAL OF BILL №: 7 - Carried Over To Summary				

FLOOD MITIGATION IN HOLHUDHOO
03 PROVISIONAL SUMS
Male', Republic of Maldives

BILL OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PROVISIONAL SUMS				
1.1.00	A Maximum of MVR 200,000.00 Provisional Sums in 01 General Works	item	1.00		
1.2.00	TOTAL OF PROVISIONAL SUMS - Carried Over To Summary				