

**BILL OF QUANTITIES**

**COLOMBO MUNICIPAL COUNCIL**

**SUPPLY & INSTALLATION OF 5000IG FUEL TANK**

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	<p><b>BILL NO. D</b></p> <p><b>EXCAVATION AND EARTH WORK</b></p> <p><b>Note:</b></p> <p>1. Unless otherwise measured separately rates shall include for :</p> <ul style="list-style-type: none"> <li>· Disposal of surplus earth away from the site</li> <li>· Compact bottom of excavations</li> <li>· Earth work supports</li> <li>· Working space</li> <li>· Dewatering of ground and other water</li> <li>· Dewatering of rain water and collecting water</li> <li>· Stacking of excavated earth for removal</li> <li>· Handling and re-handling of earth</li> </ul> <p>2. Rate for Hard Earth Filling shall include for:</p> <ul style="list-style-type: none"> <li>· Filling in layers, (not more than 1'0") well ramming and consolidating.</li> <li>· The earth shall be free of vegetation, roots, boulders easily decomposable materials, chemicals, industrial waste, plastic etc.</li> <li>· The maximum size of particle shall not exceed 75mm.</li> <li>· The earth shall be well graded and contain silt and clay (fines) not more than 30%.</li> </ul> <p>3. The measurement for excavation will be only the net contact areas.</p> <p>4. The measurement for earthwork shall be the net volume of earth after compacting to the approval of the Engineer.</p>				
D.1	<b>Tank Installation</b>				
D.1.1	<p><b>Excavation</b></p> <p>Excavation in tank pit in any type of soil except rock requiring blasting to dimension shown in drawing.</p>	148.00	m <sup>3</sup>		

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
D.1.2	<b>Sand filling</b> River sand filling to a height of 3'6" above base concrete slab.	33.00	m <sup>3</sup>		
D.1.3	<b>Excess Earth</b> To transport excavated excess earth away from site to a location by the contractor .	96.00	m <sup>3</sup>		
D.1.4	<b>Hard earth filling</b> Approved selected dry earth filling( above sand filling )spread in layers not exceeding 6" at anytime, watered well rammed & consolidated.	52.00	m <sup>3</sup>		
D.1.5	Soil improvement under the concrete tank. Supply and lay 9" x 6" rubble in to the excated pit and compress with a excavator untill rubble layer become stable and hard to compress (aproxximtely 1m depth layer under the tank base)	54.00	m <sup>3</sup>		
D.1.6	Temporary shoring with steel R.S.J's / 10 mm thick Steel plate combination , with steel R.S.J's (6" x 6" x 10 mm thick) vertically driven at 4'-0" c/c permissible intervals and steel sheets inserted between R.S.J's; the R.S.J's shall be driven to an appropriate depth below the final formation of the bottom of excavation to withstand as free-standing cantilevers to hold back the unsupported earth. (Shoring designed to carry soil load only) Contractor shall design the shoring method based on soil report recommendations to suit the specific site requirements and method specification to be submitted before excavation to the Divisional Engineer for approval.	94.32	m <sup>2</sup>		
<b>Total carried over to summary</b>					
<b>BILL NO.F</b> <b>CONCRETE WORK</b> <b>F1 - INSITU CONCRETE</b> <b>Note:</b> <b>Rates shall be included for</b> <b>1. Mixing, handling, hoisting and depositing into position.</b> <b>2. Packing around reinforcement and vibrating.</b> <b>3. Curing and clearing as specified.</b>					

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
	<p><b>Ready mix concrete of grade 25(25 N/mm2) confirming to SLS 1144-1997 for the following items.</b></p>				
F1.1	In tank concrete top slab	5.50	m <sup>3</sup>		
F1.2	In tank concrete base slab Rate to include for 6" x6"concrete runners .	8.00	m <sup>3</sup>		
F1.3	In tank concrete walls	13.00	m <sup>3</sup>		
	<p><b>F2 - FORM WORK</b></p> <p><b>Note:</b></p> <p>Quality of the form work should be approved by the engineer prior to erection.</p> <p><b>A. Rates shall include for</b></p> <ul style="list-style-type: none"> <li>· All necessary boarding, supports, applications of mould oil as necessary, erecting, framing, cutting angles, cleaning, wetting and treatment before placing concrete and striking or removal etc.</li> <li>· Formwork to be measured net contact surface between concrete &amp; formwork.</li> <li>· Formwork to beams, columns, and casings deemed to include ends.</li> </ul> <p><b>B. The contractor shall provide sufficient formwork and moulds to ensure the adequate progress of the work and the Engineer may direct the contractor to provide at Contractor's expense such additional formwork and moulds as they may deem necessary if in his opinion the proper progress of the work is retarded by their absence.</b></p> <p><b>C. Rate to be included erecting and dismantling of scaffolding and formwork.</b></p> <p><b>D. Formwork for footing, column, beams, lintel, walls, and slabs are of 15mm thick ply-boards.</b></p> <p>Formwork shall be properly designed formwork as described in specification and it should be sufficiently strong, rigid and should have an even smooth surface and grout tight and should provide a basic finish.</p> <p><b>Form work</b></p>				
F2.1	Form work to sides of walls ,cover slabs,edges for tank pit .	161.00	m <sup>2</sup>		

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
<b>F3 - REINFORCEMENT IN INSITU CONCRETE</b>					
<p><b>Note:</b>            Rates shall be included for            1. Cleaning, cutting, bending, fabricating with gauge 18 binding wire and placing in position.            2. Holding and supporting including temporary fixing supports, hingers, binding wire spaces &amp; tor steel stools.which is required for the proper completion of the work.            3. Providing all necessary laps.            4. Plain rounded Mild steel of characteristic strength 250 N/mm<sup>2</sup> to BS4449            5. High Yield steel of characteristic strength 460 N/mm<sup>2</sup> to BS4449 &amp; 4461</p> <p><u>High-yield tor steel bars diameter not exceeding 16mm for the following items.</u></p>					
F.3.1	In base slab ,walls and top slab	2700.00	Kg		
<b>Total carried over to summary</b>					
<b>BILL NO H</b>					
<b>WATER PROOFING</b>					
<p><b>Note:</b>            1.0 The water proofing contractor (or sub contractor) should be a registered specialist contractor at the ICTAD in the category of water proofing.            2.0 The contractor shall submit a written warranty of at least 10 year to cover on the quality of the material, suitability of the material for the situation and the workmanship including water tightness.            3.0 The water proofing material shall confirm to relevant British, Euro or ASTM specifications.            4.0 All steel pipe joints ,crossing brick work /concrete in manhole should be encased by elastomeric joint sealant            5.0)All the internal and external walls surfaces should be waterproofed by applying epoxy paint (Free Mastic G -316) or equivalent.(Agent Modern Trading (Pvt)Ltd.)  <b>DPM</b></p>					
H.1	Damp proof membrane under floor concrete, out of 700 guage polythene. Rate shall include for all laps turning 150mm at ends. At Under the ground slab	54.00	m2		

Item	Description	Qty.	Unit	Rate Rs.	Amount Rs.
H.1	Provide approved water proofing system (Baralastic or similar) by a specialized water proofing contractor to fuel tank base,walls in under ground fuel tank. (Payment will be given after handing over of 5 years warranty.) (Contractor should seal all cracks in concrete with chemical rasin before application of waterproofing). Rate should include for 15mm thick cement sand protective layer )	161.00	m <sup>2</sup>		
<b>Total carried over to summary</b>					
<b>BILL NO X</b>					
<b>EXTERNAL WORKS</b>					
X.1	Supply & Delivery of 5000 IG tank with the fabrication to done as per the CPC standards and specifications detailed in the CPC drawing No Ceypet/Eng/0102. Rate shall include for transportation to CMC fuel station at Borella.	1.00	No		
<b>Under Ground Fuel Tank Manhole</b>					
<b>Note:-</b>					
<b>Water proofing should be done according to the following Bill no H.</b>					
X.2	Supply, fabricating and installing of (approximatly) 2'6"x2'6"X 3'0" deep (internally )under ground fuel tank manhole complete, with 12mm MS plate square manhole cover(Size 2'9"x2'9") and frame with a total thicknes of walls 225mm by R.C.C 1: 1 1 /2 :3(3/4") and masonry brick side walls including form work and reinforcement,3/8" tor steel bars @ 8" centres bothways and tank top concrete to be reinforced with Y 3/8" tor steel bars and 2/8" MS roads.All concrete and brick surfaces to be applied with epoxy paint(Free Mastic G -316 or equivalent ) to side walls.5/8" G.I. lifting hooks tied to yard concrete reinforcement and external sides of the brick wall finished smooth with neat cement plaster as per drawing No - CEYPET /ENG/0287	1.00	nr		
X.3	Scrap wire brush , clean and apply two coats of hot tar to all external surfaces of tank prior to installation.	1.00	Item		
X.4	Installation of tank with necessary traps and bolts as shown in drawing.	1.00	nr		
X.5	<b>Tank Removal</b>				
X.5.1	Excavation and carefully removing the existing tank and handed over to CMC.	1.00	nr		
<b>Total carried over to summary</b>					

**ORIGINAL**

**BILL OF QUANTITIES**

**COLOMBO MUNICIPAL COUNCIL**

**SUPPLY & INSTALLATION OF 5000IG FUEL TANK**

**SUMMARY**

BILL NO	DESCRIPTION	AMOUNT RS.
BILL NO.01	PRELIMINARIES	
BILL NO. D	EXCAVATION AND EARTH WORK	
BILL NO. F	CONCRETE WORK	
BILL NO. H	WATERPROOFING	
BILL NO.X	EXTERNAL WORK	
	SUB TOTAL	
	ADD 10% CONTINGENCIES	
	ADD PRICE FLUCTUATION CONTINGENCIES (10%)	
	TENDER PRICE (BID PRICE)	
	ADD 08% VAT	
	<b>FINAL COST (WITH TAXES)</b>	

**SIGNATURE OF TENDERER .....**

**DATE:**

**Section -8**  
**DRAWINGS**