



African Reinsurance Corporation

AFRICA REINSURANCE CORPORATION OFFICE BUILDING ADDIS ABABA

**BIDDING DOCUMENT FOR PROCUREMENT OF SHORING
WORKS FOR THE PROPOSED AFRICA-RE OFFICE BUILDING
IN ADDIS-ABABA, ETHIOPIA.**

**Section 6: Schedule of Requirements
D: Bill of Quantities**



**እስክንድር አርክቴክትስ
ESKINDER ARCHITECTS**

JUNE, 2021

PROJECT : Africa Reinsurance Corporation Office Building

CLINET : Africa Reinsurance Corporation

LOCATION: Addis Ababa, Megenagna Area

SUMMARY OF PRICES (Shoring & Earthwork)

1	Shoring system construction	Eth. Birr	<hr/>
2	Earthwork	" "	<hr/>
Total (1+2), Eth. Birr			<hr/>
15% VAT			<hr/>
Total with VAT			<hr/>

Item No	Description	Unit	QTY	Unit Price, Eth. Birr	Amount, Eth. Birr
	1. Earthwork				
1.1	Clear the site to an average depth of 1.0m from surface to remove previous construction debris and fill material.	m ³	580		
1.2	Bulk excavation in ordinary soil to a depth not exceeding 6m from the stripped level.	m ³	14,500		
1.3	Ditto, but in mixed soil formation (in soil with highly weathered rock composition) from an average depth of 6m to 12m depth from surface.	m ³	-		
1.4	Ditto, but from 12m to a maximum depth of 18m.	m ³	-		
1.5	Bulk excavation in stiff to hard clay soil formation from 12m to a maximum depth of 18m from surface. (Rate only)	m ³	-		
1.6	Bulk excavation in modarately to slightly weathered rock formation at any depth from surface. (Rate only)	m ³	-		
1.7	Trim the irregularities of the excavation wall in between the shoring piles and make it arch formation as shown on the drawing for casting of shotcrete wall membrane.	m ²	2,900		
1.8	Cart away surplus excavated material to the appropriate tip from the site.	m ³	22,620		
1.9	Leveling of the excavated area and backfilling with selected granular fill material of total 1m thickness above the excavation level. The compaction layer should not exceed 200mm and the relative compaction is 96% proctor density.	m ³	3,200		
	Total carried to summary, Eth.Birr				

Item No	Description	Unit	QTY	Unit Price, Eth. Birr	Amount, Eth. Birr
	1. Shoring system construction				
1.1	Mobilization and demobilization of staff and equipment for pile drilling, anchoring and shotcreting works	LS	1		-
1.2	Bored cast in-situ piles to the designed depth of 19.5m with tie back anchors and reinforced shotcrete wall of 150mm thickness between the bored and casted piles.				
1.2.1	Drilling for piles of dia. 600 mm in all soil formations incling in weathered rock materials and rock socket.	m	1,625		-
1.2.2	Fabricate and install steel reinforcement in accordance with the drawing details for bored cast in-situ pile diam. 600mm and install the reinforcement cage in the drilled hole for pile using heavy duty mobile crane.				
	a) dia. 12mm	kg	12,500		-
	b) dia. 20mm	kg	34,516		-
1.2.3	Supply and cast workable concrete in C-30 for piles of dia. 600mm, using plasticizer of approved quality in the ratio complying to the supplier's specification (usualy 1.2 litre per 100kg of cement). The concrete should attain slump test result of 180 to 220mm to ensure continious workability and it shall be casted using tremie pipe of diameter 150 to 250mm and heavy duty mobile crane. The concrete mixing, water-cement ratio and pouring shall be executed under the strict supervision of experienced personel staff of the contrecator and shall have the prior approval of the engineer.	m ³	297.6		-
1.2.4	Supply and install double strand tension wires with grouted anchor blocks at 30 degree inclination, including performing the grouted body with grouting mix, grouting pipe, anchor head, cement and any other related accessories or equipment. Four strands of 14m length each shall be used for each pile with anchor blocks of length and diameter 7m and 130mm respectively. Each strand is with 7 tension wires of grade 1670/1860 MPa of diameter 15.7mm with tensile characteristics strength of 250 kN.				
	a) Double strand tension wire	m	1,254		-
	b) Grouted anchor block	m	1,215		-

1.2.5	Proof testing of Anchors in accordance with DIN 4014	No.	54	-
1.2.6	Casting of shotcrete wall membrane against excavated wall with concrete quality of C-25 between the installed reinforced concrete piles. The thickness of the shotcrete wall is 150mm and reinforcement measured separately.	m ³	181	-
1.2.7	Reinforcement bars for shotcrete wallcut to size, bent to shapes, tied and placed in position according to structural drawings.			
	a) Diameter 8 mm deformed bar	kg	2,536.0	-
	b) Diameter 12mm deformed bar	kg	6,245.7	-
	Total carried to summary, Eth.Birr			-