

MINISTRY OF AGRICULTURE- AGRICULTURE DEVELOPMENT AND MODERNIZATION PROGRAM

BANANA ACCOMPANYING MEASURES

RABACCA/ DANDRADE IRRIGATION REPAIR

Bill of Quantities

Item	Description	Unit	Quantity	Rate	Amount (Euro)
1	PRELIMINARIES				
1.1	Mobilization	Sum			
1.2	Demobilization/Site Clean up	Sum			
1.3	Site Office/Storage	Sum			
1.4	Temporary Access Road	Sum			
1.5	Electricity	Sum			
1.6	Dewatering	Sum			
1.7	Security	Sum			
1.8	Bond	Sum			
1.9	Contractors All Risk Insurance	Sum			
1.1	Third Party Insurance	Sum			
1.12	Sign Board	Sum			
1.13	Communications	Sum			
1.14	Supervision	Sum			
1.15	Transportation	Sum			
	Sub - Total				
2	INTAKE REPAIR				
2.1	Repair damaged spillway apron 15 inch thick with reinforced concrete	Cu.Yd	9		
2.2	Excavate and backfill in river bed for protective wall	Cu.Yd	22		
2.3	Construct RC wall at toe of spillway -Base	Cu.Yd	15		
2.3	Clear upstream of weir	Cu Yd	110		
2.4	Backfill hollow under apron with river bed material	Cu.Yd	110		
2.5	Install gabion basket protection at toe of spillway - 1mx1m and 0.5m X 1m baskets	Cu.Yd	34		
2.6	Clean out and flush intake chamber, and install new pipe.	Sum	1		
2.7	Install gabion basket protection to the side of intake chamber in By-pass area	CuYd	56		
2.8	Miscellaneous concrete repairs to chamber and weir including grooves for screens and racks, new screens and new racks	Sum	1		

2.90	Rubble masonry Underpinning to buttress walls and chamber	Cu Yd	50		
	Sub-Total				
	3 PIPE REPAIR -INTAKE				
3.1	Excavate and backfill in riverbed for pipeline installation	L.Ft.	2100		
3.2	lay and joint 2300Ft. Of DN 500mm DI. Pipe, Include pipe, fittings, bolts, connectors, all ancilliary works	L.Ft	2300		
3.3	Install anchor blocks along pipeline at max. 20ft. intervals	Unit	115		
	Sub-Total				
	4 PIPE REPAIR -Second River crossing				
4.1	Excavate and backfill in River bed and along banks for pipeline installation	L.Ft.	150		
4.2	Lay and joint DN 300mm DI pipe, incl pipe, fittings, bolts, connectors and all ancilliary works	L.Ft.	230		
4.3	Install anchor blocks along pipeline at max. 20ft. intervals	each	8		
	Sub-Total				
	5 PIPE REPAIR -Third River crossing				
5.1	Lay and joint DN 300mm DI pipe suspended above ravine include pipe, fittings, bolts, and all ancilliary requirements	L.Ft.	40		
5.2	Replace RC pipe anchor supports on banks of ravine	Unit	2		
	Sub-Total				
	6 PIPE REPAIR -Landslip area				
6.1	Cut tree on pipe alignment Girth approx. 3ft. And dispose.	unit	1		
6.2	Re-connect DN 300mm PVC pipeline ends	L.Ft.	30		
	Sub-Total				
	Total				
	<u>"Off Farm Equipment "</u>				
	7 Filter Station				
7.1	Hydrocyclone				

Flow rate 800 m³ per hour complete with manifolds in and out to include air valves and automatic valves to release accumulated sand

each 1

Sub Total

8 Fittings

As 'Specifications', to enable main line to be installed as per installation drawings.

110 repair coupler (for PVC pipe) flange	each	8
110 repair coupler (for PVC pipe) socket	each	6
3" gate valve female threaded	each	50
500 mm gasket	each	20
315 mm gasket	each	20
200 mm gasket	each	20
116 mm gasket	each	20
110 mm gasket	each	20

Set of bolts and nuts for different couplers (500 mm to 100 mm)

Sum

Spare parts for gate valves sizes 500 mm to 100 mm (gaskets etc)

Sum

Labour

Sum

Sub Total

9 Building Works

9.1 Repair existing buildings (doors, roof, blockwork) over valve and filter stations . necessary.

PS 1

Sub Total

10 Pressure Control Valve

All items as per 'Specifications.'

Each unit comprises:

10.1 300mm Pressure regulating valve	each	2
10.2 300 mm strainer flanged	each	1
10.3 300mm Flanged cast iron gate valve with non-rising stem	each	2
10.4 160mm Flanged cast iron gate valve with non-rising stem	each	2
10.5 160mm Pressure regulating valve	each	1
10.6 110 mm Flanged cast iron gate valve with non-rising stem	each	6

10.7	110 mm Pressure regulating valve flanged	each	6	
10.8	Nuts, bolts, washers, flange gaskets	each	1	
10.9	2" Double acting air valve	each	1	
10.1	10 bar pressure gauge with isolating valve.	each	1	
10.11	6" x 1.5 m Galvanised steel swan neck with flanges	each	1	
10.12	6" x 160 mm PVC Flange adapter	each	2	
	Quantity		6	
	Sub Total			
11	Filter Station			
	As per Specifications			
	Internally and externally epoxy coated steel To be supplied with an automatic backwash system with manual option and to be complete with all pipes, fittings, pressure gauges etc. Pipework connections to the PVC main to be galvanised steel. Manufactured to standard equivalent to ISO 9003			
	Quantities			
11.1	Flow rate 200m ³ /hr	each	1	
11.2	Flow rate 125m ³ /hr	each	1	
11.3	Flow rate 75m ³ /hr	each	1	
11.4	Flow rate 96m ³ /hr	each	2	
11.5	Flow rate 48m ³ /hr	each	2	
	Sub Total			
12	Main Line Drain/Air valve assembly			
	Assembly drawing gives generalised layout of components.			
	All items as 'Specifications'			
	Each item comprises:			
	10 bar Pressure gauge with isolating valve			
	125 mm x 75mm PVC reducer			
	75mm PVC x 3" stub flange assembly			
	2" Double acting air valve			
	3" screwed gate valve			
	Nuts, bolts, washers, flange gasket			
12.1		each	10	

	Sub Total			
13	Control and Distribution Head			
	To have a maximum flow of 30m ³ /hr. Assembly drawing gives generalised layout of components. All items as 'Specifications' Each item comprises:			
	"x" PVC x 3" Pipe Saddle (20 no x 110mm & 34 x			
13.1	160mm PVC)		1	
13.2	75mm Polyethylene 6 bar from main line to control h	m	10	
13.3	75mm Polyethylene x 2" compression adapter		1	
13.4	2" x 1.5m galvanised steel inlet assembly		1	
13.5	1" Double action air valve		1	
13.6	2" Epoxy coated steel disc filter		1	
13.7	2" Pressure regulator		1	
	Galvanised steel by-pass assembly for Mazzei			
13.8	injector		1	
13.9	Fertilizer ventouri injector 3/4"		1	
13.1	200 lit. Plastic fertiliser tank		1	
13.11	6 bar Pressure gauge		2	
13.12	2" Isolating valve		1	
13.13	2" Water meter - measuring in m ³ /hr with totaliser		1	
13.14	2" galvanised steel outlet assembly 2 to 4 outlets.		1	
13.15	Automatic Valve with programmable Controller		4	
13.16	63mm x 2" Compression adapter (1 per outlet)		1	
13.17	63mm Compression elbow (2 per outlet)		1	
	Steel support		1	
13.18	with 4 outlets	each	15	
13.19	with 2 outlets	each	15	
	Sub Total			
"OFF FARM" MATERIAL and INSTALLATION				
14	Tools, Materials, Spare Parts			
	Tools,materials and spare parts necessary for the repair and maintainance of equipment as requested			
14.1	by client			

		PS			
	Sub Total				
15	<u>SUMMARY OF PROJECT COSTS</u>				
15.1	Preliminaries, Weir, Pipe Repair				
15.2	Tools, Materials and Spare Parts				
15.3	Off Farm equipment				
15.4	Freight				
15.5	<u>Sub Total</u>				
15.6	<u>15% VAT</u>				
TOTAL PROJECT COST IN EURO					