MACUDA AMERICA

RAISING FUNDS TO CONSTRUCT A
BOREHOLE WATER SUPPLY SYSTEM IN NGULUNG – MANKON

YOUR KIND DONATION WILL ENABLE US BRING POTABLE WATER TO THE RESIDENTS OF NGULUNG. THIS WILL CURB THE SPREAD OF WATER-BORNE DISEASES LIKE TYPHOID AND IMPROVE THE QUALITY OF LIFE OF NGULUNG RESIDENTS

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Presented by Jones Nkimbeng

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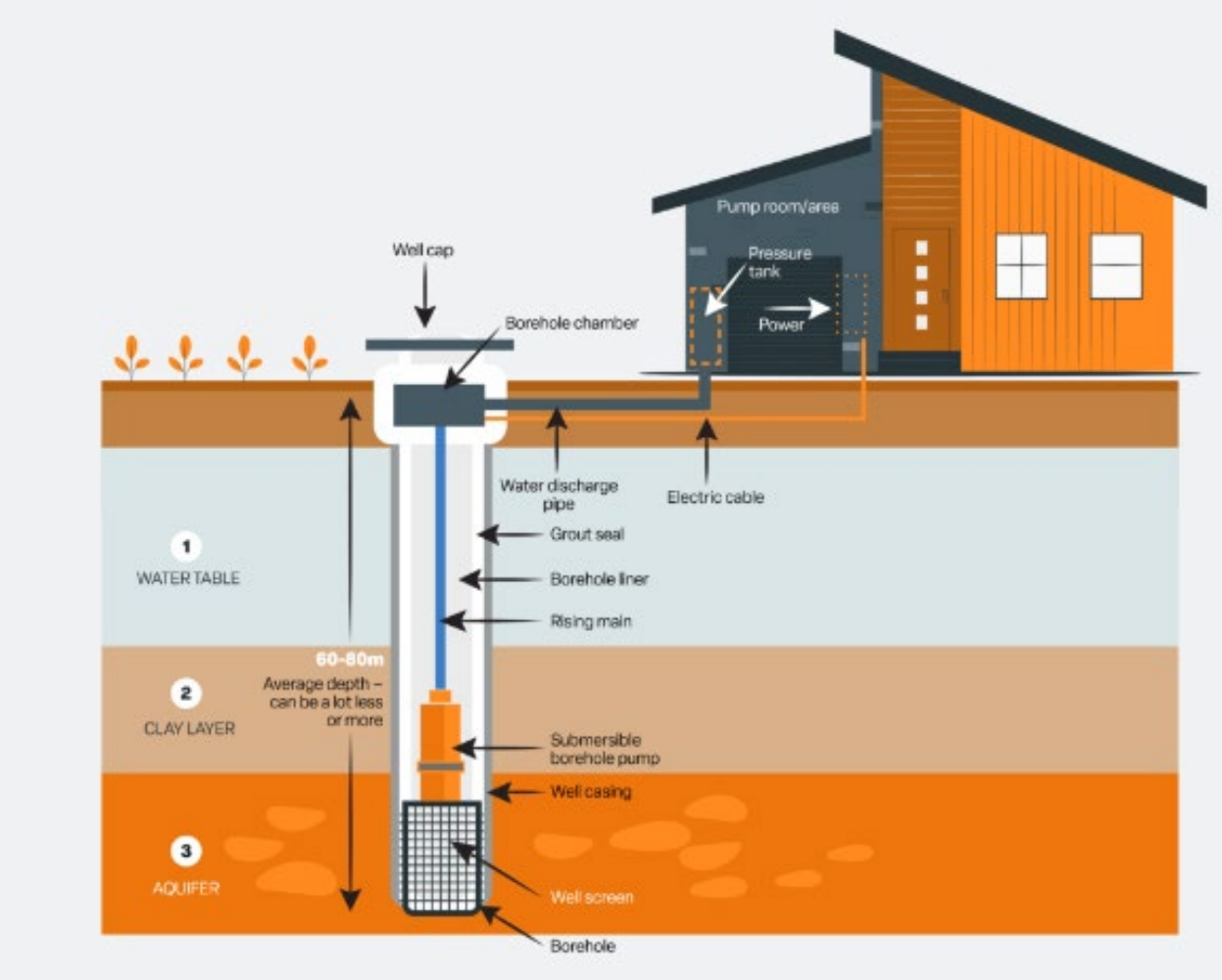


Why?

- ✓ Inadequate access to potable water in Rural Mankon – Example, Ngulung Quarter
- ✓ Portable water is typically more than 1 mile away from Ngulung residents
- ✓ With no potable water, Ngulung residents fetch water from Raffia bushes – exposing themselves to water-borne diseases such as Typhoid.
- ✓ And so on…

Objectives

- ✓ To provide the community of Ngulung with abundant potable water
- ✓ Reduce risk of water borne- diseases
- ✓ Reduce health care cost
- ✓ Improve quality of life (No trekking for 1 mile to access water)
- ✓ **Ngulung, 76 households, 350 persons.**
- ✓ **30L per person per day**
- ✓ **Estimated water demand of 10,500 liters per day**

Methodology

- ✓ Mechanical drilling of bore holes – 300 meters below surface
- ✓ Filtration
- ✓ Tower construction -3 meters square by 10 meter tall (20x30cm beams)
- ✓ Solar Roof – Reliable Operation
- ✓ Control room
- ✓ Four taps – with a suck-away pit

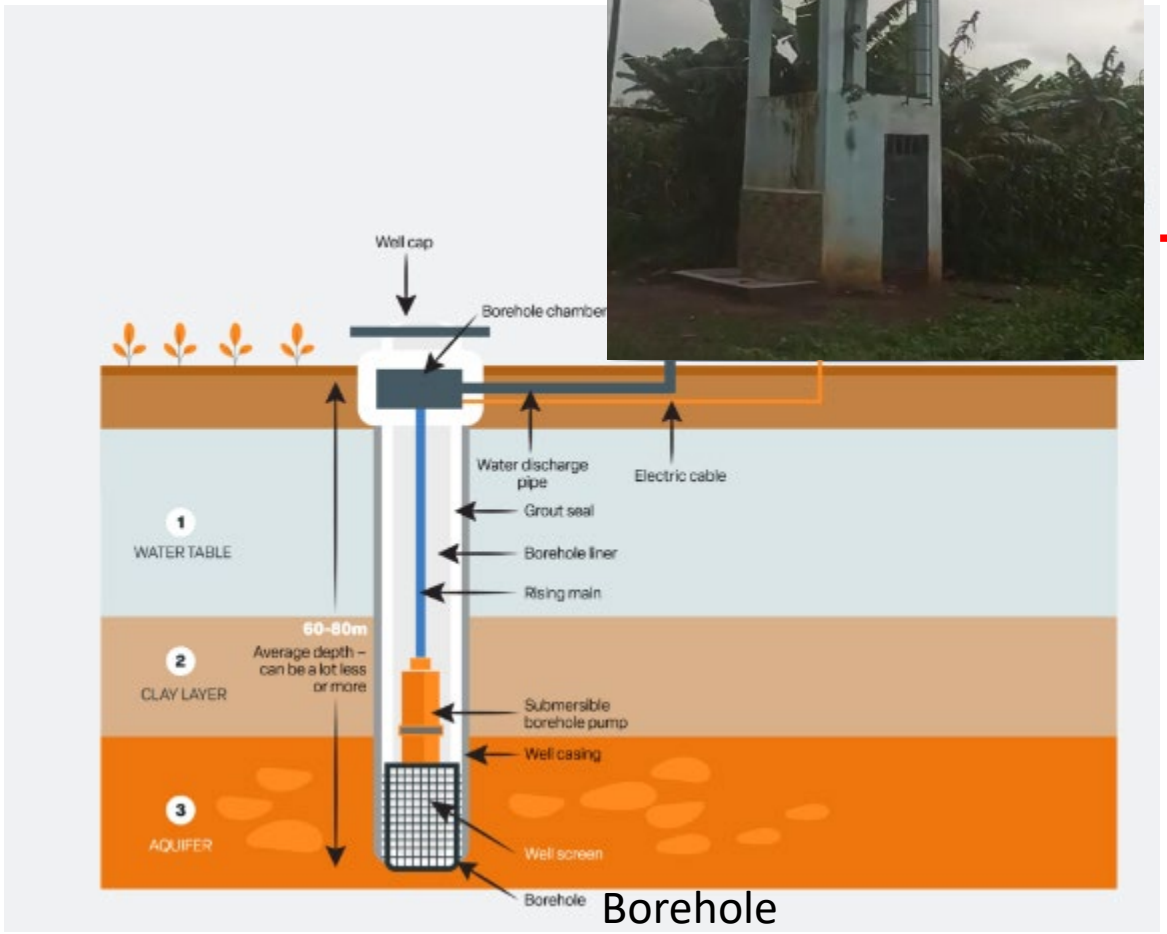
Solar Roof

Tank 1 (5000 liters, Active)

Tank 2, 5,000 Liters, Storage, Night time Use

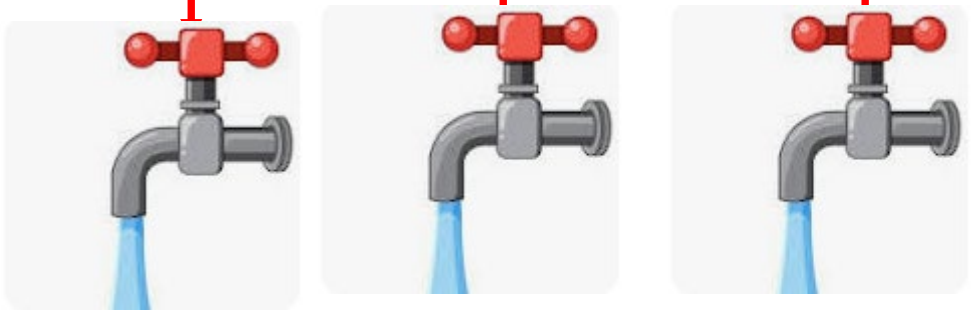
Control room

Storage Tank



Borehole

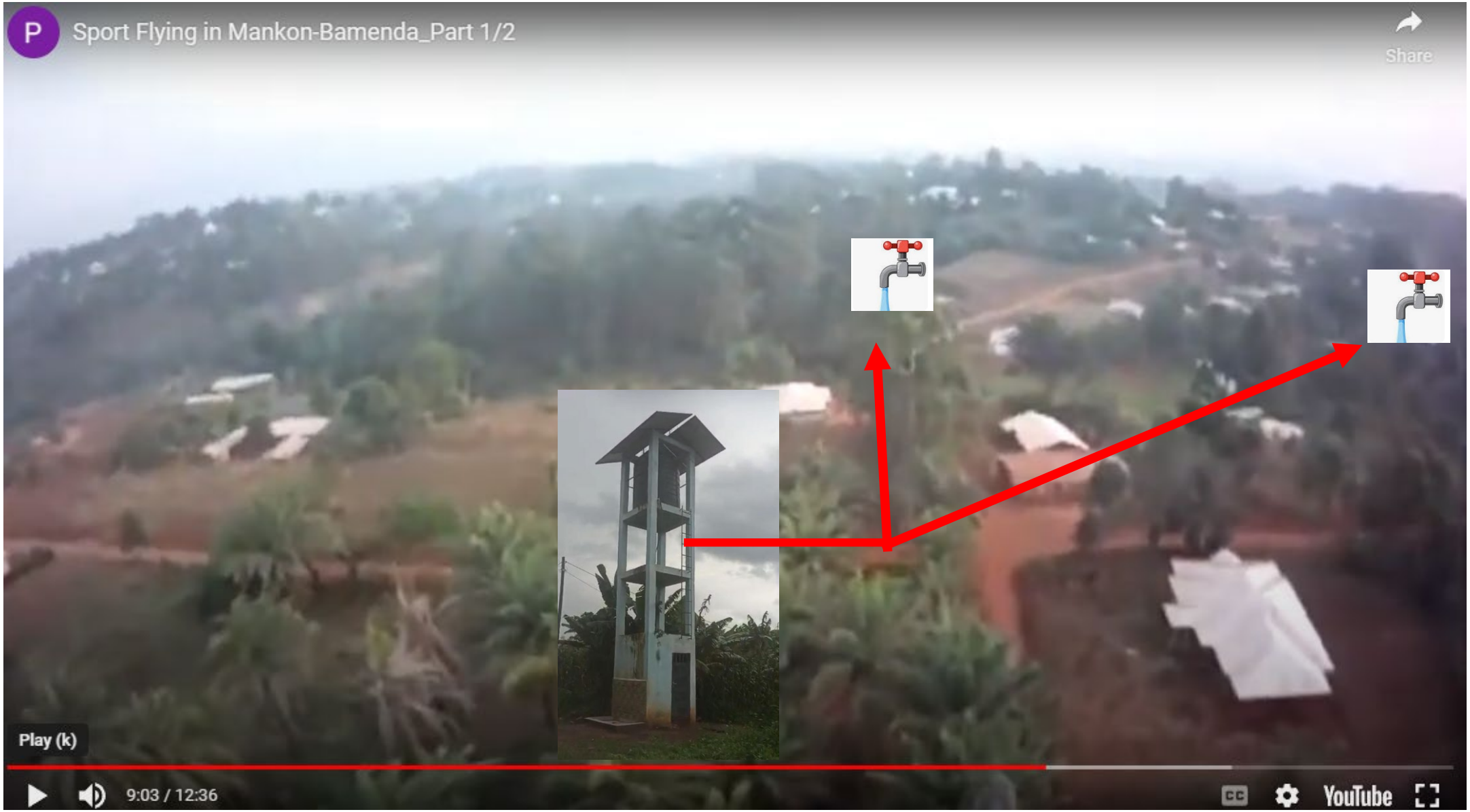
Distribution within Ngulung Quarter



Upper Ngulung

Lower Ngulung

Ngulung Quarter, Mankon - 2013.
https://www.youtube.com/watch?v=1ayDk_MXPqE


P
Sport Flying in Mankon-Bamenda_Part 1/2
Share
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9:03 / 12:36
YouTube

PROPOSED WORK PLAN

S/N	ACTIVITY/TIME IN WEEKS	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10
1.	Site installation, preparation, drilling and building of mouth chamber										
2.	Setting out, excavation and building of water tower										
3.	Digging of pipe lines, plumbing works and building of stand taps										
4.	Tiling work and painting										
5.	Installation of pumping system and general testing of system										
6.	Clearing and cleaning of site, training of caretaker/WMC, handing over of tool box and manuals										
7.	Handing over to community										

Duration = 10 weeks

BILL OF QUANTITIES (MATERIAL, TRAINING, ETC.)

BILL OF QUANTITIES FOR THE DRILLING OF A BORE WELL, CONSTRUCTION OF A WATER TOWER AND DISTRIBUTION TO THREE (3) STAND TAP POINTS IN NGULUNG-MANKON

S/N	ITEM/ACTIVITY	UNITS	Q'TY	UNIT PRICE	TOTAL PRICE
100.	**PRELIMINARY WORKS**				
101.	Site installation, clearing and cleaning	LS	1	50,000	50,000
	SUBTOTAL				**50,000**
200.	**DRILLING OF BORE HOLE**				
201.	Drilling of bore hole, Casing, Backfilling with fine sand and Construction of mouth chamber	m	250	12,000	3,000,000
	SUBTOTAL				**3,000,000**
300.	**CONSTRUCTION OF WATER TOWER**				
301.	Setting out of foundation	LS	1	20,000	20,000
302.	Excavation of footings	m^3	6	15,000	60,000
303.	Lean concrete	m^3	6	5,000	30,000
304.	Reinforced concrete footing in PC 400Kg/ m^3 (rod size ϕ12mm)	m^3	2	250,000	500,000
305.	Reinforced concrete column beams for foundation-20cmX30cm in PC 400Kg/ m^3 (rod size ϕ12mm)	m^3	1	250,000	250,000
306.	Reinforced concrete columns and beams for pillars in PC 400Kg/ m^3 (rod size ϕ12mm)	m^3	2	250,000	500,000
307.	Backfilling of foundation	m^2	9	2,000	18,000
308.	Decking of 3 slaps of thickness 15cm in PC 400Kg/ m^3 (rod size ϕ12mm)	m^3	2	250,000	500,000
309.	Building and Plastering of control room	LS	1	200,000	200,000
310.	Metallic ladder – 8m	U	1	60,000	60,000
311.	Installation of balcony for tanks	U	8	12,000	96,000
312.	Concreting of control room floor at 250Kg/ m^2	m^3	0.5	60,000	30,000
313.	Form work - 1x12 plank	U	15	6,500	97,500
314.	Scaffolding	U	1	120,000	120,000
315.	Form work props	m^3	12	2,000	24,000
316.	Mass concreting of fetching area	m^2	2.5	20,000	50,000
317.	Supply and installation of 5 cubic meters plastic tanks	U	2	420,000	840,000
318.	Waterproof plastering of tower	m^2	6	10,000	60,000
319.	Production and installation of iron door -210 X 80cm	U	1	60,000	60,000
320.	Provision of soak-away pit	LS	1	50,000	50,000
	SUBTOTAL				**3,565,500**

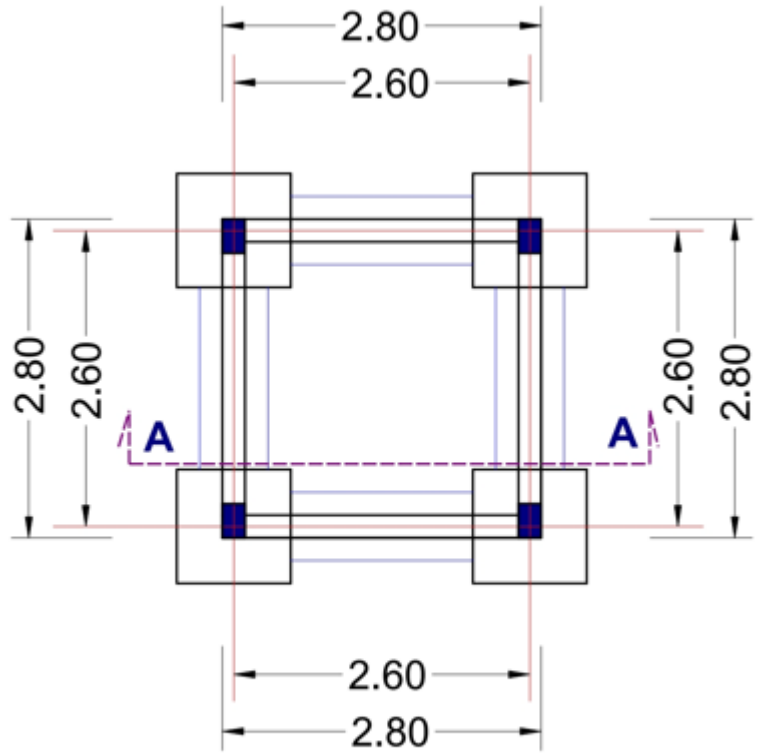
400.	**CONSTRUCTION OF STAND TAPS AND PLUMBING WORKS**				
401.	Construction of stand pipes with 2 taps and equipped with soak-away pits	U	3	150,000	450,000
402.	Excavation of pipeline	m	900	600	540,000
403.	Supply and installation of PVC press ϕ63 6tanks	LS	3	20,000	60,000
404.	Supply and installation of ball valve ϕ63	U	1	30,000	30,000
405.	Supply and laying of PVC pipe ϕ32 NP10	m	9	70,000	630,000
406.	Supply and implantation of taps	U	12	10,000	120,000
407.	Supply and implantation of wash valves every 100m and pipeline indicators	U	6	20,000	120,000
408.	Plumbing accessories	LS	1	150,000	150,000
409.	Backfilling of pipeline	m	900	200	180,000
410.	Cleaning and disinfecting of pipeline	LS	1	20,000	20,000
	SUBTOTAL				**2,300,000**
500.	**INSTALLATION OF SOLAR PUMPING SYSTEM**				
501.	Supply and installation of Solar panel carriers	LS	1	80,000	80,000
502.	Supply and installation of Solar panels	U	8	87,500	700,000
503.	Supply and installation of earthing	U	1	30,000	30,000
504.	Supply and installation of Grunfos 1.5HP Solar pump	U	1	1,600,000	1,600,000
505.	Supply of other electrical materials and accessories	LS	1	395,000	395,000
506.	Supply of plumbing accessories	LS	1	65,000	65,000
507.	Supply of HDP pipe ϕ32	U	3	50,000	150,000
	SUBTOTAL				**3,020,000**
600.	**TILING AND PAINTING**				
601.	Tiling of walls	m^2	10	12,000	120,000
602.	Tiling of floor	m^2	10	15,000	150,000
603.	Painting with Pantex 1300 and black oil paint	LS	1	150,000	150,000
	SUBTOTAL				**420,000**
700.	**PROJECT SUSTAINABILITY**				
701.	Training and putting in place of five(5) Water Management Committee (WMC) members and one(1) Caretaker and production of internal Rules and regulation governing the WS scheme	Session	2	300,000	600,000
702.	Supply of complete Tool box and vital spare parts to be handed to the chairman of the WMC	U	1	200,000	200,000
	SUBTOTAL				**800,000**
800.	**ENGINEERING SUPERVISION AND CONTROL**				
801.	Communication credit and data for reporting	Day	45	2,000	90,000
802.	Mobilization and transport	Day	45	1,000	45,000

803.	General supervision	Day	45	5,000	225,000
804.	Complete realization manual	LS	1	50,000	50,000
	SUBTOTAL				**410,000**
	GRAND TOTAL				**13,565,500**

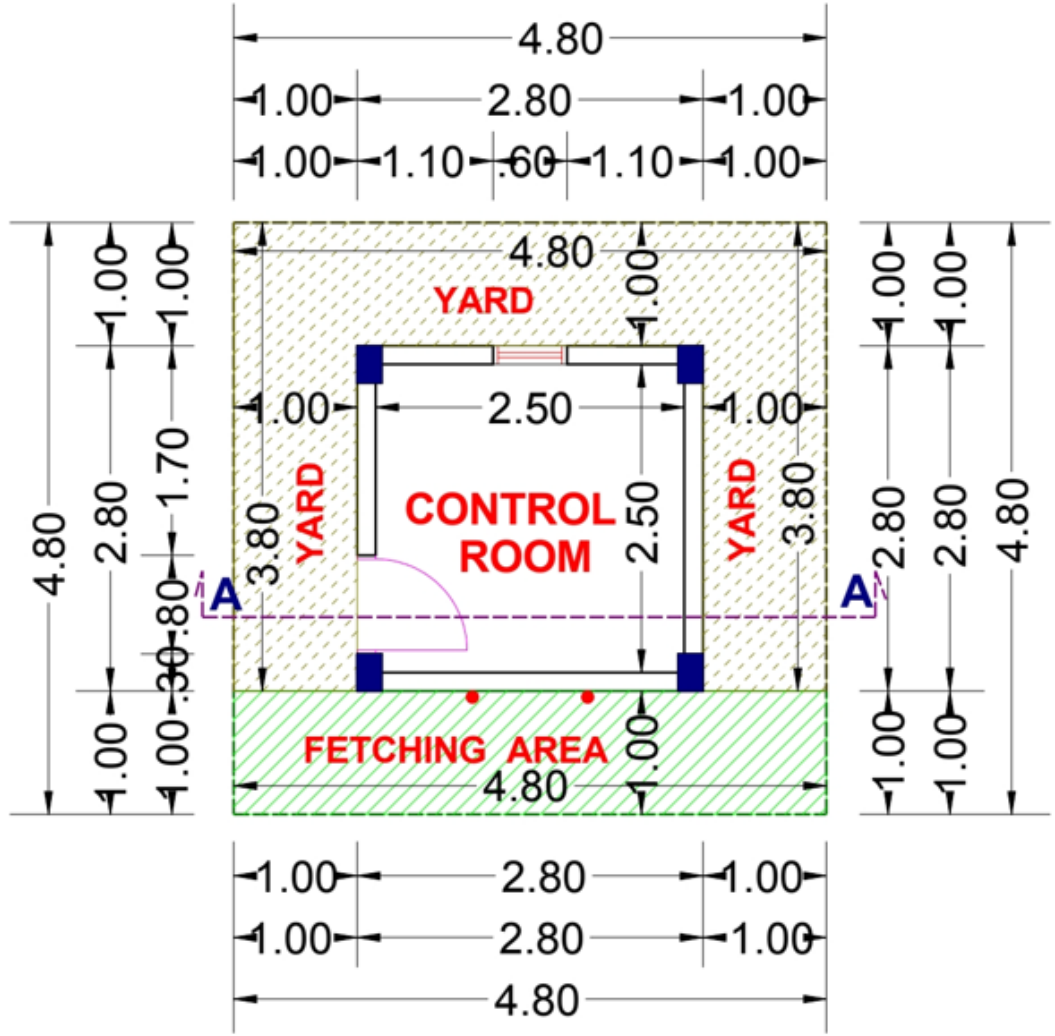
SUMMARY

100. PRELIMINARY WORKS	=	50,000
200. DRILLING OF BORE HOLE	=	3,000,000
300. CONSTRUCTION OF WATER TOWER	=	3,565,500
400. CONSTRUCTION OF STAND TAPS AND PLUMBING WORKS	=	2,300,000
500. INSTALLATION OF SOLAR PUMPING SYSTEM	=	3,020,000
600. TILING AND PAINTING	=	420,000
700. PROJECT SUSTAINABILITY	=	800,000
800. ENGINEERING SUPERVISION AND CONTROL	=	410,000
GRAND TOTAL	**=**	**13,565,500**

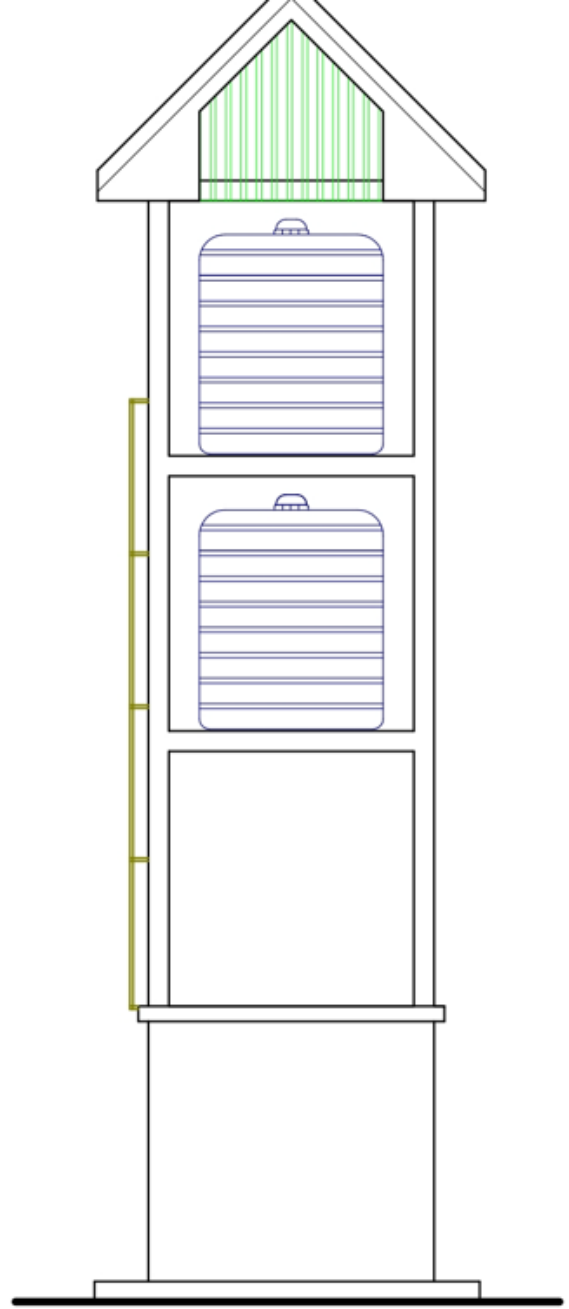
In words: *Thirteen Million, Fivs Hundred and Sixty-five Thousands, Five Hundred Francs CFA*



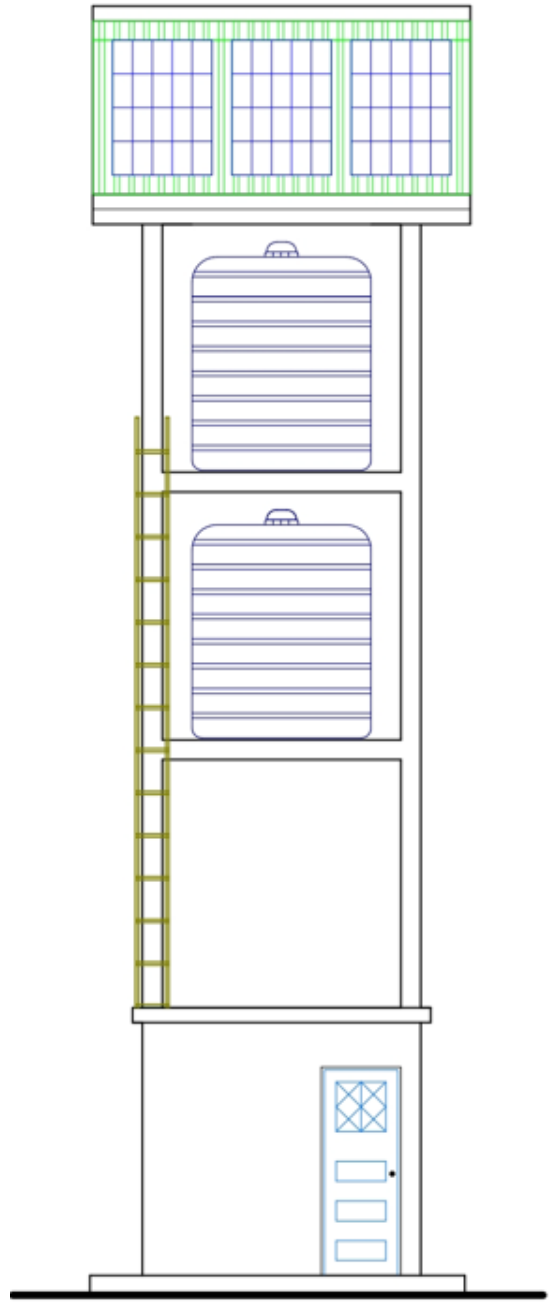
FOUNDATION PLAN



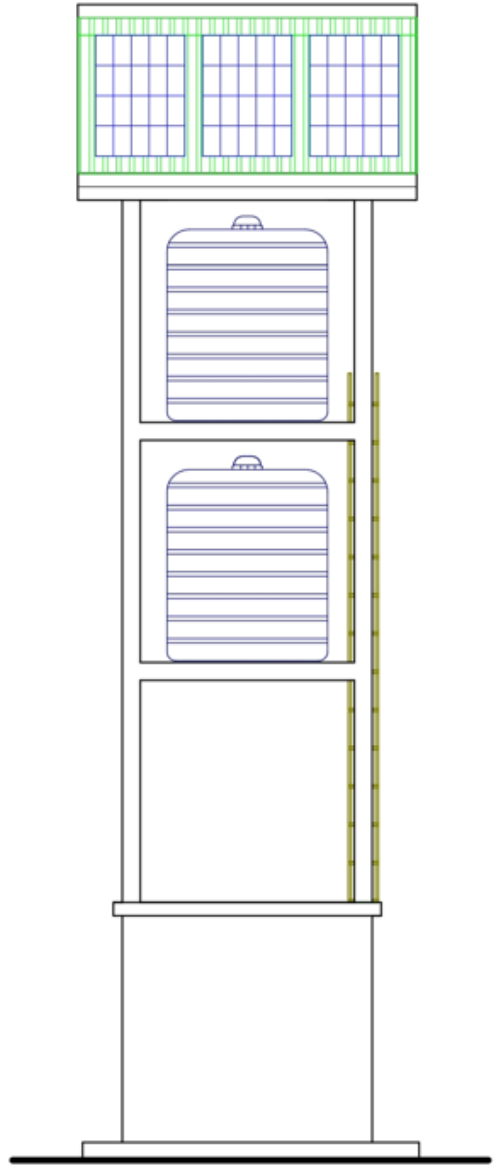
GROUND FLOOR PLAN



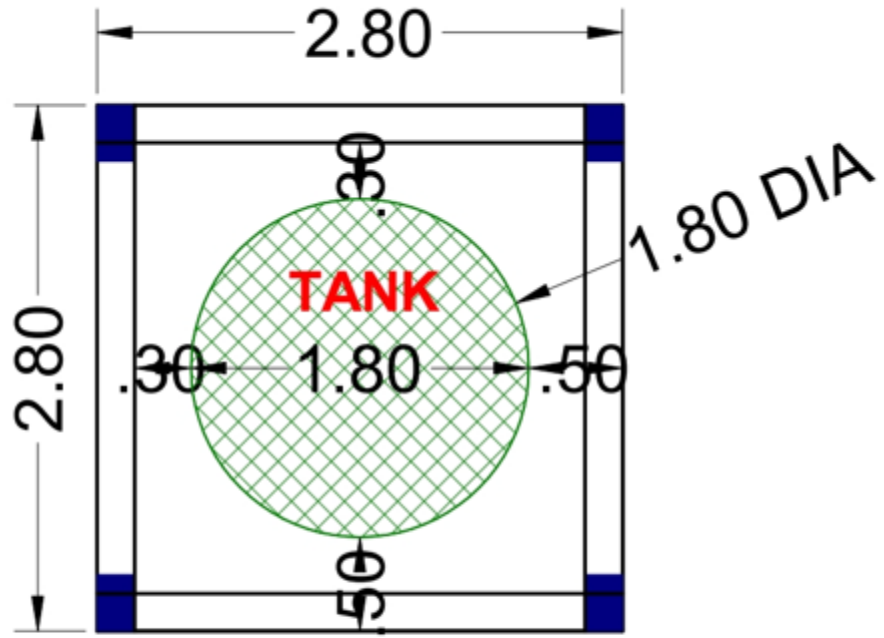
FRONT VIEW



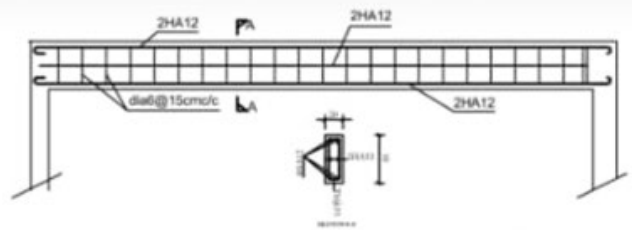
LEFT VIEW



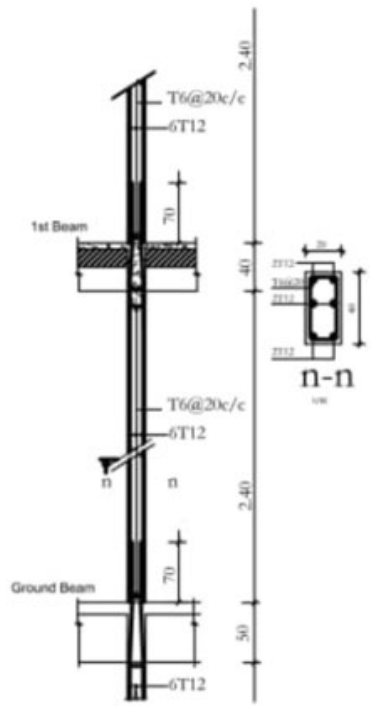
RIGHT VIEW



2ND & 3RD FLOOR PL



TYPICAL BEAM DETAIL



TYPICAL COLUMN DETAILS

End

Thank you!