

Luisenga hydro			
Overview	Company name	Mwenga Hydro ltd	
	Type of hydro	Small run of the river hydro scheme	
	location	8°38'00.80"S 35°21'56.44"E	
	Gross head	411	m
	expected net Head	380.5	m
	design flow rate	0.837	m3/s
	total generation capacity	2500	kW
	proposed turbine type	multijet pelton	
	number of turbines	1	
Penstock (option for surge pipe after 760m) first 760m very lightly pressurised	type	HDPE and steel pipe as below	
	diameter (Nominal)	0.6	m
	length	2770	m
	Steel PN 4	200	m
	HDPE PN 4	720	m
	HDPE PN 6	130	m
	STEEL PN 12	250	m
	STEEL PN 20	420	m
	STEEL PN 30	200	m
	STEEL PN 40	230	m
	STEEL PN 50	260	m
	STEEL PN 60	360	m
	expected head loss	30.5	m
interconnection	Voltage stepped up to 33kV in indoor switchgear room, connected to private distribution network and national grid(TANESCO). Must be able to run in island mode.		

### Luisenga hydro monthly flow probability table

Luisenga river flow probability table m3/s												
%	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
20	1.16	1.23	1.94	2.42	1.75	0.95	0.67	0.53	0.30	0.23	0.27	0.62
30	0.90	1.00	1.61	1.99	1.51	0.83	0.61	0.43	0.27	0.19	0.19	0.46
40	0.72	0.82	1.32	1.69	1.31	0.77	0.54	0.41	0.24	0.17	0.14	0.35
50	0.60	0.69	1.16	1.43	1.16	0.69	0.48	0.38	0.22	0.14	0.10	0.27
60	0.49	0.61	1.02	1.17	1.05	0.64	0.46	0.35	0.17	0.10	0.06	0.20
70	0.39	0.52	0.90	0.99	0.90	0.57	0.41	0.31	0.14	0.08	0.04	0.13
80	0.32	0.43	0.80	0.83	0.82	0.52	0.36	0.26	0.11	0.06	0.02	0.08

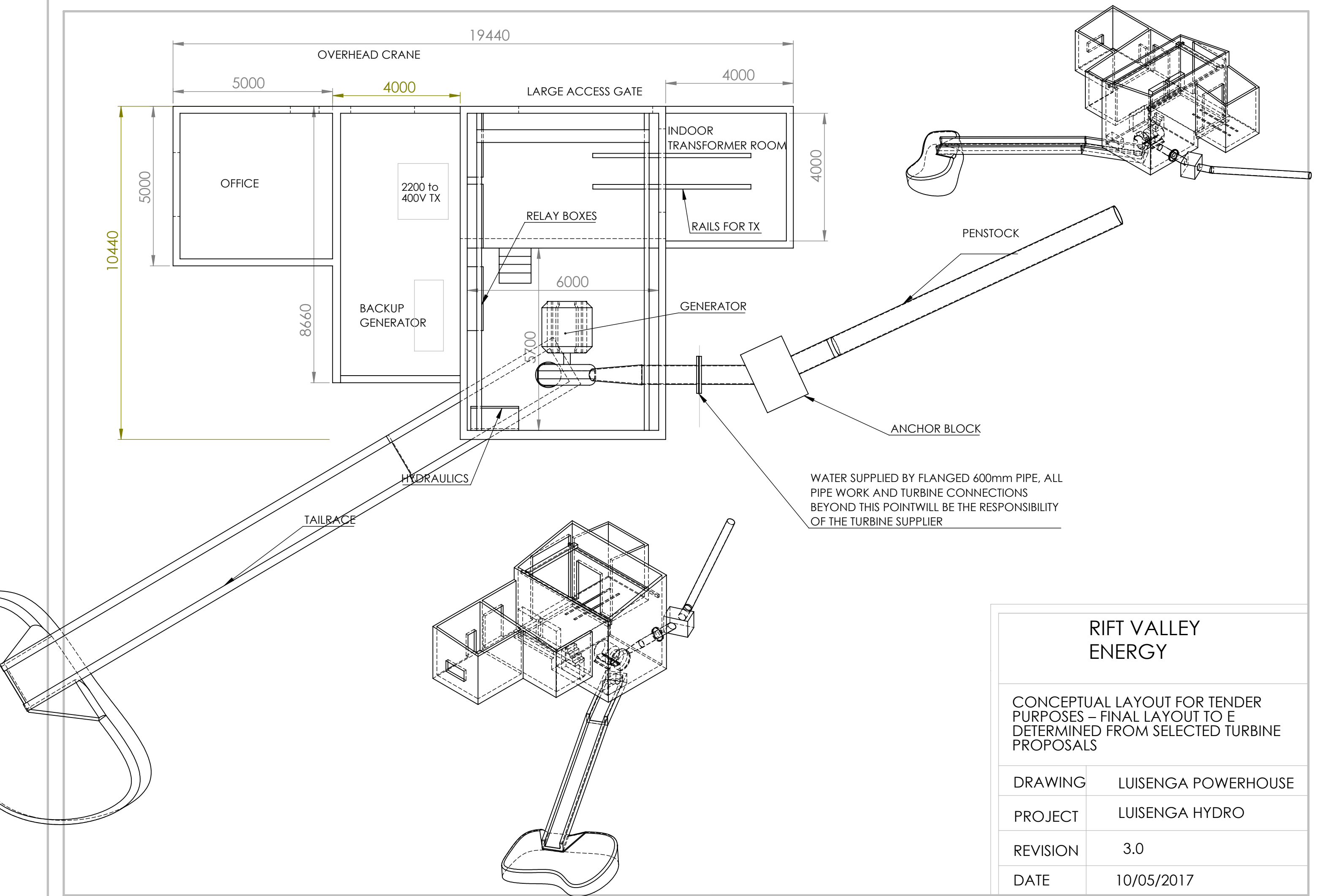
# TOPOGRAPHICAL LAYOUT OF LUISENGA SMALL HYDRO PROJECT

REVISION: 3  
DATE : 25/05/2017

## KEY:

- ..... Major Contour
- ..... Minor Contour
- ..... House
- CL ..... Centre Line of existing road
- ..... Existing footpath
- ..... TBM
- PEG & P ..... Wooden pegs.
- ..... Existing path to weir.
- ..... Centre line of the cleared from the junction of the existing road to the power house.

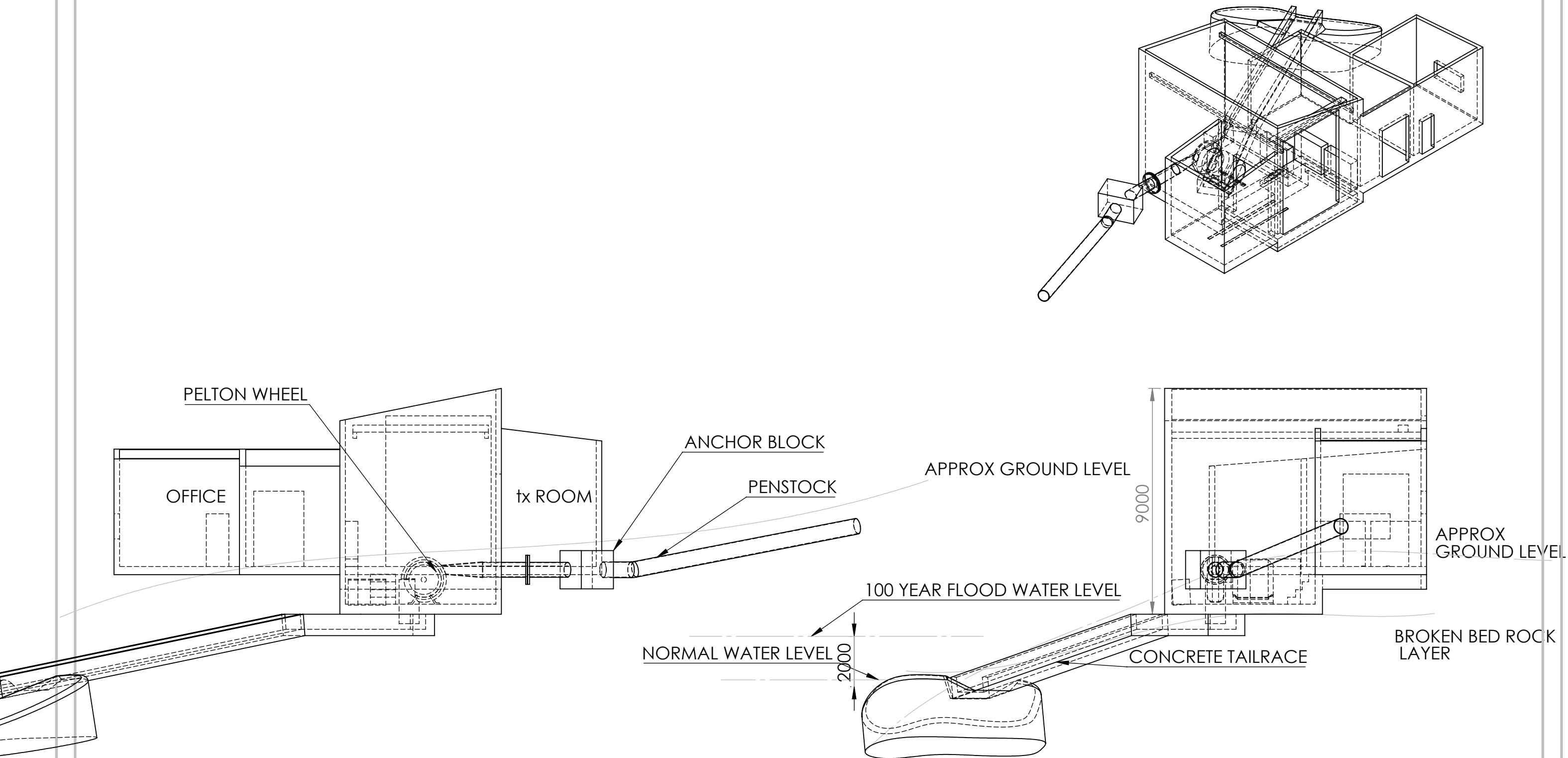
SCALE: 1:5,000



## RIFT VALLEY ENERGY

CONCEPTUAL LAYOUT FOR TENDER  
PURPOSES – FINAL LAYOUT TO BE  
DETERMINED FROM SELECTED TURBINE  
PROPOSALS

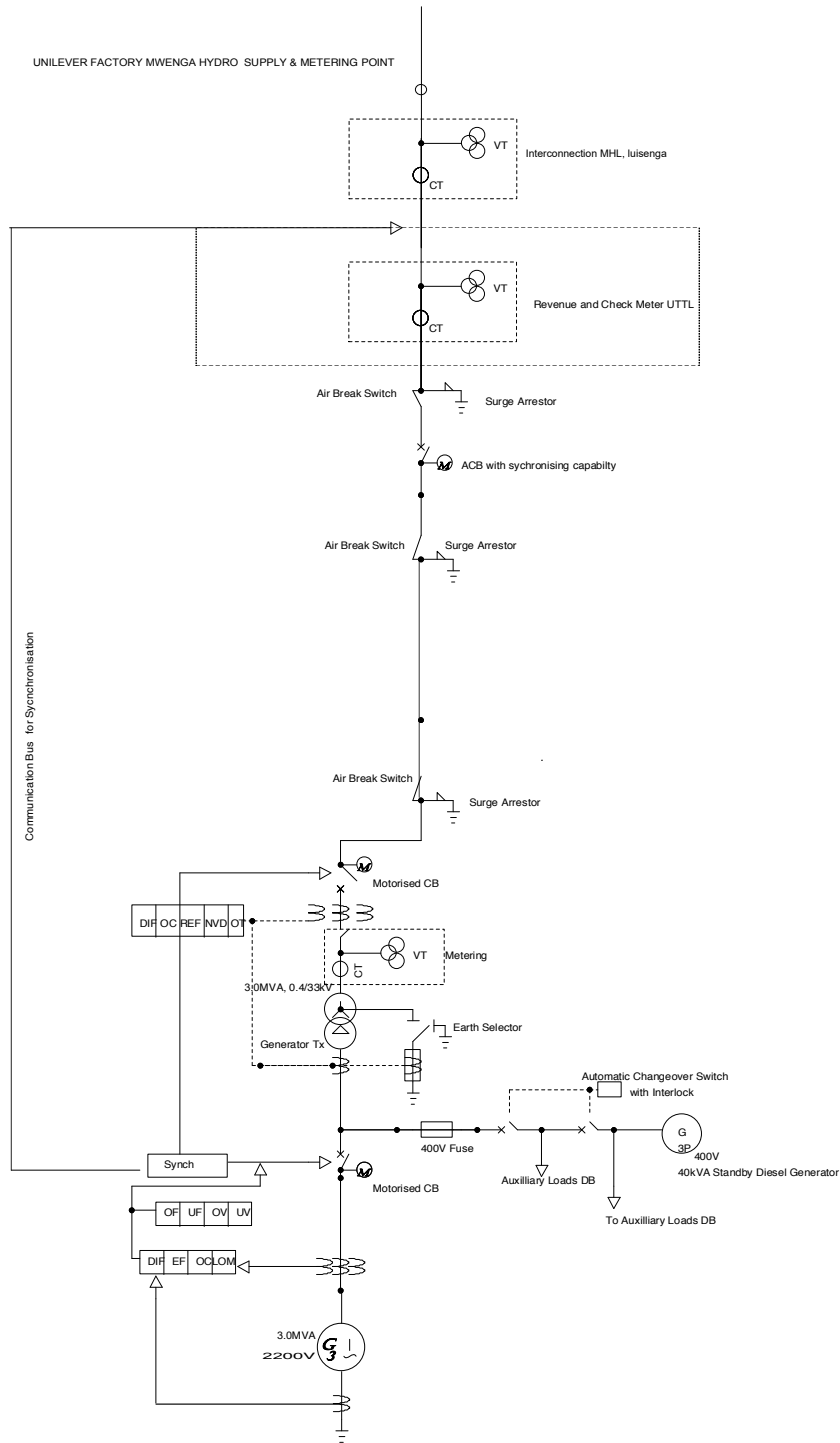
DRAWING	LUISENGA POWERHOUSE
PROJECT	LUISENGA HYDRO
REVISION	3.0
DATE	10/05/2017



# RIFT VALLEY ENERGY

PROJECT	LUISENGA HYDRO
REVISION	3.0
DATE	10/05/2017

# PRELIMINARY LUISENGA HYDRO LINE DIAGRAM



Luisenga Hydro Design  
Mwenga Hydro Ltd

Rift Valley Energy