

Igola hydro		
Overview	Company name	Luponde Hydro ltd
	Type of hydro	Small/mini run of the river hydro scheme
	location	9°37'32.91"S 34°50'49.96"E
	Gross head	106 m
	Expected net Head (gross head - friction losses )	99.2 m
	Design flow rate	2.42 m <sup>3</sup> /s
	Total generation capacity (flow rate*net head*9.81*assumed efficiency of 85%)	2000 kW
	Proposed turbine type	francis
	Number of turbines	2
Headrace	Type	steel
	Diameter (internal)	1.2 m
	Length	1357 m
	Pressure rating	PN6
	Expected head loss	4.08 m
Penstock	Diameter	1 m
	Length	340 m
	Pressure rating	PN10 steel (170m)
		PN20 steel (170m)
	Expected head loss	2.71 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 together with the luhololo hydro project when TANESCO is down.	

## Igola monthly flow probability table

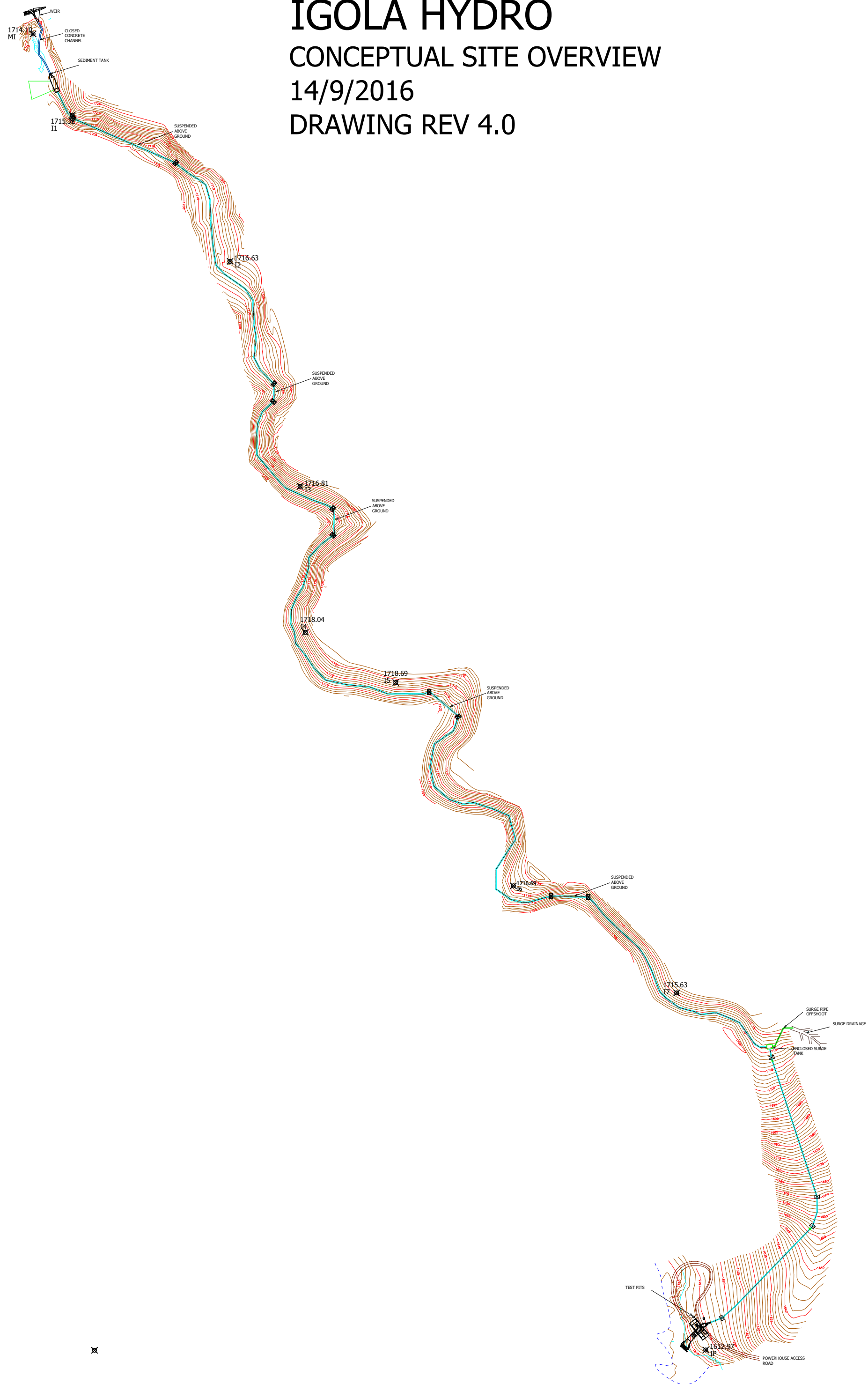
Lufuo River flow, Igola hydro (m3/s)												
%	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
10	5.32	5.47	7.22	8.33	6.15	3.33	2.67	2.41	1.94	1.80	2.16	3.21
20	3.76	3.97	5.36	6.68	4.85	2.88	2.33	2.03	1.64	1.48	1.62	2.54
30	3.04	3.31	4.45	5.51	4.17	2.54	2.16	1.75	1.54	1.37	1.37	2.10
40	2.56	2.82	3.65	4.68	3.61	2.37	1.97	1.67	1.47	1.32	1.24	1.79
50	2.22	2.46	3.21	3.96	3.21	2.16	1.80	1.62	1.41	1.24	1.15	1.58
60	1.92	2.24	2.82	3.24	2.91	2.01	1.75	1.52	1.28	1.15	1.03	1.37
70	1.64	1.99	2.50	2.75	2.50	1.82	1.60	1.41	1.18	1.07	0.98	1.18
80	1.43	1.75	2.22	2.30	2.27	1.69	1.47	1.26	1.11	1.01	0.90	1.05
90	1.11	1.48	1.77	1.83	1.99	1.39	1.24	1.11	0.98	0.88	0.81	0.85
100	0.71	1.01	1.37	1.59	1.45	1.03	0.98	0.88	0.77	0.62	0.56	0.60

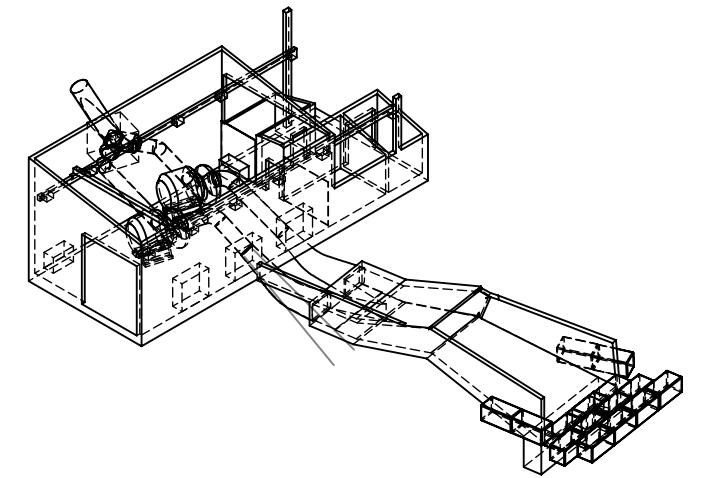
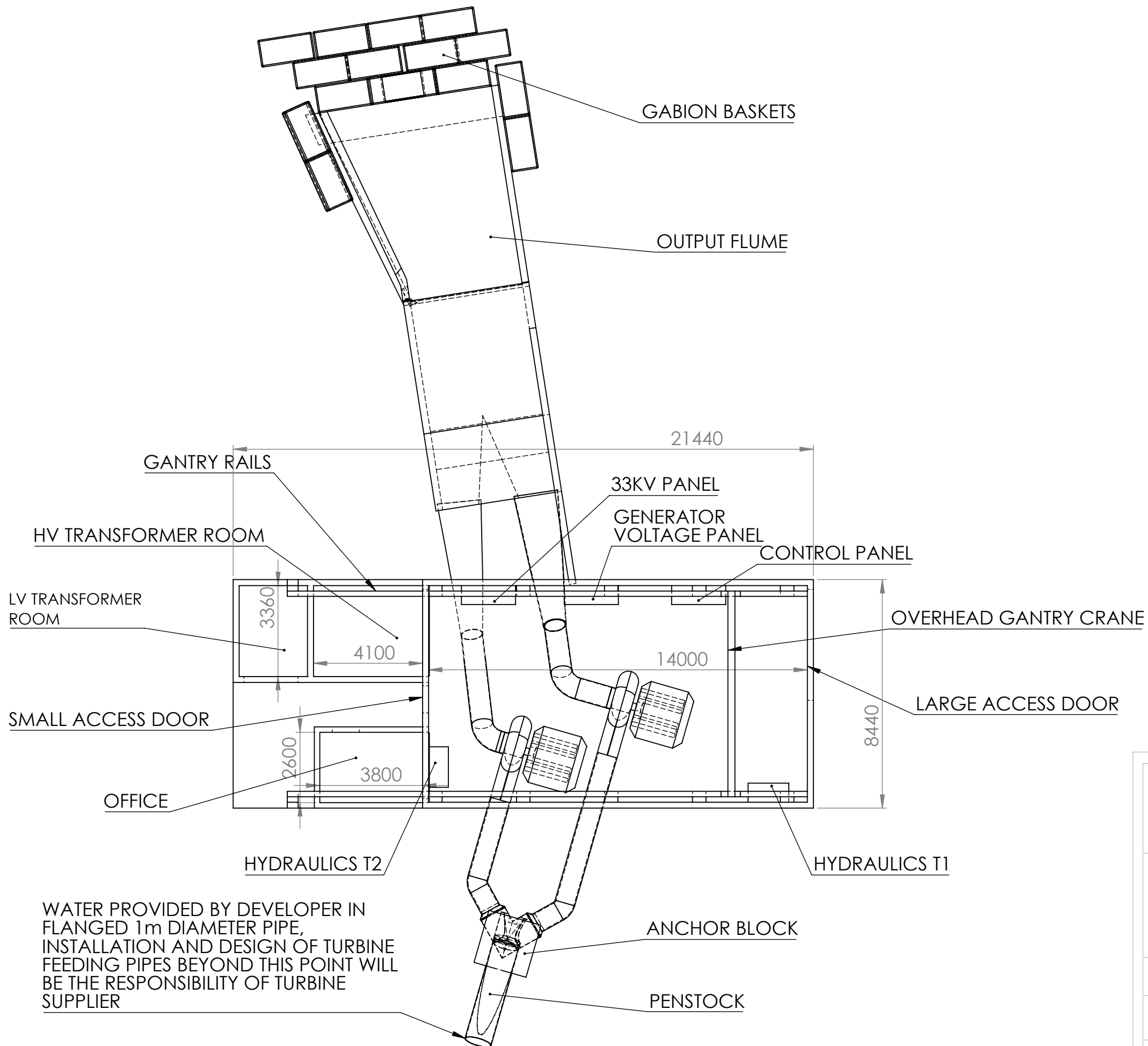
# IGOLA HYDRO

## CONCEPTUAL SITE OVERVIEW

14/9/2016

DRAWING REV 4.0





## RIFT VALLEY ENERGY



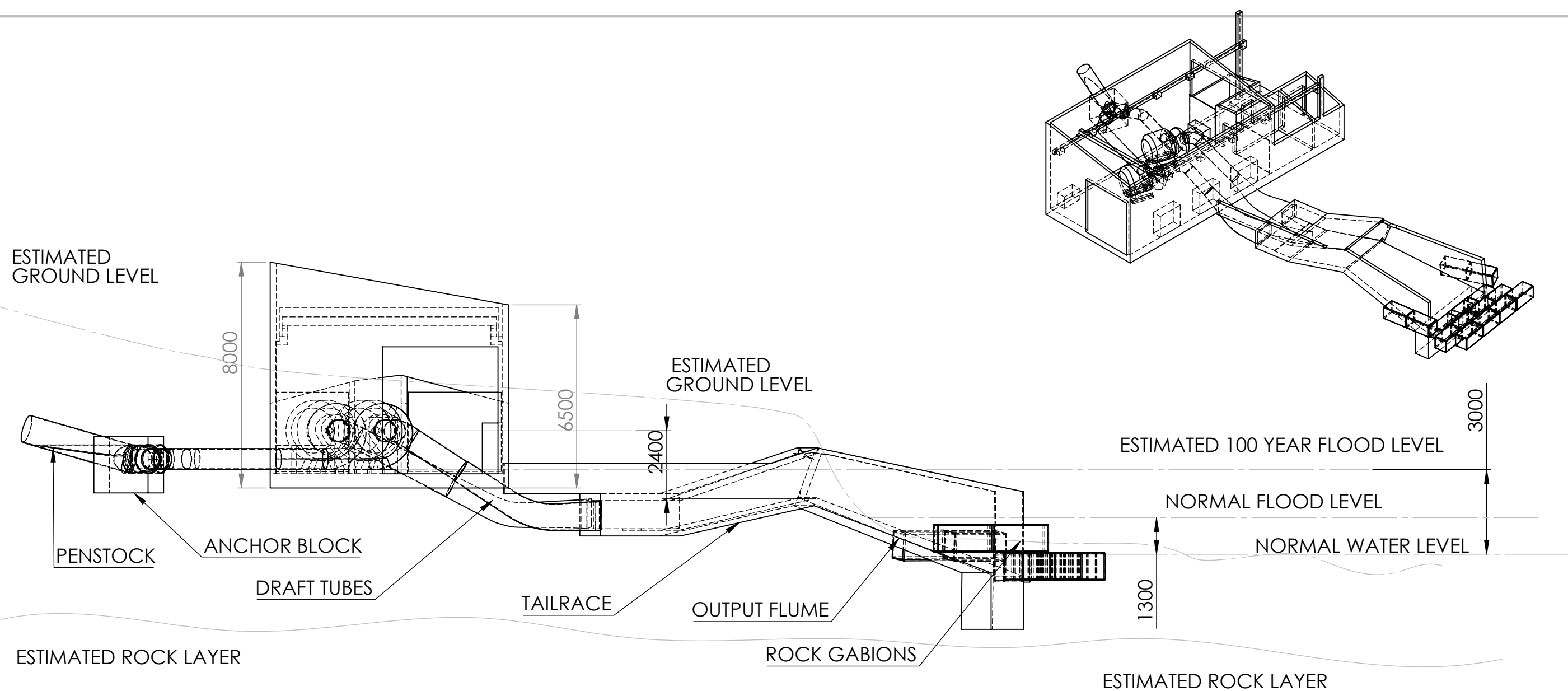
CONCEPTUAL LAYOUT FOR TENDER  
PURPOSES – FINAL LAYOUT TO BE  
DETERMINED FROM SELECTED TURBINE  
PROPOSALS

DRAWING POWERHOUSE PLAN

PROJECT IGOLA HYDRO

REVISION 3.2

DATE 25/1/2016



NOTE : 100 YEAR FLOOD LEVEL AND SOFT ROCK LAYER ARE ESTIMATES  
BASED ON SITE OBSERVATIONS,

THE SUPPLIER SHOULD ENDEAVOR TO KEEP THE FOOTING OF THE  
ALTERNATOR ABOVE THE 100 YEAR FLOOD LEVEL

RIFT VALLEY  
ENERGY



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

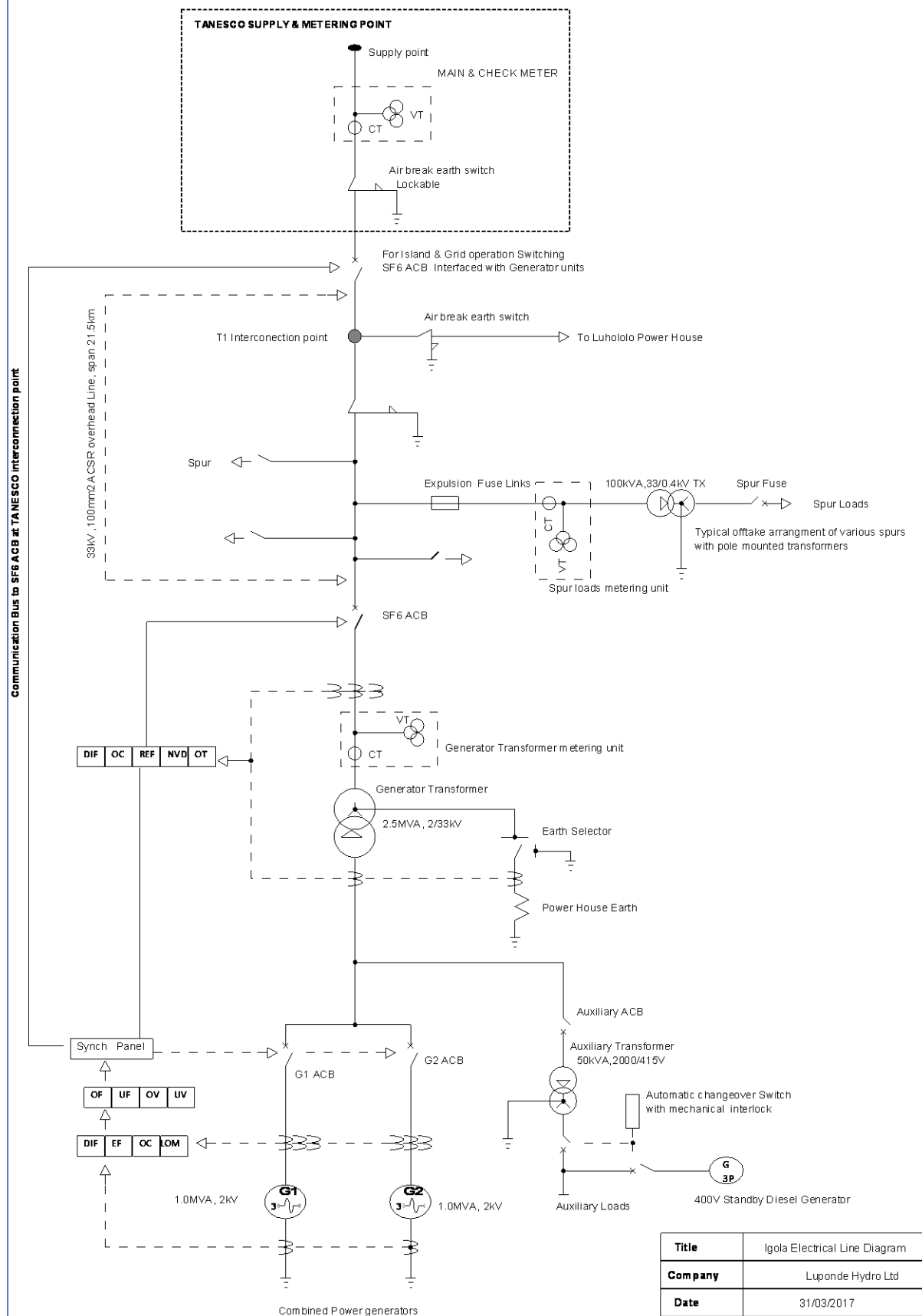
DRAWING POWERHOUSE PROFILE

PROJECT IGOLA HYDRO

REVISION 3.1

DATE 25/1/2016

## PRELIMINARY IGOLA HYDRO SCHEMATIC ELECTRICAL LINE DIAGRAM



<b>Title</b>	Igola Electrical Line Diagram
<b>Company</b>	Luponde Hydro Ltd
<b>Date</b>	31/03/2017
<b>Revision</b>	4