

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	m3/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	<p>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.</p>		

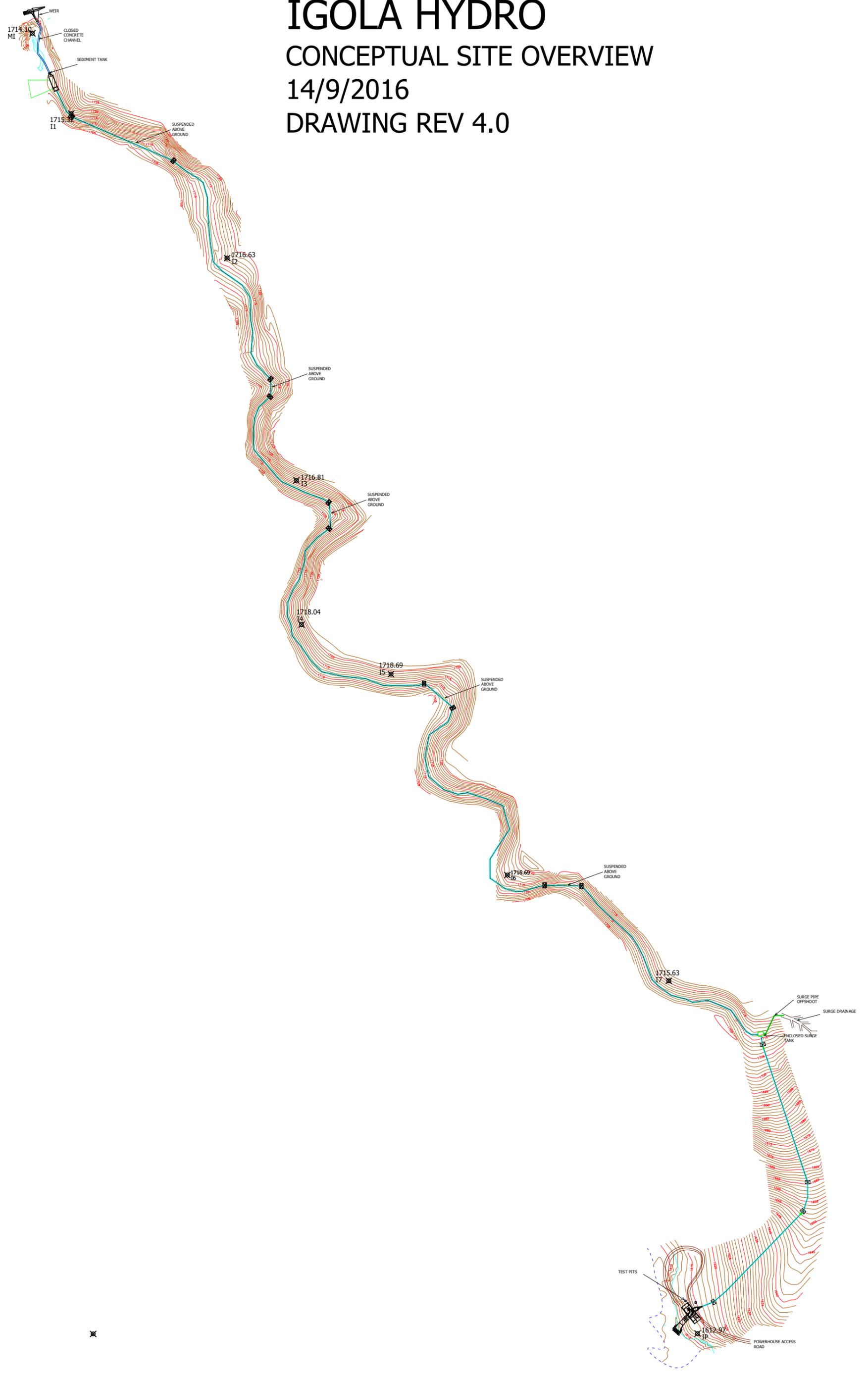
Igola monthly flow probability table

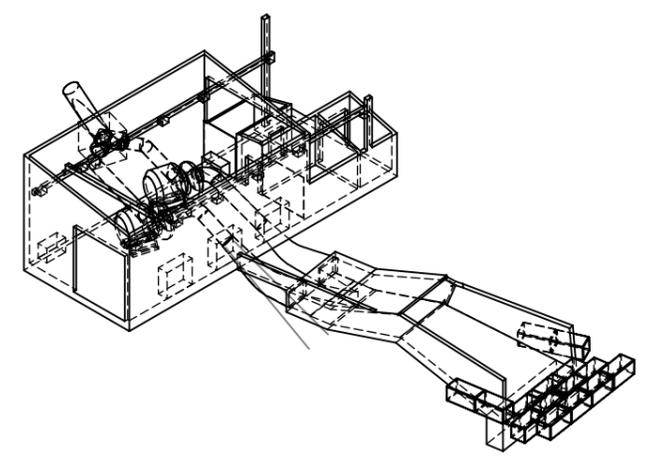
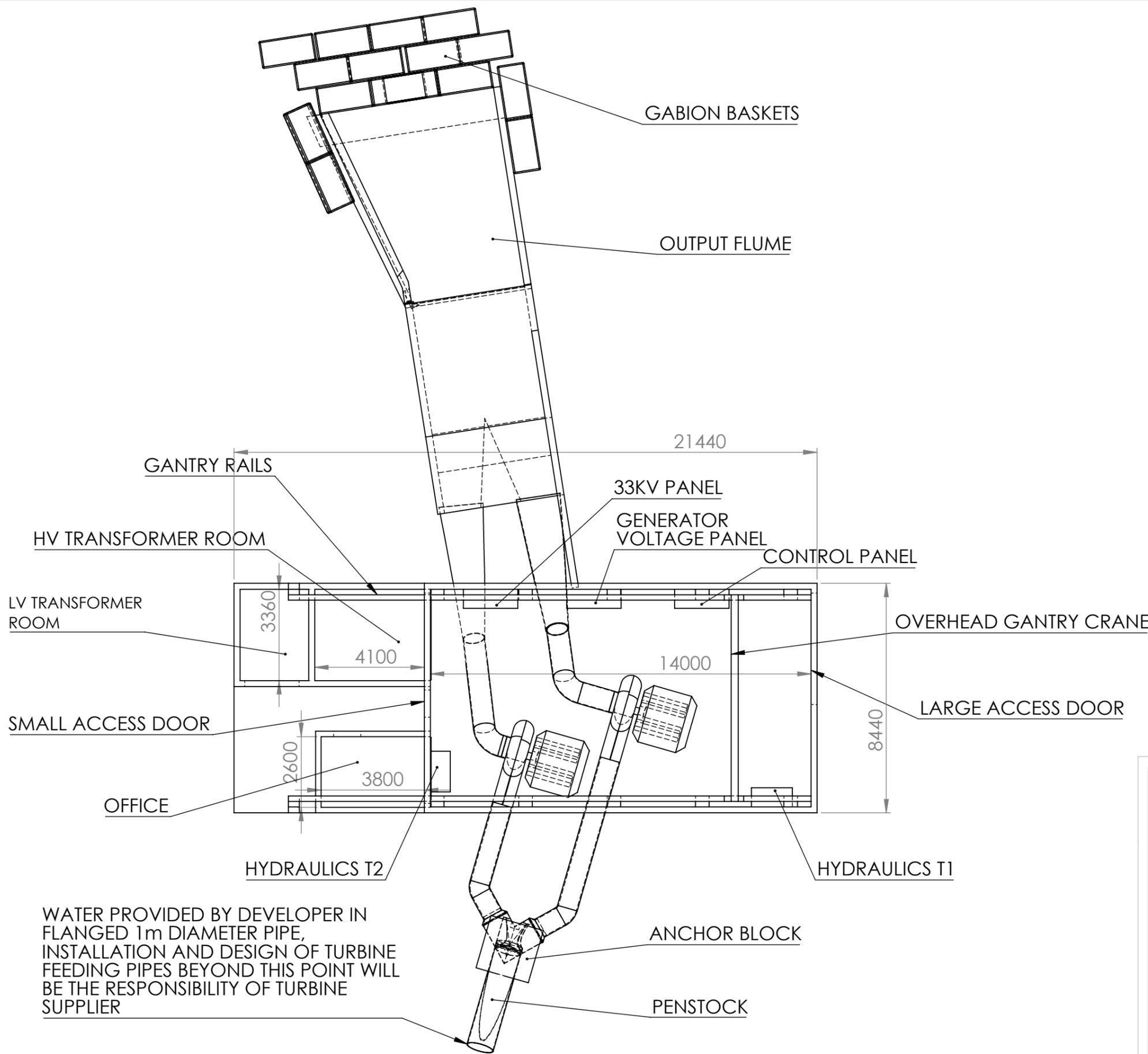
Lufuo River flow, Igola hydro (m ³ /s)												
%	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
10	5.32	5.47	7.22	8.33	6.15	3.33	2.67	2.41	1.94	1.80	2.16	3.21
20	3.76	3.97	5.36	6.68	4.85	2.88	2.33	2.03	1.64	1.48	1.62	2.54
30	3.04	3.31	4.45	5.51	4.17	2.54	2.16	1.75	1.54	1.37	1.37	2.10
40	2.56	2.82	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

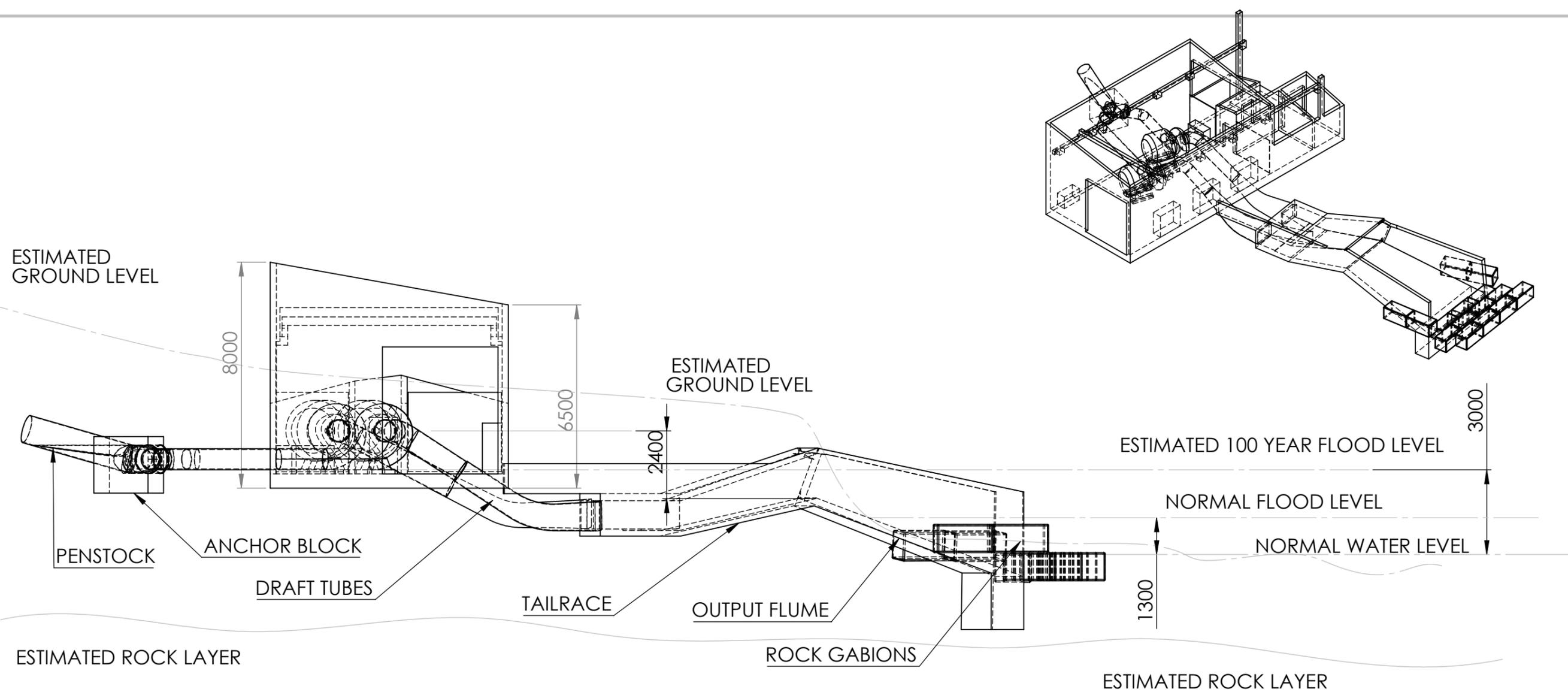
14/9/2016
DRAWING REV 4.0





WATER PROVIDED BY DEVELOPER IN
 FLANGED 1m DIAMETER PIPE,
 INSTALLATION AND DESIGN OF TURBINE
 FEEDING PIPES BEYOND THIS POINT WILL
 BE THE RESPONSIBILITY OF TURBINE
 SUPPLIER

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

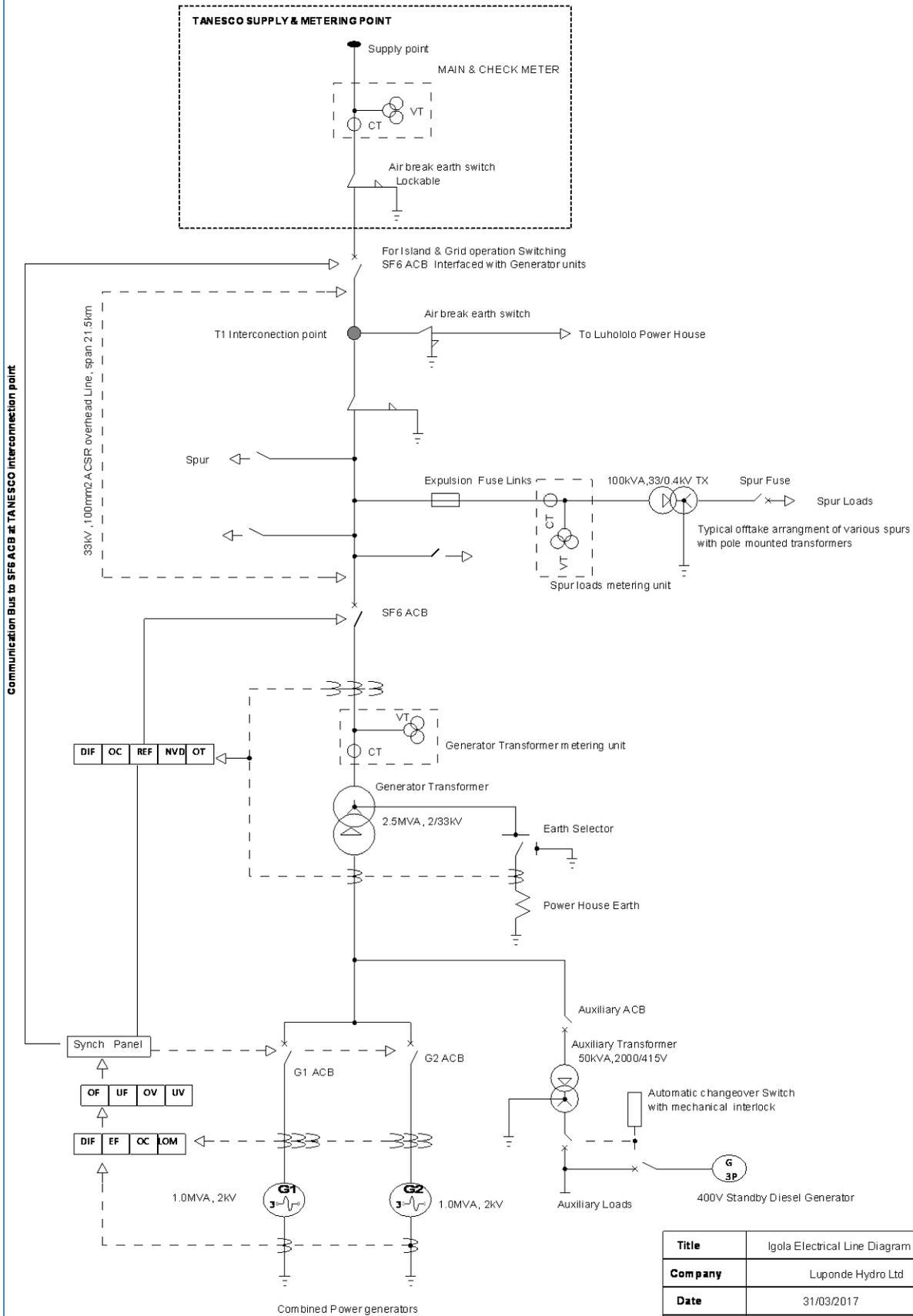
DRAWING POWERHOUSE PROFILE

PROJECT IGOLA HYDRO

REVISION 3.1

DATE 25/1/2016

PRELIMINARY IGOLA HYDRO SCHEMATIC ELECTRICAL LINE DIAGRAM



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