

HANIMAADHOO-PH-EXISTING

From	To	No. of Runs	Cable Size (sq.mm)	Length (M)	Cable Current Capacity (A)	Cable Current Capacity After Deration (0.6) (A)	Power (kW)	Current (A)	Cable Loading (%)	Voltage (%) at DB Main Bus	Total Voltage Drop (%) in Cable Section	% Voltage Drop upto Distribution Boards	% Voltage Drop Acceptable (Less Than 5%)
Power House Feeder-1	DB-A1	1	4C x 120	285	360	216	99.81	174.50	80.80	95.79	4.21	4.21	YES
DB-A1	DB-A2	1	4C x 70	107	265	159	90.03	165.30	103.90	93.42	2.37	6.58	NO
DB-A2	DB-A3	1	4C x 70	90	265	159	82.30	155.80	98.00	91.54	1.88	8.46	NO
DB-A3	DB-A3.1x1	1	4C x 35	91	180	108	35.06	68.17	63.10	90.03	1.51	9.97	NO
DB-A3.1x1	DB-A3.1x2	1	4C x 35	78	180	108	29.44	58.53	54.20	88.92	1.11	11.08	NO
DB-A3.1x2	DB-A3.1x2x1	1	4C x 35	83	180	108	9.64	19.50	18.10	88.53	0.39	11.47	NO
DB-A3.1x2x1	DB-A3.1x2x2	1	4C x 35	59	180	108	4.79	9.76	9.00	88.39	0.14	11.61	NO
DB-A3.1x2	DB-A3.1x3	1	4C x 35	58	180	108	14.51	29.32	27.20	88.51	0.41	11.49	NO
DB-A3.1x3	DB-A3.1x4	1	4C x 35	97	180	108	9.63	19.58	18.10	88.05	0.46	11.95	NO
DB-A3.1x4	DB-A3.1x5	1	4C x 35	78	180	108	4.79	9.80	9.10	87.87	0.18	12.13	NO
DB-A3	DB-A3.2x1	1	4C x 35	154	180	108	35.42	68.60	63.50	88.97	2.58	11.03	NO
DB-A3.2x1	DB-A3.2x1x1	1	4C x 35	120	180	108	19.60	39.40	36.50	87.82	1.15	12.18	NO
DB-A3.2x1x1	DB-A3.2x1x2	1	4C x 35	78	180	108	14.48	29.60	27.40	87.26	0.56	12.74	NO
DB-A3.2x1x2	DB-A3.2x1x3	1	4C x 35	61	180	108	9.59	19.77	18.30	86.97	0.29	13.03	NO
DB-A3.2x1x3	DB-A3.2x1x4	1	4C x 16	92	115	69	4.79	9.90	14.40	86.51	0.46	13.49	NO
DB-A3.2x1	DB-A3.2x2	1	4C x 35	92	180	108	9.64	19.50	18.10	88.53	0.43	11.47	NO
DB-A3.2x2	DB-A3.2x3	1	4C x 35	62	180	108	4.79	9.76	9.00	88.39	0.15	11.61	NO
DB-A3	DB-A4	1	4C x 50	107	215	129	4.85	9.55	7.40	91.36	0.19	8.64	NO
Power House Feeder-2	DB-B1	1	4C x 95	160	315	189	74.47	131.70	69.70	97.86	2.14	2.14	YES
DB-B1	DB-B2	1	4C x 95	120	315	189	67.55	122.60	64.90	96.37	1.49	3.63	YES
DB-B2	DB-B3.1	1	4C x 95	132	315	189	61.35	113.40	60.00	94.86	1.51	5.14	NO
DB-B3.1	DB-B3.1.1x1	1	4C x 35	143	180	108	30.41	57.07	52.80	92.87	1.99	7.13	NO
DB-B3.1.1x1	DB-B3.1.1x2	1	4C x 35	60	180	108	24.66	47.63	44.10	92.18	0.69	7.82	NO
DB-B3.1.1x2	DB-B3.1.1x2x1	1	4C x 35	88	180	108	14.69	28.64	26.50	91.57	0.61	8.43	NO
DB-B3.1.1x2x1	DB-B3.1.1x2x1x1	1	4C x 16	52	115	69	4.85	9.55	13.80	91.32	0.25	8.68	NO
DB-B3.1.1x2x1	DB-B3.1.1x2x2	1	4C x 16	70	115	69	4.86	9.56	13.80	91.23	0.34	8.77	NO
DB-B3.1.1x2	DB-B3.1.1x3	1	4C x 35	65	180	108	4.86	9.50	8.80	92.03	0.15	7.97	NO
DB-B3.1	DB-B3.1.2	1	4C x 50	96	215	129	4.91	9.33	7.20	94.70	0.16	5.30	NO
DB-B3.1	DB-B3.2	1	4C x 35	108	180	108	19.93	37.65	34.90	93.87	0.99	6.13	NO
DB-B3.2	DB-B4	1	4C x 35	63	180	108	14.75	28.27	26.20	93.44	0.43	6.56	NO
DB-B4	DB-B5	1	4C x 35	58	180	108	9.78	18.86	17.50	93.18	0.26	6.82	NO
DB-B5	DB-B6	1	4C x 35	58	180	108	4.88	9.44	8.70	93.05	0.13	6.95	NO
Power House Feeder-3	DB-C1	1	4C x 95	269	315	189	68.31	121.40	64.20	96.70	3.30	3.30	YES
DB-C1	DB-C1x1	1	4C x 95	330	315	189	30.29	56.12	29.70	94.83	1.87	5.17	NO
DB-C1x1	DB-C1x2	1	4C x 95	81	315	189	24.66	46.81	24.80	94.45	0.38	5.55	NO
DB-C1x2	DB-C1x2x1	1	4C x 70	63	265	159	4.90	9.35	5.90	94.37	0.08	5.63	NO
DB-C1x2	DB-C1x3	1	4C x 95	90	315	189	14.74	28.12	14.90	94.20	0.25	5.80	NO
DB-C1x3	DB-C1x4	1	4C x 70	84	265	159	9.80	18.76	11.80	93.99	0.21	6.01	NO
DB-C1x4	DB-C1x5	1	4C x 50	92	215	129	4.89	9.38	7.30	93.83	0.16	6.17	NO
DB-C1	DB-C2	1	4C x 70	95	265	159	30.29	56.05	35.20	95.99	0.71	4.01	YES
DB-C2	DB-C3	1	4C x 70	127	265	159	25.07	46.80	29.40	95.20	0.79	4.80	YES
DB-C3	DB-C4	1	4C x 50	95	215	129	19.89	37.50	29.10	94.54	0.66	5.46	NO
DB-C4	DB-C5	1	4C x 50	125	215	129	14.81	28.17	21.80	93.90	0.65	6.10	NO
DB-C5	DB-C5x1	1	4C x 35	115	180	108	4.90	9.40	8.70	93.63	0.26	6.37	NO
DB-C5	DB-C6	1	4C x 35	88	180	108	4.89	9.39	8.70	93.70	0.20	6.30	NO
Power House Feeder-4	DB-D1	1	4C x 95	250	315	189	70.31	124.00	65.60	96.85	3.15	3.15	YES
DB-D1	DB-D2	1	4C x 95	224	315	189	62.66	114.80	60.70	94.25	2.60	5.75	NO
DB-D2	DB-D3	1	4C x 95	152	315	189	55.68	105.40	55.80	92.63	1.62	7.37	NO
DB-D3	DB-D3x1	1	4C x 50	113	215	129	9.77	18.98	14.70	92.24	0.39	7.76	NO
DB-D3x1	DB-D3x2	1	4C x 50	103	215	129	4.86	9.50	7.40	92.06	0.18	7.94	NO
DB-D3	DB-D4	1	4C x 70	96	265	159	39.87	76.97	48.40	91.65	0.98	8.35	NO
DB-D4	DB-D5	1	4C x 70	76	265	159	34.47	67.44	42.40	90.97	0.68	9.03	NO
DB-D5	DB-D5x1	1	4C x 50	98	215	129	4.84	9.59	7.40	90.80	0.17	9.20	NO
DB-D5	DB-D6	1	4C x 70	106	265	159	24.47	48.29	30.40	90.29	0.68	9.71	NO
DB-D6	DB-D6x1	1	4C x 35	80	180	108	4.83	9.64	8.90	90.10	0.19	9.90	NO
DB-D6	DB-D7	1	4C x 50	101	215	129	14.59	29.04	22.50	89.75	0.54	10.25	NO
DB-D7	DB-D8	1	4C x 50	106	215	129	9.66	19.38	15.00	89.37	0.38	10.63	NO
DB-D8	DB-D9	1	4C x 50	86	215	129	4.81	9.70	7.50	89.22	0.15	10.78	NO

	PURPOSE OF SUBMISSION	REV	AUTHORISED BY	DATE	DRAWING TITLE NET WORK DIAGRAM FOR B03–HANIMAADHOO POWER HOUSE		DESIGN : ESM	SCALE : N.T.S
	INITIAL DOCUMENTS	A	GKH	28/03/16			DRAWN : MUM	DRW NO. : J431–G0PA–029–GR–E–D–0001–RevB
	FIRST REVISION	B	GKH	17/04/16	PROJECT PREPARING OUTER ISLANDS SUSTAINABLE DEVELOPMENT	CLIENT: GOVERNMENT OF THE REPUBLIC OF MALDIVES	LICENCE NO:	ISLAND NAME : HANIMAADHOO
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HANIMAADHOO-PH-PROPOSED

From	To	No. of Runs	Cable Size (sq.mm)	Length (M)	Cable Current Capacity	Cable Current Capacity After	Power (kW)	Current (A)	Cable Loading	Voltage (%) at DB Main Bus	Total Voltage Drop (%) in Cable Section	% Voltage Drop upto	% Voltage Drop Acceptable	Remarks
Feeder-1	DB-A1	1	4C x 300	285	590	354	92.26	166.60	47.10	97.87	2.13	2.13	YES	Existing 4C x 120 sq.mm LV Cable Replaced with New 4C x 300 sq.mm LV Cable
DB-A1	DB-A2	1	4C x 300	107	590	354	85.49	157.50	44.50	97.11	0.76	2.89	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 300 sq.mm LV Cable
DB-A2	DB-A3	1	4C x 300	90	590	354	79.94	148.30	41.90	96.51	0.60	3.49	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 300 sq.mm LV Cable
DB-A3	DB-A3.1x1	1	4C x 240	91	540	324	34.82	64.94	20.00	96.21	0.30	3.79	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-A3.1x1	DB-A3.1x2	1	4C x 120	78	360	216	29.79	55.70	25.80	95.85	0.36	4.15	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB-A3.1x2	DB-A3.1x2x1	1	4C x 35	83	180	108	9.89	18.57	17.20	95.48	0.37	4.52	YES	
DB-A3.1x2x1	DB-A3.1x2x2	1	4C x 35	59	180	108	4.92	9.29	8.60	95.34	0.13	4.66	YES	
DB-A3.1x2	DB-A3.1x3	1	4C x 70	58	265	159	14.85	27.88	17.50	95.63	0.21	4.37	YES	
DB-A3.1x3	DB-A3.1x4	1	4C x 35	97	180	108	9.89	18.61	17.20	95.20	0.44	4.80	YES	
DB-A3.1x4	DB-A3.1x5	1	4C x 35	78	180	108	4.92	9.31	8.60	95.02	0.18	4.98	YES	
DB-A3	DB-A3.2x1	1	4C x 240	154	540	324	34.80	64.94	20.00	96.01	0.51	3.99	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-A3.2x1	DB-A3.2x1x1	1	4C x 120	120	360	216	19.80	37.14	17.20	95.63	0.37	4.37	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB-A3.2x1x1	DB-A3.2x1x2	1	4C x 120	78	360	216	14.79	27.87	12.90	95.45	0.18	4.55	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LV Cable
DB-A3.2x1x2	DB-A3.2x1x3	1	4C x 70	61	265	159	9.85	18.59	11.70	95.30	0.15	4.70	YES	
DB-A3.2x1x3	DB-A3.2x1x4	1	4C x 50	92	215	129	4.92	9.30	7.20	95.14	0.16	4.86	YES	
DB-A3.2x1	DB-A3.2x2	1	4C x 35	92	180	108	9.90	18.56	17.20	95.59	0.41	4.41	YES	
DB-A3.2x2	DB-A3.2x3	1	4C x 35	62	180	108	4.92	9.28	8.60	95.45	0.14	4.55	YES	
DB-A3	DB-A4	1	4C x 50	107	215	129	4.94	9.23	7.20	96.33	0.18	3.67	YES	
Feeder-2	DB-B1	1	4C x 240	160	540	324	72.16	129.40	39.90	98.95	1.05	1.05	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-B1	DB-B2	1	4C x 150	120	405	243	66.43	120.30	49.50	97.92	1.03	2.08	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LV Cable
DB-B2	DB-B3.1	1	4C x 150	132	405	243	60.68	111.20	45.80	96.86	1.05	3.14	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LV Cable
DB-B3.1	DB-B3.1.1x1	1	4C x 120	143	360	216	29.99	55.64	25.80	96.20	0.67	3.80	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB-B3.1.1x1	DB-B3.1.1x2	1	4C x 120	60	360	216	24.82	46.41	21.50	95.96	0.23	4.04	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB-B3.1.1x2	DB-B3.1.1x2x1	1	4C x 35	88	180	108	14.89	27.90	25.80	95.37	0.59	4.63	YES	
DB-B3.1.1x2x1	DB-B3.1.1x2x1x1	1	4C x 16	52	115	69	4.92	9.30	13.50	95.13	0.24	4.87	YES	
DB-B3.1.1x2x1	DB-B3.1.1x2x2	1	4C x 16	70	115	69	4.93	9.31	13.50	95.04	0.33	4.96	YES	
DB-B3.1.1x2	DB-B3.1.1x3	1	4C x 35	65	180	108	4.93	9.26	8.60	95.82	0.15	4.18	YES	
DB-B3.1	DB-B3.1.2	1	4C x 50	96	215	129	4.95	9.21	7.10	96.70	0.16	3.30	YES	
DB-B3.1	DB-B3.2	1	4C x 35	108	180	108	20.07	37.14	34.40	95.89	0.97	4.11	YES	
DB-B3.2	DB-B4	1	4C x 35	63	180	108	14.86	27.88	25.80	95.47	0.43	4.53	YES	
DB-B4	DB-B5	1	4C x 35	58	180	108	9.86	18.60	17.20	95.21	0.26	4.79	YES	
DB-B5	DB-B6	1	4C x 35	58	180	108	4.91	9.31	8.60	95.07	0.13	4.93	YES	
Feeder-3	DB-C1	1	4C x 240	269	540	324	66.96	120.00	37.00	98.36	1.64	1.64	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-C1	DB-C1x1	1	4C x 95	330	315	189	30.46	55.50	29.40	96.52	1.85	3.48	YES	
DB-C1x1	DB-C1x2	1	4C x 95	81	315	189	24.81	46.28	24.50	96.14	0.38	3.86	YES	
DB-C1x2	DB-C1x2x1	1	4C x 70	63	265	159	4.93	9.25	5.80	96.06	0.08	3.94	YES	
DB-C1x2	DB-C1x3	1	4C x 95	90	315	189	14.84	27.80	14.70	95.89	0.25	4.11	YES	
DB-C1x3	DB-C1x4	1	4C x 70	84	265	159	9.87	18.54	11.70	95.68	0.21	4.32	YES	
DB-C1x4	DB-C1x5	1	4C x 50	92	215	129	4.92	9.28	7.20	95.52	0.16	4.48	YES	
DB-C1	DB-C2	1	4C x 70	95	265	159	30.46	55.43	34.90	97.66	0.70	2.34	YES	
DB-C2	DB-C3	1	4C x 70	127	265	159	25.22	46.28	29.10	96.88	0.78	3.12	YES	
DB-C3	DB-C4	1	4C x 50	95	215	129	20.01	37.08	28.70	96.23	0.65	3.77	YES	
DB-C4	DB-C5	1	4C x 50	125	215	129	14.90	27.85	21.60	95.59	0.64	4.41	YES	
DB-C5	DB-C5x1	1	4C x 35	115	180	108	4.93	9.29	8.60	95.33	0.26	4.67	YES	
DB-C5	DB-C6	1	4C x 35	88	180	108	4.93	9.29	8.60	95.39	0.20	4.61	YES	
Feeder-4	DB-D1	1	4C x 300	250	590	354	66.57	120.10	33.90	98.65	1.35	1.35	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 300 sq.mm LV Cable
DB-D1	DB-D2	1	4C x 240	224	540	324	60.77	111.00	34.30	97.39	1.26	2.61	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-D2	DB-D3	1	4C x 240	152	540	324	55.05	101.90	31.40	96.60	0.79	3.40	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-D3	DB-D3x1	1	4C x 50	113	215	129	9.92	18.48	14.30	96.22	0.38	3.78	YES	
DB-D3x1	DB-D3x2	1	4C x 50	103	215	129	4.94	9.25	7.20	96.04	0.18	3.96	YES	
DB-D3	DB-D4	1	4C x 240	96	540	324	39.77	74.18	22.90	96.24	0.36	3.76	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-D4	DB-D5	1	4C x 240	76	540	324	34.69	64.95	20.00	95.99	0.25	4.01	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB-D5	DB-D5x1	1	4C x 50	98	215	129	4.93	9.26	7.20	95.83	0.17	4.17	YES	
DB-D5	DB-D6	1	4C x 150	106	405	243	24.75	46.44	19.10	95.64	0.35	4.36	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LV Cable
DB-D6	DB-D6x1	1	4C x 35	80	180	108	4.92	9.28	8.60	95.46	0.18	4.54	YES	
DB-D6	DB-D7	1	4C x 120	101	360	216	14.81	27.89	12.90	95.40	0.24	4.60	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB-D7	DB-D8	1	4C x 70	106	265	159	9.85	18.61	11.70	95.14	0.26	4.86	YES	
DB-D8	DB-D9	1	4C x 50	86	215	129	4.91	9.31	7.20	95.01	0.15	4.99	YES	

	PURPOSE OF SUBMISSION	REV	AUTHORISED BY	DATE	DRAWING TITLE NET WORK DIAGRAM FOR B03–HANIMAADHOO POWER HOUSE		DESIGN : ESM	SCALE : N.T.S
	INITIAL DOCUMENTS	A	GKH	28/03/16			DRAWN : MUM	DRW NO. : J431–G0PA–029–GR–E–D–0001–RevB
	FIRST REVISION	B	GKH	17/04/16	PROJECT PREPARING OUTER ISLANDS SUSTAINABLE DEVELOPMENT	CLIENT: GOVERNMENT OF THE REPUBLIC OF MALDIVES	LICENCE NO:	ISLAND NAME : HANIMAADHOO
							DATE: : 17APR16	PAGE : 3/4

HANIMAADHOO-PH-PROPOSED PV FEEDER

From	To	No. of runs	Cable Size (sq.mm)	Length (M)	Losses (%)
POWER HOUSE	DB-A1	1	4C X300	285	3.09%
DB-A1	DB-A2	1	4C X300	107	
DB-A1	AGRICULTURAL CENTER-PV	1	4C X70	150	
DB-A2	DB-A3	1	4C X300	90	
DB-A3	DB-A4	1	4C X50	107	
DB-A3	DB-A3.1x1	1	4C X240	91	
DB-A3	DB-A3.2x1	1	4C X240	154	
DB-A3.1x1	DB-A3.1x2	1	4C X120	78	
DB-A3.1x2	DB-A3.1x3	1	4C X120	58	
DB-A3.1x2	DB-A3.1x2x1	1	4C X35	83	
DB-A3.1x2x1	DB-A3.1x2x2	1	4C X35	59	
DB-A3.1x3	DB-A3.1x4	1	4C X120	97	
DB-A3.1x4	DB-A3.1x5	1	4C X35	78	
DB-A3.1x4	OLD SCHOOL-PV	2	4C X120	75	
DB-A3.2x1	DB-A3.2x1x1	1	4C X120	120	
DB-A3.2x1	DB-A3.2x2	1	4C X35	92	
DB-A3.2x1x1	DB-A3.2x1x2	1	4C X120	78	
DB-A3.2x1x2	DB-A3.2x1x3	1	4C X70	61	
DB-A3.2x1x3	DB-A3.2x1x4	1	4C X50	92	
DB-A3.2x2	DB-A3.2x3	1	4C X35	62	
POWER HOUSE	NEW SCHOOL-PV	1	4C X300	500	2.87%

	PURPOSE OF SUBMISSION	REV	AUTHORISED BY	DATE	DRAWING TITLE NET WORK DIAGRAM FOR B03–HANIMAADHOO POWER HOUSE		DESIGN : ESM	SCALE : N.T.S
	INITIAL DOCUMENTS	A	GKH	28/03/16			DRAWN : MUM	DRW NO. : J431–G0PA–029–GR–E–D–0001–RevB
	FIRST REVISION	B	GKH	17/04/16	PROJECT PREPARING OUTER ISLANDS SUSTAINABLE DEVELOPMENT	CLIENT: GOVERNMENT OF THE REPUBLIC OF MALDIVES	LICENCE NO:	ISLAND NAME : HANIMAADHOO
							DATE: : 17APR16	PAGE : 4/4