



HANIMAADHOO-SUB-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%)	Remarks
SUBSTATION-1_Feeder-1	DB_SS1-B1	1	4C x 70	98	265	159	20.20	36.31	22.80	99.53	0.47	0.47	YES	
DB_SS1-B1	DB_SS1-B2	1	4C x 70	139	265	159	15.08	27.26	17.10	99.03	0.50	0.97	YES	
DB_SS1-B2	DB_SS1-B3	1	4C x 70	139	265	159	10.00	18.19	11.40	98.69	0.34	1.31	YES	
DB_SS1-B3	DB_SS1-B4	1	4C x 70	139	265	159	4.98	9.10	5.70	98.52	0.17	1.48	YES	
SUBSTATION-1_Feeder-2	DB_SS1-D1	1	4C x 50	40	215	129	35.69	63.90	49.50	99.53	0.47	0.47	YES	
DB_SS1-D1	DB_SS1-D2	1	4C x 50	108	215	129	30.47	54.85	42.50	98.44	1.09	1.56	YES	
DB_SS1-D2	DB_SS1-D2x1	1	4C x 35	100	180	108	10.00	18.27	16.90	97.99	0.44	2.01	YES	
DB_SS1-D2x1	DB_SS1-D2x2	1	4C x 35	94	180	108	4.97	9.14	8.50	97.79	0.21	2.21	YES	
DB_SS1-D2	DB_SS1-D3	1	4C x 35	89	180	108	15.05	27.47	25.40	97.84	0.59	2.16	YES	
DB_SS1-D3	DB_SS1-D4	1	4C x 35	82	180	108	9.96	18.33	17.00	97.48	0.36	2.52	YES	
DB_SS1-D4	DB_SS1-D5	1	4C x 35	82	180	108	4.96	9.17	8.50	97.30	0.18	2.70	YES	
SUBSTATION-2_Feeder-1	DB_SS2-A1	1	4C x 70	40	265	159	35.53	63.74	40.10	99.66	0.34	0.34	YES	
DB_SS2-A1	DB_SS2-A2	1	4C x 70	108	265	159	30.38	54.70	34.40	98.88	0.78	1.12	YES	
DB_SS2-A2	DB_SS2-A2x1	1	4C x 35	100	180	108	10.01	18.22	16.90	98.44	0.44	1.56	YES	
DB_SS2-A2x1	DB_SS2-A2x2	1	4C x 35	94	180	108	4.98	9.12	8.40	98.23	0.21	1.77	YES	
DB_SS2-A2	DB_SS2-A3	1	4C x 35	89	180	108	15.07	27.40	25.40	98.29	0.59	1.71	YES	
DB_SS2-A3	DB_SS2-A4	1	4C x 35	82	180	108	9.98	18.28	16.90	97.92	0.36	2.08	YES	
DB_SS2-A4	DB_SS2-A5	1	4C x 35	82	180	108	4.97	9.15	8.50	97.74	0.18	2.26	YES	
SUBSTATION-2_Feeder-2	DB_SS2-B1	1	4C x 95	98	315	189	20.21	36.32	19.20	99.64	0.36	0.36	YES	
DB_SS2-B1	DB_SS2-B2	1	4C x 70	139	265	159	15.13	27.28	17.20	99.14	0.50	0.86	YES	
DB_SS2-B2	DB_SS2-B3	1	4C x 35	137	180	108	10.05	18.22	16.90	98.53	0.60	1.47	YES	
DB_SS2-B3	DB_SS2-B4	1	4C x 35	139	180	108	4.99	9.12	8.40	98.23	0.31	1.77	YES	
SUBSTATION-2_Feeder-3	DB_SS2-C1	1	4C x 150	500	405	243	15.17	27.28	11.20	99.02	0.98	0.98	YES	
DB_SS2-C1	DB_SS2-C2	1	4C x 150	500	405	243	10.02	18.22	7.50	98.37	0.65	1.63	YES	
DB_SS2-C2	DB_SS2-C3	1	4C x 120	162	360	216	4.97	9.12	4.20	98.25	0.12	1.75	YES	
SUBSTATION-3_Feeder-1	DB_SS3-C1	1	4C x 120	100	360	216	86.74	152.70	70.70	98.71	1.29	1.29	YES	
DB_SS3-C9	DB_SS3-C10	1	4C x 50	98	215	129	14.48	29.49	22.90	87.70	0.53	12.30	NO	
DB_SS3-C10	DB_SS3-C11	1	4C x 50	88	215	129	9.59	19.68	15.30	87.38	0.32	12.62	NO	
DB_SS3-C11	DB_SS3-C12	1	4C x 50	112	215	129	4.78	9.85	7.60	87.18	0.20	12.82	NO	
DB_SS3-C1	DB_SS3-C2	1	4C x 95	150	315	189	80.46	143.60	76.00	96.52	2.19	3.48	YES	
DB_SS3-C2	DB_SS3-C3	1	4C x 95	96	315	189	73.35	134.40	71.10	95.21	1.31	4.79	YES	
DB_SS3-C3	DB_SS3-C3x1	1	4C x 35	96	180	108	4.92	9.31	8.60	95.00	0.22	5.00	NO	
DB_SS3-C3	DB_SS3-C4	1	4C x 70	81	265	159	62.30	115.80	72.80	93.96	1.26	6.04	NO	
DB_SS3-C4	DB_SS3-C4x1	1	4C x 35	96	180	108	4.90	9.39	8.70	93.74	0.22	6.26	NO	
DB_SS3-C4	DB_SS3-C5	1	4C x 70	117	265	159	51.46	97.03	61.00	92.44	1.52	7.56	NO	
DB_SS3-C5	DB_SS3-C6	1	4C x 70	81	265	159	45.53	87.56	55.10	91.49	0.95	8.51	NO	
DB_SS3-C6	DB_SS3-C7	1	4C x 50	117	215	129	40.08	78.02	60.50	89.81	1.69	10.19	NO	
DB_SS3-C7	DB_SS3-C7x1	1	4C x 35	96	180	108	4.82	9.67	9.00	89.58	0.22	10.42	NO	
DB_SS3-C7	DB_SS3-C8	1	4C x 50	81	215	129	29.45	58.70	45.50	88.93	0.88	11.07	NO	
DB_SS3-C8	DB_SS3-C8x1	1	4C x 35	140	180	108	4.81	9.74	9.00	88.60	0.33	11.40	NO	
DB_SS3-C8	DB_SS3-C9	1	4C x 50	96	215	129	19.46	39.25	30.40	88.23	0.69	11.77	NO	

	PURPOSE OF SUBMISSION		REV	AUTHORISED BY	DATE	DRAWING TITLE NET WORK DIAGRAM FOR B03–HANIMAADHOO SUBSTATION		DESIGN : ESM		SCALE : N.T.S	
	INITIAL DOCUMENTS		A	GKH	28/03/16			DRAWN : MUM		DRW NO. : J431–G0PA–029–GR–E–D–0002–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-SUB-PROPOSED

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	% Voltage Drop Acceptable (Less Than 5%)	Remarks
SUBSTATION-1_Feeder-1	DB_SS1-B1	1	4C x 70	98	265	159	20.20	36.31	22.80	99.53	0.47	0.47	YES	
DB_SS1-B1	DB_SS1-B2	1	4C x 70	139	265	159	15.08	27.26	17.10	99.03	0.50	0.97	YES	
DB_SS1-B2	DB_SS1-B3	1	4C x 70	139	265	159	10.00	18.19	11.40	98.69	0.34	1.31	YES	
DB_SS1-B3	DB_SS1-B4	1	4C x 70	139	265	159	4.98	9.10	5.70	98.52	0.17	1.48	YES	
SUBSTATION-1_Feeder-2	DB_SS1-D1	1	4C x 50	40	215	129	35.69	63.90	49.50	99.53	0.47	0.47	YES	
DB_SS1-D1	DB_SS1-D2	1	4C x 50	108	215	129	30.47	54.85	42.50	98.44	1.09	1.56	YES	
DB_SS1-D2	DB_SS1-D2x1	1	4C x 35	100	180	108	10.00	18.27	16.90	97.99	0.44	2.01	YES	
DB_SS1-D2	DB_SS1-D3	1	4C x 35	89	180	108	15.05	27.47	25.40	97.84	0.59	2.16	YES	
DB_SS1-D2x1	DB_SS1-D2x2	1	4C x 35	94	180	108	4.97	9.14	8.50	97.79	0.21	2.21	YES	
DB_SS1-D3	DB_SS1-D4	1	4C x 35	82	180	108	9.96	18.33	17.00	97.48	0.36	2.52	YES	
DB_SS1-D4	DB_SS1-D5	1	4C x 35	82	180	108	4.96	9.17	8.50	97.30	0.18	2.70	YES	
SUBSTATION-2_Feeder-1	DB_SS2-A1	1	4C x 70	40	265	159	35.53	63.74	40.10	99.66	0.34	0.34	YES	
DB_SS2-A1	DB_SS2-A2	1	4C x 70	108	265	159	30.38	54.70	34.40	98.88	0.78	1.12	YES	
DB_SS2-A2	DB_SS2-A2x1	1	4C x 35	100	180	108	10.01	18.22	16.90	98.44	0.44	1.56	YES	
DB_SS2-A2	DB_SS2-A3	1	4C x 35	89	180	108	15.07	27.40	25.40	98.29	0.59	1.71	YES	
DB_SS2-A2x1	DB_SS2-A2x2	1	4C x 35	94	180	108	4.98	9.12	8.40	98.23	0.21	1.77	YES	
DB_SS2-A3	DB_SS2-A4	1	4C x 35	82	180	108	9.98	18.28	16.90	97.92	0.36	2.08	YES	
DB_SS2-A4	DB_SS2-A5	1	4C x 35	82	180	108	4.97	9.15	8.50	97.74	0.18	2.26	YES	
SUBSTATION-2_Feeder-2	DB_SS2-B1	1	4C x 95	98	315	189	20.21	36.32	19.20	99.64	0.36	0.36	YES	
DB_SS2-B1	DB_SS2-B2	1	4C x 70	139	265	159	15.13	27.28	17.20	99.14	0.50	0.86	YES	
DB_SS2-B2	DB_SS2-B3	1	4C x 35	137	180	108	10.05	18.22	16.90	98.53	0.60	1.47	YES	
DB_SS2-B3	DB_SS2-B4	1	4C x 35	139	180	108	4.99	9.12	8.40	98.23	0.31	1.77	YES	
SUBSTATION-2_Feeder-3	DB_SS2-C1	1	4C x 150	500	405	243	15.17	27.28	11.20	99.02	0.98	0.98	YES	
DB_SS2-C1	DB_SS2-C2	1	4C x 150	500	405	243	10.02	18.22	7.50	98.37	0.65	1.63	YES	
DB_SS2-C2	DB_SS2-C3	1	4C x 120	162	380	216	4.97	9.12	4.20	98.25	0.12	1.75	YES	
SUBSTATION-3_Feeder-1	DB_SS3-C1	2	4C x 240	100	1080	648	80.80	145.70	22.50	99.63	0.37	0.37	YES	Existing 4C x 120 sq.mm LV Cable Replaced with New 2Nos. 4C x 240 sq.mm LV Cable
DB_SS3-C1	DB_SS3-C2	1	4C x 240	150	540	324	75.50	136.60	42.20	98.59	1.04	1.41	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB_SS3-C2	DB_SS3-C3	1	4C x 240	96	540	324	69.76	127.60	39.40	97.97	0.62	2.03	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB_SS3-C3	DB_SS3-C3x1	1	4C x 35	96	180	108	4.98	9.15	8.50	97.76	0.21	2.24	YES	
DB_SS3-C3	DB_SS3-C4	1	4C x 240	81	540	324	59.46	109.50	33.80	97.52	0.45	2.48	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB_SS3-C4	DB_SS3-C4x1	1	4C x 35	96	180	108	4.97	9.18	8.50	97.30	0.21	2.70	YES	
DB_SS3-C4	DB_SS3-C5	1	4C x 240	117	540	324	49.33	91.31	28.20	96.98	0.54	3.02	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB_SS3-C5	DB_SS3-C6	1	4C x 240	81	540	324	44.25	82.41	25.40	96.64	0.34	3.36	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
DB_SS3-C6	DB_SS3-C7	1	4C x 150	117	315	189	39.29	73.26	38.80	96.02	0.61	3.98	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LV Cable
DB_SS3-C7	DB_SS3-C7x1	1	4C x 35	96	180	108	4.96	9.29	8.60	95.81	0.22	4.19	YES	
DB_SS3-C7	DB_SS3-C8	1	4C x 150	81	315	189	29.35	55.12	29.20	95.70	0.32	4.30	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LV Cable
DB_SS3-C8	DB_SS3-C8x1	1	4C x 35	140	180	108	4.95	9.31	8.60	95.39	0.32	4.61	YES	
DB_SS3-C8	DB_SS3-C9	1	4C x 150	96	315	189	19.52	36.80	19.50	95.45	0.25	4.55	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LV Cable
DB_SS3-C9	DB_SS3-C10	1	4C x 120	98	360	216	14.66	27.68	12.80	95.23	0.23	4.77	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB_SS3-C10	DB_SS3-C11	1	4C x 120	88	360	216	9.84	18.63	8.60	95.09	0.14	4.91	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
DB_SS3-C11	DB_SS3-C12	1	4C x 120	112	360	216	4.99	9.45	4.40	95.01	0.09	4.99	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable

	PURPOSE OF SUBMISSION		REV	AUTHORISED BY	DATE	DRAWING TITLE		DESIGN : ESM		SCALE : N.T.S	
	INITIAL DOCUMENTS		A	GKH	28/03/16	NET WORK DIAGRAM FOR B03–HANIMAADHOO SUBSTATION		DRAWN : MUM		DRW NO. : J431–G0PA–029–GR–E–D–0002–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-SUB-PROPOSED PV FEEDER

From	To	No. of runs	Cable Size (sq.mm)	Length (M)	Losses (%)
SUBSTATION-2	DB_SS2-A1	1	4C X 70	40	1.80%
DB_SS2-A1	DB_SS2-A2	1	4C X 70	108	
DB_SS2-A2	DB_SS2-A3	1	4C X 70	89	
DB_SS2-A2	DB_SS2-A2x1	1	4C X 35	100	
DB_SS2-A2x 1	DB_SS2-A2x2	1	4C X 35	94	
DB_SS2-A3	DB_SS2-A4	1	4C X 70	82	
DB_SS2-A4	YOUTH CENTER-PV	1	4C X 120	70	
DB_SS2-A4	DB_SS2-A5	1	4C X 35	82	

	PURPOSE OF SUBMISSION	REV	AUTHORISED BY	DATE	DRAWING TITLE NET WORK DIAGRAM FOR B03–HANIMAADHOO SUBSTATION		DESIGN : ESM	SCALE : N.T.S
	INITIAL DOCUMENTS	A	GKH	28/03/16			DRAWN : MUM	DRW NO. : J431–G0PA–029–GR–E–D–0002–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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