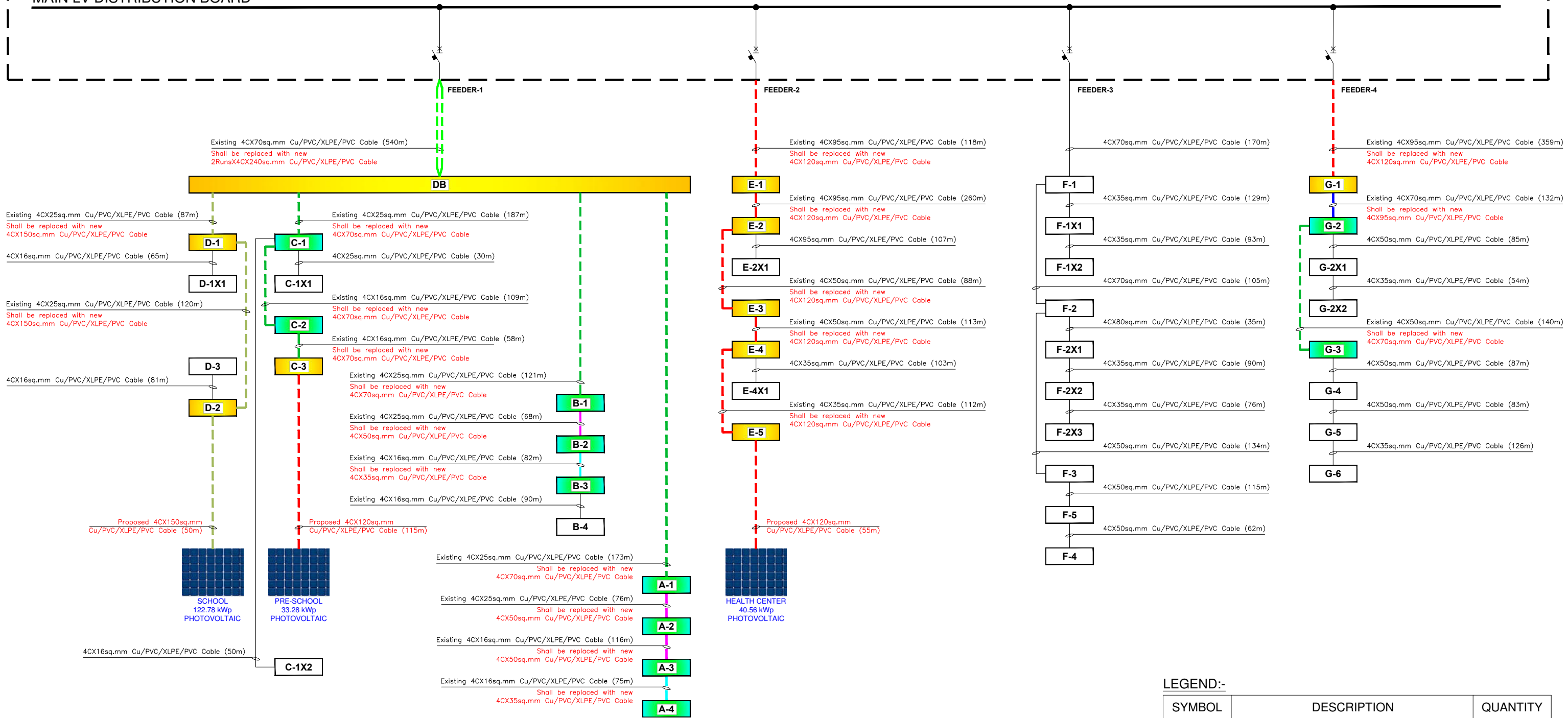


POWER HOUSE (NOLHIVARAMFARU)  
MAIN LV DISTRIBUTION BOARD



NOTES:-

- THESE DRAWINGS ARE PRELIMINARY AND ARE FOR TENDERING PURPOSES ONLY.
- CONTRACTOR SHALL CARRY OUT DETAILED SITE SURVEY AND ENGINEERING / STUDY TO EVALUATE AND PROPOSE THE EXTENT OF REPLACEMENT / MODIFICATION REQUIRED IN THE EXISTING DISTRIBUTION NETWORK. THIS IS SUBJECT TO REVIEW AND APPROVAL BY THE EMPLOYER DURING THE ENGINEERING PHASE OF THE PROJECT.

	PURPOSE OF SUBMISSION	REV	AUTHORISED BY	DATE	DRAWING TITLE NETWORK DIAGRAM FOR B07 NOLHIVARAMFARU		DESIGN : ESM	SCALE : N.T.S
	INITIAL DOCUMENTS	A	GKH	28/03/16			DRAWN : MUM	DRW NO. : J431-GOPA-023-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 : NOLHIVARAMFARU
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NOLHIVARAMFARU-EXISTING

From	To	No. of Runs	Cable Size (sq.mm)	Length (M)	Cable Current	Cable Current	Power (kW)	Current (A)	Cable Loading	Voltage (%) at DB Main	Total Voltage	% Voltage Drop upto	% Voltage Drop Acceptable	Remarks
Nolhivaramfaru Feeder-1	Distribution Board	2	4C x 70	540	530	318	92.83	162.30	51.03	94.12	5.88	5.88	NO	
Distribution Board	DB-A1	1	4C x 25	173	150	90	20.35	38.36	42.60	91.92	2.19	8.08	NO	
DB-A1	DB-A2	1	4C x 25	76	150	90	14.83	28.86	32.10	91.2	0.72	8.80	NO	
DB-A2	DB-A3	1	4C x 16	116	115	69	9.83	19.30	28.00	90.07	1.13	9.93	NO	
DB-A3	DB-A4	1	4C x 16	75	115	69	4.83	9.66	14.00	89.7	0.37	10.30	NO	
Distribution Board	DB-B1	1	4C x 25	121	150	90	20.13	38.12	42.40	92.59	1.52	7.41	NO	
DB-B1	DB-B2	1	4C x 25	68	150	90	14.81	28.66	31.80	91.95	0.64	8.05	NO	
DB-B2	DB-B3	1	4C x 16	82	115	69	9.81	19.15	27.80	91.16	0.79	8.84	NO	
DB-B3	DB-B4	1	4C x 16	90	115	69	4.86	9.59	13.90	90.72	0.43	9.28	NO	
Distribution Board	DB-C1	1	4C x 25	187	150	90	25.46	47.99	53.30	91.15	2.96	8.85	NO	
DB-C1	DB-C2	1	4C x 16	109	115	69	9.81	19.29	28.00	90.09	1.06	9.91	NO	
DB-C1	DB-C1x1	1	4C x 25	30	115	69	4.84	9.57	13.90	91.06	0.09	8.94	NO	
DB-C1	DB-C1x2	1	4C x 16	50	115	69	4.85	9.58	13.90	90.91	0.24	9.09	NO	
DB-C2	DB-C3	1	4C x 16	58	115	69	4.83	9.66	14.00	89.81	0.28	10.19	NO	
Distribution Board	DB-D1	1	4C x 25	87	150	90	19.92	37.88	42.10	93.03	1.08	6.97	NO	
DB-D1	DB-D1x1	1	4C x 16	65	115	69	4.88	9.46	13.70	92.72	0.31	7.28	NO	
DB-D1	DB-D2	1	4C x 25	120	150	90	9.84	18.99	21.10	92.28	0.75	7.72	NO	
DB-D2	DB-D3	1	4C x 16	81	115	69	4.88	9.51	13.80	91.89	0.39	8.11	NO	
Nolhivaramfaru Feeder-2	DB-E1	1	4C x 95	118	315	189	35.87	64.19	34.00	99.24	0.76	0.76	YES	
DB-E1	DB-E2	1	4C x 95	260	315	189	30.54	55.13	29.20	97.79	1.45	2.21	YES	
DB-E2	DB-E3	1	4C x 50	88	215	129	20.06	36.84	28.60	97.19	0.60	2.81	YES	
DB-E2	DB-E2x1	1	4C x 95	107	315	189	4.96	9.15	4.80	97.69	0.10	2.31	YES	
DB-E3	DB-E4	1	4C x 50	113	215	129	14.95	27.66	21.40	96.62	0.58	3.38	YES	
DB-E4	DB-E5	1	4C x 35	112	180	108	4.95	9.23	8.50	96.37	0.25	3.63	YES	
DB-E4	DB-E4x1	1	4C x 35	103	180	108	4.95	9.23	8.50	96.39	0.23	3.61	YES	
Nolhivaramfaru Feeder-3	DB-F1	1	4C x 70	170	265	159	51.67	92.13	57.90	97.91	2.09	2.09	YES	
DB-F1	DB-F2	1	4C x 70	105	265	159	35.31	64.64	40.70	97.01	0.90	2.99	YES	
DB-F1	DB-F1x1	1	4C x 35	129	180	108	9.99	18.35	17.00	97.34	0.57	2.66	YES	
DB-F1x1	DB-F1x2	1	4C x 35	93	180	108	4.96	9.18	8.50	97.13	0.21	2.87	YES	
DB-F2	DB-F3	1	4C x 50	134	215	129	14.98	27.74	21.50	96.33	0.68	3.67	YES	
DB-F2	DB-F2x1	1	4C x 35	80	180	108	14.96	27.72	25.70	96.48	0.54	3.52	YES	
DB-F2x1	DB-F2x2	1	4C x 35	90	180	108	9.91	18.50	17.10	96.07	0.40	3.93	YES	
DB-F2x2	DB-F2x3	1	4C x 35	76	180	108	4.93	9.26	8.60	95.9	0.17	4.10	YES	
DB-F3	DB-F5	1	4C x 50	115	215	129	9.90	18.51	14.30	95.94	0.39	4.06	YES	
DB-F5	DB-F4	1	4C x 50	62	215	129	4.93	9.26	7.20	95.83	0.11	4.17	YES	
Nolhivaramfaru Feeder-4	DB-G1	1	4C x 95	359	315	189	41.72	74.25	39.30	97.31	2.69	2.69	YES	
DB-G1	DB-G2	1	4C x 70	132	265	159	35.38	65.08	40.90	96.16	1.14	3.84	YES	
DB-G2	DB-G3	1	4C x 50	140	215	129	20.02	37.32	28.90	95.2	0.96	4.80	YES	
DB-G2	DB-G2x1	1	4C x 50	85	215	129	9.89	18.52	14.40	95.87	0.29	4.13	YES	
DB-G2x1	DB-G2x2	1	4C x 35	54	180	108	4.93	9.26	8.60	95.75	0.12	4.25	YES	
DB-G3	DB-G4	1	4C x 50	87	215	129	14.84	28.03	21.70	94.75	0.45	5.25	NO	
DB-G4	DB-G5	1	4C x 50	83	215	129	9.84	18.70	14.50	94.47	0.29	5.53	NO	
DB-G5	DB-G6	1	4C x 35	126	180	108	4.91	9.36	8.70	94.18	0.29	5.82	NO	

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	INITIAL DOCUMENTS		A	GKH	28/03/16			DRAWN : MUM		DRW NO. : J431-GOPA-023-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 : NOLHIVARAMFARU	
								DATE: : 17APR16		PAGE : 2/4	



NOLHIVARANFARU-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 Distribution Boards	% Voltage Drop Acceptable (Less Than 5%)	Remarks
Nolhivaramfaru Feeder-1	Distribution Board	2	4C x 150	540	810	486	88.14	157.50	32.40	96.95	3.05	3.05	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 150 sq.mm LVCable
Distribution Board	DB-A1	1	4C x 70	173	265	159	20.04	37.10	23.30	96.1	0.85	3.90	YES	Existing 4C x 25 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LVCable
DB-A1	DB-A2	1	4C x 50	76	215	129	14.88	27.86	21.60	95.71	0.39	4.29	YES	Existing 4C x 25 sq.mm LV Cable Replaced with New 4C x 50 sq.mm LVCable
DB-A2	DB-A3	1	4C x 50	116	215	129	9.88	18.59	14.40	95.31	0.40	4.69	YES	Existing 4C x 16 sq.mm LV Cable Replaced with New 4C x 50 sq.mm LVCable
DB-A3	DB-A4	1	4C x 35	75	180	108	4.92	9.30	8.60	95.15	0.17	4.85	YES	Existing 4C x 16 sq.mm LV Cable Replaced with New 4C x 35 sq.mm LVCable
Distribution Board	DB-B1	1	4C x 70	121	265	159	20.00	37.04	23.30	96.36	0.60	3.64	YES	Existing 4C x 25 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LVCable
DB-B1	DB-B2	1	4C x 50	68	215	129	14.90	27.81	21.60	96.01	0.35	3.99	YES	Existing 4C x 25 sq.mm LV Cable Replaced with New 4C x 50 sq.mm LVCable
DB-B2	DB-B3	1	4C x 35	82	180	108	9.91	18.57	17.20	95.64	0.37	4.36	YES	Existing 4C x 16 sq.mm LV Cable Replaced with New 4C x 35 sq.mm LVCable
DB-B3	DB-B4	1	4C x 16	90	115	69	4.94	9.30	13.50	95.22	0.42	4.78	YES	
Distribution Board	DB-C1	1	4C x 70	187	265	159	25.06	46.38	29.20	95.8	1.15	4.20	YES	Existing 4C x 25 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LVCable
DB-C1	DB-C2	1	4C x 50	109	215	129	9.89	18.58	14.40	95.43	0.37	4.57	YES	Existing 4C x 16 sq.mm LV Cable Replaced with New 4C x 50 sq.mm LVCable
DB-C1	DB-C1x1	1	4C x 25	30	115	69	4.92	9.27	13.40	95.71	0.09	4.29	YES	
DB-C1	DB-C1x2	1	4C x 16	50	115	69	4.93	9.28	13.40	95.57	0.23	4.43	YES	
DB-C2	DB-C3	1	4C x 16	58	115	69	4.93	9.30	13.50	95.16	0.27	4.84	YES	
Distribution Board	DB-D1	1	4C x 50	87	215	129	20.00	37.04	28.70	96.36	0.59	3.64	YES	Existing 4C x 25 sq.mm LV Cable Replaced with New 4C x 50 sq.mm LVCable
DB-D1	DB-D1x1	1	4C x 16	65	115	69	4.95	9.25	13.40	96.06	0.30	3.94	YES	
DB-D1	DB-D2	1	4C x 25	120	150	90	9.96	18.57	20.60	95.63	0.73	4.37	YES	
DB-D2	DB-D3	1	4C x 16	81	115	69	4.94	9.29	13.50	95.25	0.38	4.75	YES	
Nolhivaramfaru Feeder-2	DB-E1	1	4C x 95	118	315	189	35.87	64.19	34.00	99.24	0.76	0.76	YES	
DB-E1	DB-E2	1	4C x 95	260	315	189	30.54	55.13	29.20	97.79	1.45	2.21	YES	
DB-E2	DB-E3	1	4C x 50	88	215	129	20.06	36.84	28.60	97.19	0.60	2.81	YES	
DB-E2	DB-E2x1	1	4C x 95	107	315	189	4.96	9.15	4.80	97.69	0.10	2.31	YES	
DB-E3	DB-E4	1	4C x 50	113	215	129	14.95	27.66	21.40	96.62	0.58	3.38	YES	
DB-E4	DB-E5	1	4C x 35	112	180	108	4.95	9.23	8.50	96.37	0.25	3.63	YES	
DB-E4	DB-E4x1	1	4C x 35	103	180	108	4.95	9.23	8.50	96.39	0.23	3.61	YES	
Nolhivaramfaru Feeder-3	DB-F1	1	4C x 70	170	265	159	51.67	92.13	57.90	97.91	2.09	2.09	YES	
DB-F1	DB-F2	1	4C x 70	105	265	159	35.31	64.64	40.70	97.01	0.90	2.99	YES	
DB-F1	DB-F1x1	1	4C x 35	129	180	108	9.99	18.35	17.00	97.34	0.57	2.66	YES	
DB-F1x1	DB-F1x2	1	4C x 35	93	180	108	4.96	9.18	8.50	97.13	0.21	2.87	YES	
DB-F2	DB-F3	1	4C x 50	134	215	129	14.96	27.74	21.50	96.33	0.68	3.67	YES	
DB-F2	DB-F2x1	1	4C x 35	80	180	108	14.96	27.72	25.70	96.48	0.54	3.52	YES	
DB-F2x1	DB-F2x2	1	4C x 35	90	180	108	9.91	18.50	17.10	96.07	0.40	3.93	YES	
DB-F2x2	DB-F2x3	1	4C x 35	76	180	108	4.93	9.26	8.60	95.9	0.17	4.10	YES	
DB-F3	DB-F5	1	4C x 50	115	215	129	9.90	18.51	14.30	95.94	0.39	4.06	YES	
DB-F5	DB-F4	1	4C x 50	62	215	129	4.93	9.26	7.20	95.83	0.11	4.17	YES	
Nolhivaramfaru Feeder-4	DB-G1	1	4C x 120	359	360	216	41.31	73.83	34.20	97.78	2.22	2.22	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LVCable
DB-G1	DB-G2	1	4C x 95	132	315	189	35.25	64.69	34.20	96.91	0.86	3.09	YES	Existing 4C x 70 sq.mm LV Cable Replaced with New 4C x 95 sq.mm LVCable
DB-G2	DB-G3	1	4C x 70	140	265	159	20.01	37.07	23.30	96.23	0.69	3.77	YES	Existing 4C x 50 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LVCable
DB-G2	DB-G2x1	1	4C x 50	85	215	129	9.92	18.43	14.30	96.63	0.29	3.37	YES	
DB-G2x1	DB-G2x2	1	4C x 35	54	180	108	4.94	9.22	8.50	96.51	0.12	3.49	YES	
DB-G3	DB-G4	1	4C x 50	87	215	129	14.89	27.84	21.60	95.78	0.45	4.22	YES	
DB-G4	DB-G5	1	4C x 50	83	215	129	9.88	18.57	14.40	95.5	0.28	4.50	YES	
DB-G5	DB-G6	1	4C x 35	126	180	108	4.93	9.30	8.60	95.21	0.28	4.79	YES	

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	FIRST REVISION		B	GKH	17/04/16	PROJECT PREPARING OUTER ISLANDS SUSTAINABLE DEVELOPMENT	CLIENT: GOVERNMENT OF THE REPUBLIC OF MALDIVES	LICENCE NO:		ISLAND NAME : NOLHIVARAMFARU	
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# NOLHIVARANFARU-PROPOSED PV FEEDER

From	To		Cable Size (sq.mm)	Length (M)	Losses (%)
Power House	Distribution Board	2	4C X 240	540	1.39%
Distribution Board	DB-C1	1	4C X 70	187	
DB-C1	DB-C1x1	1	4C X 25	30	
DB-C1	DB-C1x2	1	4C X 16	50	
DB-C1	DB-C2	1	4C X 70	109	
DB-C2	DB-C3	1	4C X 70	58	
DB-C3	PRE SCHOOL-PV	1	4C X 120	115	
Distribution Board	DB-D1	1	4C X 150	87	3.45%
DB-D1	DB-D1x1	1	4C X 16	65	
DB-D1	DB-D2	1	4C X 150	120	
DB-D2	SCHOOL-PV	1	4C X 150	50	
DB-D2	DB-D3	1	4C X 16	81	
Power House	DB-E1	1	4C X 120	118	2.15%
DB-E1	DB-E2	1	4C X 120	260	
DB-E2	DB-E2x1	1	4C X 95	107	
DB-E2	DB-E3	1	4C X 120	88	
DB-E3	DB-E4	1	4C X 120	113	
DB-E4	DB-E4x1	1	4C X 35	103	
DB-E4	DB-E5	1	4C X 120	112	
DB-E5	HEALTH CENTRE-PV	1	4C X 120	55	

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							DATE: : 17APR16	PAGE : 4/4