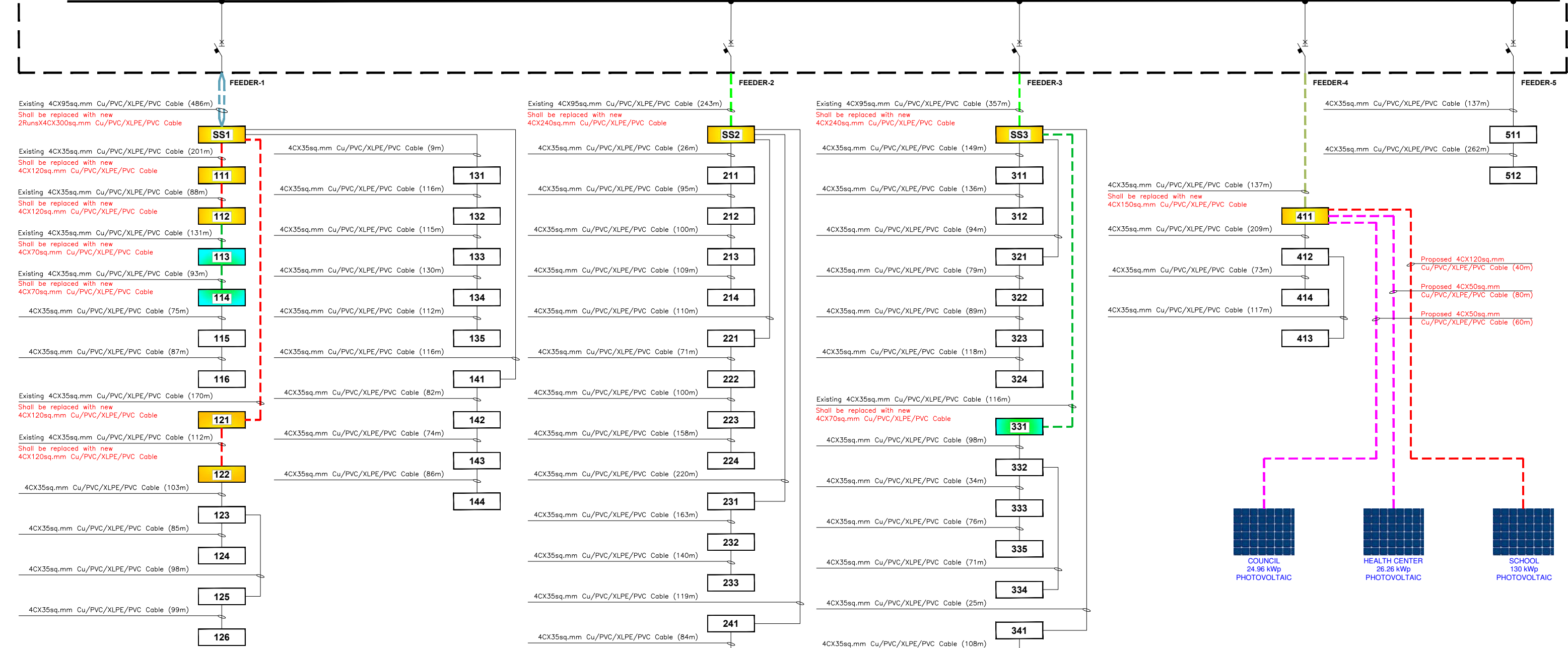


POWER HOUSE (NOLHIVARAM)
MAIN LV DISTRIBUTION BOARD



LEGEND:-

SYMBOL	DESCRIPTION	QUANTITY
---	PROPOSED 50sq.mm Cu/PVC/XLPE/PVC Cable	140m
---	PROPOSED 70sq.mm Cu/PVC/XLPE/PVC Cable	340m
---	PROPOSED 120sq.mm Cu/PVC/XLPE/PVC Cable	611m
---	PROPOSED 150sq.mm Cu/PVC/XLPE/PVC Cable	137m
---	PROPOSED 240sq.mm Cu/PVC/XLPE/PVC Cable	600m
---	PROPOSED 300sq.mm Cu/PVC/XLPE/PVC Cable	972m
---	EXISTING Cable	-
D/B	DISTRIBUTION BOX	-
D/B	EXISTING DISTRIBUTION BOX TO BE REPLACED	8 Nos.
D/B	EXISTING DISTRIBUTION BOX TO BE MODIFIED	3 Nos.

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 B09 NOLHIVARAM		DESIGN : ESM	SCALE : N.T.S
	INITIAL DOCUMENTS	A	GKH	28/03/16			DRAWN MUM	DRW NO. : J431-GOPA-024-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 : NOLHIVARAM
							DATE: : 17APR16	PAGE : 1/4

NOLHIVARAM-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
Power House Feeder-1	Substation-1	1	4C x 95	486	315	189	120.00	208.40	110.30	89.67	10.33	10.33	NO	
Substation-1	DB-111	1	4C x 35	201	180	108	30.73	60.33	55.90	86.70	2.97	13.30	NO	
DB-111	DB-112	1	4C x 35	88	180	108	24.59	50.47	46.70	85.62	1.08	14.38	NO	
DB-112	DB-113	1	4C x 35	131	180	108	19.43	40.50	37.50	84.33	1.29	15.67	NO	
DB-113	DB-114	1	4C x 35	93	180	108	14.31	30.45	28.20	83.64	0.69	16.36	NO	
DB-114	DB-115	1	4C x 35	75	180	108	9.46	20.34	18.80	83.27	0.37	16.73	NO	
DB-115	DB-116	1	4C x 35	87	180	108	4.71	10.20	9.40	83.06	0.21	16.94	NO	
Substation-1	DB-121	1	4C x 35	170	180	108	30.47	60.00	55.60	87.18	2.50	12.82	NO	
DB-121	DB-122	1	4C x 35	112	180	108	24.54	50.17	46.50	85.81	1.37	14.19	NO	
DB-122	DB-123	1	4C x 35	103	180	108	19.27	40.23	37.20	84.80	1.01	15.20	NO	
DB-123	DB-124	1	4C x 35	85	180	108	4.73	10.06	9.30	84.60	0.21	15.40	NO	
DB-123	DB-125	1	4C x 35	98	180	108	9.51	20.17	18.70	84.32	0.48	15.68	NO	
DB-125	DB-126	1	4C x 35	99	180	108	4.73	10.11	9.40	84.08	0.24	15.92	NO	
Substation-1	DB-131	1	4C x 35	9	180	108	24.52	48.87	45.20	89.57	0.11	10.43	NO	
DB-131	DB-132	1	4C x 35	116	180	108	19.71	39.29	36.40	88.46	1.11	11.54	NO	
DB-132	DB-133	1	4C x 35	115	180	108	14.59	29.55	27.40	87.63	0.82	12.37	NO	
DB-133	DB-134	1	4C x 35	130	180	108	9.63	19.74	18.30	87.01	0.62	12.99	NO	
DB-134	DB-135	1	4C x 35	112	180	108	4.77	9.89	9.20	86.74	0.27	13.26	NO	
Substation-1	DB-141	1	4C x 35	116	180	108	19.63	39.14	36.20	88.57	1.10	11.43	NO	
DB-141	DB-142	1	4C x 35	82	180	108	14.51	29.42	27.20	87.99	0.58	12.01	NO	
DB-142	DB-143	1	4C x 35	74	180	108	9.60	19.64	18.20	87.63	0.35	12.37	NO	
DB-143	DB-144	1	4C x 35	86	180	108	4.78	9.83	9.10	87.43	0.20	12.57	NO	
Power House Feeder-2	Substation-2	1	4C x 95	243	315	189	73.12	130.00	68.80	96.81	3.19	3.19	YES	
Substation-2	DB-211	1	4C x 35	26	180	108	19.97	37.04	34.30	96.57	0.23	3.43	YES	
DB-211	DB-212	1	4C x 35	95	180	108	14.96	27.83	25.80	95.93	0.64	4.07	YES	
DB-212	DB-213	1	4C x 35	100	180	108	9.90	18.57	17.20	95.48	0.45	4.52	YES	
DB-213	DB-214	1	4C x 35	109	180	108	4.93	9.30	8.60	95.24	0.25	4.76	YES	
Substation-2	DB-221	1	4C x 35	110	180	108	20.11	37.20	34.40	95.81	0.99	4.19	YES	
DB-221	DB-222	1	4C x 35	71	180	108	14.90	27.94	25.90	95.33	0.48	4.67	YES	
DB-222	DB-223	1	4C x 35	100	180	108	9.89	18.66	17.30	94.88	0.45	5.12	NO	
DB-223	DB-224	1	4C x 35	158	180	108	4.92	9.34	8.60	94.52	0.36	5.48	NO	
Substation-2	DB-231	1	4C x 35	220	180	108	15.15	27.98	25.90	95.31	1.50	4.69	YES	
DB-231	DB-232	1	4C x 35	163	180	108	9.92	18.69	17.30	94.57	0.74	5.43	NO	
DB-232	DB-233	1	4C x 35	140	180	108	4.91	9.36	8.70	94.26	0.32	5.74	NO	
Substation-2	DB-241	1	4C x 35	119	180	108	14.99	27.80	25.70	96.00	0.80	4.00	YES	
DB-241	DB-242	1	4C x 35	84	180	108	9.89	18.55	17.20	95.63	0.38	4.37	YES	
DB-242	DB-243	1	4C x 35	75	180	108	4.92	9.28	8.60	95.46	0.17	4.54	YES	
Power House Feeder-3	Substation-3	1	4C x 95	357	315	189	79.81	141.20	74.70	94.90	5.10	5.10	NO	
Substation-3	DB-311	1	4C x 35	149	180	108	9.89	18.73	17.30	94.22	0.68	5.78	NO	
DB-311	DB-312	1	4C x 35	136	180	108	4.91	9.38	8.70	93.91	0.31	6.09	NO	
Substation-3	DB-321	1	4C x 35	94	180	108	19.94	37.65	34.90	94.04	0.86	5.96	NO	
DB-321	DB-322	1	4C x 35	79	180	108	14.80	28.28	26.20	93.50	0.54	6.50	NO	
DB-322	DB-323	1	4C x 35	89	180	108	9.81	18.88	17.50	93.09	0.41	6.91	NO	
DB-323	DB-324	1	4C x 35	118	180	108	4.88	9.45	8.70	92.82	0.27	7.18	NO	
Substation-3	DB-331	1	4C x 35	116	180	108	25.11	47.28	43.80	93.57	1.33	6.43	NO	
DB-331	DB-332	1	4C x 35	98	180	108	19.74	37.88	35.10	92.67	0.90	7.33	NO	
DB-332	DB-333	1	4C x 35	34	180	108	9.75	18.95	17.50	92.51	0.16	7.49	NO	
DB-332	DB-334	1	4C x 35	71	180	108	4.87	9.47	8.80	92.50	0.16	7.50	NO	
DB-333	DB-335	1	4C x 35	76	180	108	4.87	9.48	8.80	92.34	0.17	7.66	NO	
Substation-3	DB-341	1	4C x 35	25	180	108	19.83	37.53	34.70	94.67	0.23	5.33	NO	
DB-341	DB-342	1	4C x 35	108	180	108	14.87	28.20	26.10	93.93	0.74	6.07	NO	
DB-342	DB-343	1	4C x 35	89	180	108	9.82	18.82	17.40	93.53	0.41	6.47	NO	
DB-343	DB-344	1	4C x 35	106	180	108	4.89	9.42	8.70	93.29	0.24	6.71	NO	
Power House Feeder-4	DB-411	1	4C x 35	137	180	108	20.50	36.61	33.90	98.78	1.22	1.22	YES	
DB-411	DB-412	1	4C x 35	209	180	108	15.17	27.52	25.50	97.39	1.40	2.61	YES	
DB-412	DB-413	1	4C x 35	117	180	108	4.96	9.18	8.50	97.13	0.26	2.87	YES	
DB-412	DB-414	1	4C x 35	73	180	108	4.96	9.18	8.50	97.22	0.16	2.78	YES	
Power House Feeder-5	DB-511	1	4C x 35	137	180	108	10.09	18.13	16.80	99.40	0.60	0.60	YES	
DB-511	DB-512	1	4C x 35	262	180	108	5.02	9.08	8.40	98.82	0.58	1.18	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 : NOLHIVARAM	
								DATE: : 17APR16		PAGE : 2/4	

NOLHIVARAM-PROPOSED

From	To	No. of Runs	Cable Size (sq.mm)	Length (M)	Cable Current	Cable Current Capacity After	Power (kW)	Current (A)	Cable Loading	Voltage (%) at DB Main Bus	Total Voltage Drop (%) in Cable	% Voltage	% Voltage Drop Acceptable	Remarks
Power House Feeder-1	Substation-1	2	4C x 300	486	1180	708	108.00	194.20	27.40	97.88	2.12	2.12	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 2Nos. 4C x 300 sq.mm LV Cable
	DB-111	1	4C x 120	201	360	216	30.29	55.52	25.70	96.95	0.94	3.05	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
	DB-111	1	4C x 120	88	360	216	25.00	46.33	21.40	96.61	0.34	3.39	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
	DB-112	1	4C x 70	131	265	159	19.96	37.12	23.30	95.96	0.65	4.04	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LV Cable
	DB-113	1	4C x 70	93	265	159	14.86	27.87	17.50	95.62	0.34	4.38	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 70 sq.mm LV Cable
	DB-114	1	4C x 35	75	180	108	9.88	18.60	17.20	95.28	0.34	4.72	YES	
	DB-115	1	4C x 35	87	180	108	4.92	9.30	8.60	95.08	0.20	4.92	YES	
	Substation-1	1	4C x 120	170	360	216	30.31	55.53	25.70	97.09	0.79	2.91	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
	DB-121	1	4C x 120	112	360	216	25.08	46.35	21.50	96.66	0.44	3.34	YES	Existing 4C x 35 sq.mm LV Cable Replaced with New 4C x 120 sq.mm LV Cable
	DB-122	1	4C x 35	103	180	108	20.01	37.14	34.40	95.73	0.93	4.27	YES	
	DB-123	1	4C x 35	85	180	108	4.93	9.28	8.60	95.54	0.19	4.46	YES	
	DB-123	1	4C x 35	98	180	108	9.89	18.60	17.20	95.29	0.44	4.71	YES	
	DB-125	1	4C x 35	99	180	108	4.92	9.31	8.60	95.07	0.22	4.93	YES	
	Substation-1	1	4C x 35	9	180	108	25.24	46.19	42.80	97.78	0.10	2.22	YES	
	DB-131	1	4C x 35	116	180	108	20.25	37.04	34.30	96.74	1.04	3.26	YES	
	DB-132	1	4C x 35	115	180	108	15.01	27.84	25.80	95.96	0.78	4.04	YES	
	DB-133	1	4C x 35	130	180	108	9.92	18.59	17.20	95.38	0.59	4.62	YES	
	DB-134	1	4C x 35	112	180	108	4.92	9.30	8.60	95.13	0.25	4.87	YES	
	Substation-1	1	4C x 35	116	180	108	20.19	36.94	34.20	96.84	1.04	3.16	YES	
	DB-141	1	4C x 35	82	180	108	14.95	27.74	25.70	96.29	0.55	3.71	YES	
	DB-142	1	4C x 35	74	180	108	9.90	18.51	17.10	95.96	0.33	4.04	YES	
	DB-143	1	4C x 35	86	180	108	4.93	9.26	8.60	95.77	0.19	4.23	YES	
Power House Feeder-2	Substation-2	1	4C x 240	243	540	324	71.74	128.70	39.70	98.41	1.59	1.59	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
	Substation-2	1	4C x 35	26	180	108	20.08	36.66	33.90	98.18	0.23	1.82	YES	
	DB-211	1	4C x 35	95	180	108	15.05	27.54	25.50	97.55	0.63	2.45	YES	
	DB-212	1	4C x 35	100	180	108	9.96	18.38	17.00	97.1	0.45	2.90	YES	
	DB-213	1	4C x 35	109	180	108	4.96	9.20	8.50	96.86	0.24	3.14	YES	
	Substation-2	1	4C x 35	110	180	108	20.23	36.81	34.10	97.43	0.98	2.57	YES	
	DB-221	1	4C x 35	71	180	108	14.99	27.65	25.60	96.95	0.48	3.05	YES	
	DB-222	1	4C x 35	100	180	108	9.95	18.46	17.10	96.51	0.45	3.49	YES	
	DB-223	1	4C x 35	158	180	108	4.95	9.24	8.60	96.15	0.35	3.85	YES	
	Substation-2	1	4C x 35	220	180	108	15.24	27.68	25.60	96.93	1.48	3.07	YES	
	DB-231	1	4C x 35	163	180	108	9.98	18.49	17.10	96.2	0.73	3.80	YES	
	DB-232	1	4C x 35	140	180	108	4.94	9.25	8.60	95.89	0.31	4.11	YES	
	Substation-2	1	4C x 35	119	180	108	15.08	27.51	25.50	97.62	0.79	2.38	YES	
	DB-241	1	4C x 35	84	180	108	9.95	18.36	17.00	97.25	0.37	2.75	YES	
	DB-242	1	4C x 35	75	180	108	4.96	9.18	8.50	97.08	0.17	2.92	YES	
Power House Feeder-3	Substation-3	1	4C x 240	357	315	189	77.19	138.50	73.30	97.49	2.51	2.51	YES	Existing 4C x 95 sq.mm LV Cable Replaced with New 4C x 240 sq.mm LV Cable
	Substation-3	1	4C x 35	149	180	108	9.99	18.41	17.10	96.83	0.66	3.17	YES	
	DB-311	1	4C x 35	136	180	108	4.95	9.22	8.50	96.52	0.30	3.48	YES	
	Substation-3	1	4C x 35	94	180	108	20.13	37.00	34.30	96.65	0.84	3.35	YES	
	DB-321	1	4C x 35	79	180	108	14.95	27.79	25.70	96.11	0.53	3.89	YES	
	DB-322	1	4C x 35	89	180	108	9.91	18.55	17.20	95.71	0.40	4.29	YES	
	DB-323	1	4C x 35	118	180	108	4.93	9.28	8.60	95.45	0.27	4.55	YES	
	Substation-3	1	4C x 70	116	180	108	25.15	46.26	42.80	96.78	0.71	3.22	YES	
	DB-331	1	4C x 35	98	180	108	19.97	37.06	34.30	95.9	0.88	4.10	YES	
	DB-332	1	4C x 35	34	180	108	9.87	18.54	17.20	95.74	0.15	4.26	YES	
	DB-332	1	4C x 35	71	180	108	4.93	9.27	8.60	95.74	0.16	4.26	YES	
	DB-333	1	4C x 35	76	180	108	4.93	9.27	8.60	95.57	0.17	4.43	YES	
	Substation-3	1	4C x 35	25	180	108	20.02	36.88	34.20	97.27	0.22	2.73	YES	
	DB-341	1	4C x 35	108	180	108	15.01	27.71	25.70	96.54	0.73	3.46	YES	
	DB-342	1	4C x 35	89	180	108	9.92	18.49	17.10	96.14	0.40	3.86	YES	
	DB-343	1	4C x 35	106	180	108	4.94	9.25	8.60	95.9	0.24	4.10	YES	
Power House Feeder-4	DB-411	1	4C x 35	137	180	108	20.50	36.61	33.90	98.78	1.22	1.22	YES	
	DB-411	1	4C x 35	209	180	108	15.17	27.52	25.50	97.39	1.40	2.61	YES	
	DB-412	1	4C x 35	117	180	108	4.96	9.18	8.50	97.13	0.26	2.87	YES	
	DB-412	1	4C x 35	73	180	108	4.96	9.18	8.50	97.22	0.16	2.78	YES	
Power House Feeder-5	DB-511	1	4C x 35	137	180	108	10.09	18.13	16.80	99.4	0.60	0.60	YES	
	DB-511	1	4C x 35	262	180	108	5.02	9.08	8.40	96.82	0.58	1.18	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 : NOLHIVARAM
							DATE: : 17APR16	PAGE : 3/4

NOLHIVARAM-PROPOSED PV FEEDER

From	To	No. of Runs	Cable Size (sq.mm)	Length (M)	Losses (%)
DB-411	COUNCIL-PV	1	4C X50	60	2.14%
DB-411	HEALTH CENTRE-PV	1	4C X50	80	
DB-411	SCHOOL-PV	1	4C X120	40	
DB-411	DB-412	1	4C X35	209	
DB-412	DB-414	1	4C X35	73	
DB-412	DB-413	1	4C X35	117	
POWER HOUSE	DB-411	1	4C X150	137	

	PURPOSE OF SUBMISSION	REV	AUTHORISED BY	DATE	DRAWING TITLE NETWORK DIAGRAM FOR B09 NOLHIVARAM		DESIGN : ESM	SCALE : N.T.S
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							DATE: : 17APR16	PAGE : 4/4