

Split Prepaid Metering
and
Medium Voltage Distribution
for
High Density Low Income Areas

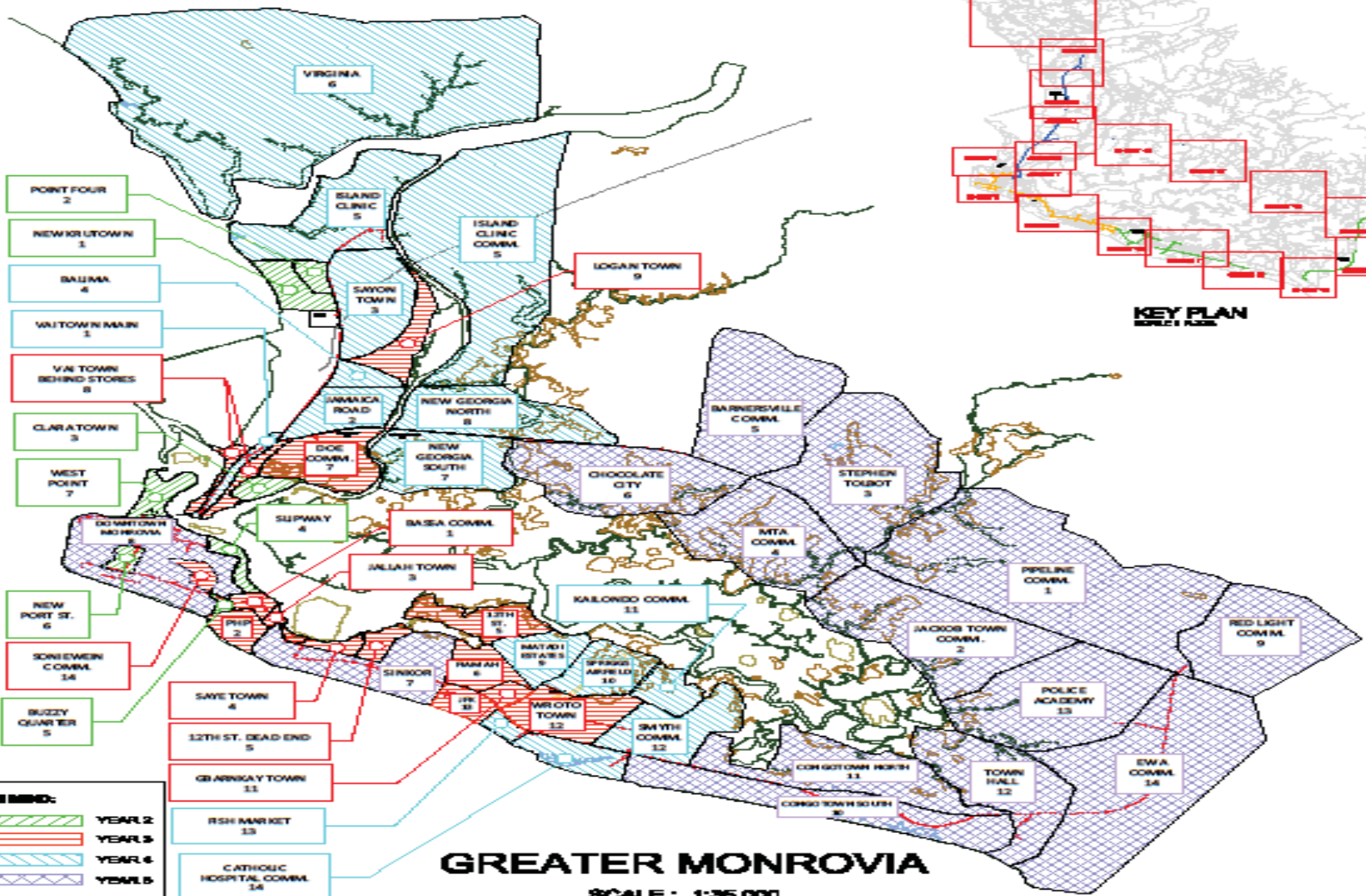
Liberia Electricity Corporation
2012 Electrification Schemes

Project

- MHI/KPLC – Five Year Management Contract
- Rebuild/Expand Monrovia Electricity System
- GPOBA – Largest Grant Ever – US\$ 10 m
- 16,800 Poor/Low Income Connections
- \$950 per Connection – 65% - Reimbursement
- 7 Very Poor Areas – Year 1
- 14 Low Income Areas – Year 2
- Mapping and Design

Benefits

- LEC
 - Reduced Losses
 - Increased Collections
 - Reduced fixed costs
 - Improved cash flow
- Customers
 - Access without traditional barriers
 - Better energy use management
 - Energy conservation – marked reduction in use



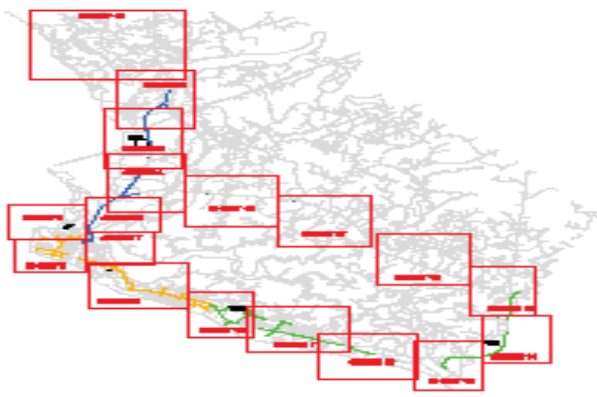
- POINT FOUR 2
- NEW KRU TOWN 1
- BALIMA 4
- WATOWN MAIN 1
- V/A TOWN BEHIND STORES 8
- CLARA TOWN 3
- WEST POINT 7
- DO WRETOWN MONROVIA
- NEW PORT ST. 6
- SOMEYEN COMML 14
- BUZZY QUARTER 5

- ISLAND CLINIC 5
- SAYON TOWN 3
- JAMAICA ROAD 2
- NEW GEORGIA NORTH 8
- NEW GEORGIA SOUTH 7
- DIKE COMML 7
- SUPWAY 4
- BASSA COMML 1
- JALLAH TOWN 3
- SAVE TOWN 4
- 12TH ST. DEAD END 5
- GBARRICA TOWN 11
- RISH MARKET 13
- CATHOLIC HOSPITAL COMML 14

- LOGAN TOWN 9
- NEW GEORGIA SOUTH 7
- CHOCOLATE CITY 6
- BARNERSVILLE COMML 5
- STEPHEN TOLBOT 3
- MTA COMML 4
- PIPELINE COMML 1
- RED LIGHT COMML 9
- JACKOB TOWN COMML 2
- POLICE ACADEMY 13
- EWA COMML 14

- 12TH ST. 11
- 13TH ST. 11
- 14TH ST. 11
- 15TH ST. 11
- 16TH ST. 11
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- 99TH ST. 11
- 100TH ST. 11

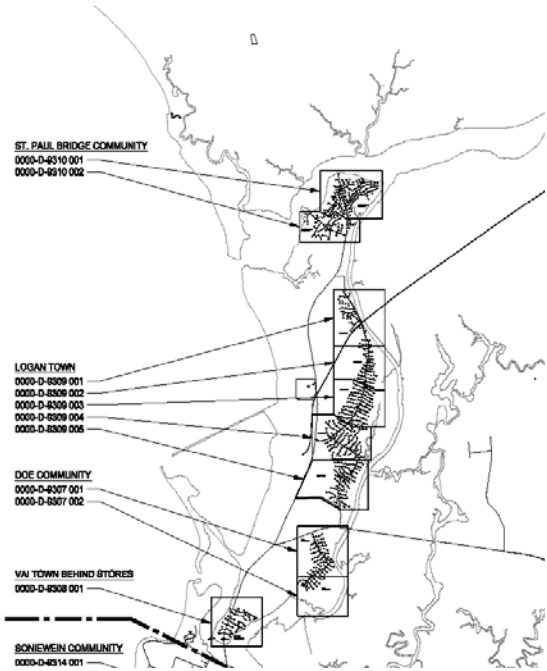
GREATER MONROVIA
SCALE : 1:36,000



KEY PLAN
SCALE 1:100,000

LEGEND:

	YEAR 2
	YEAR 3
	YEAR 4
	YEAR 5



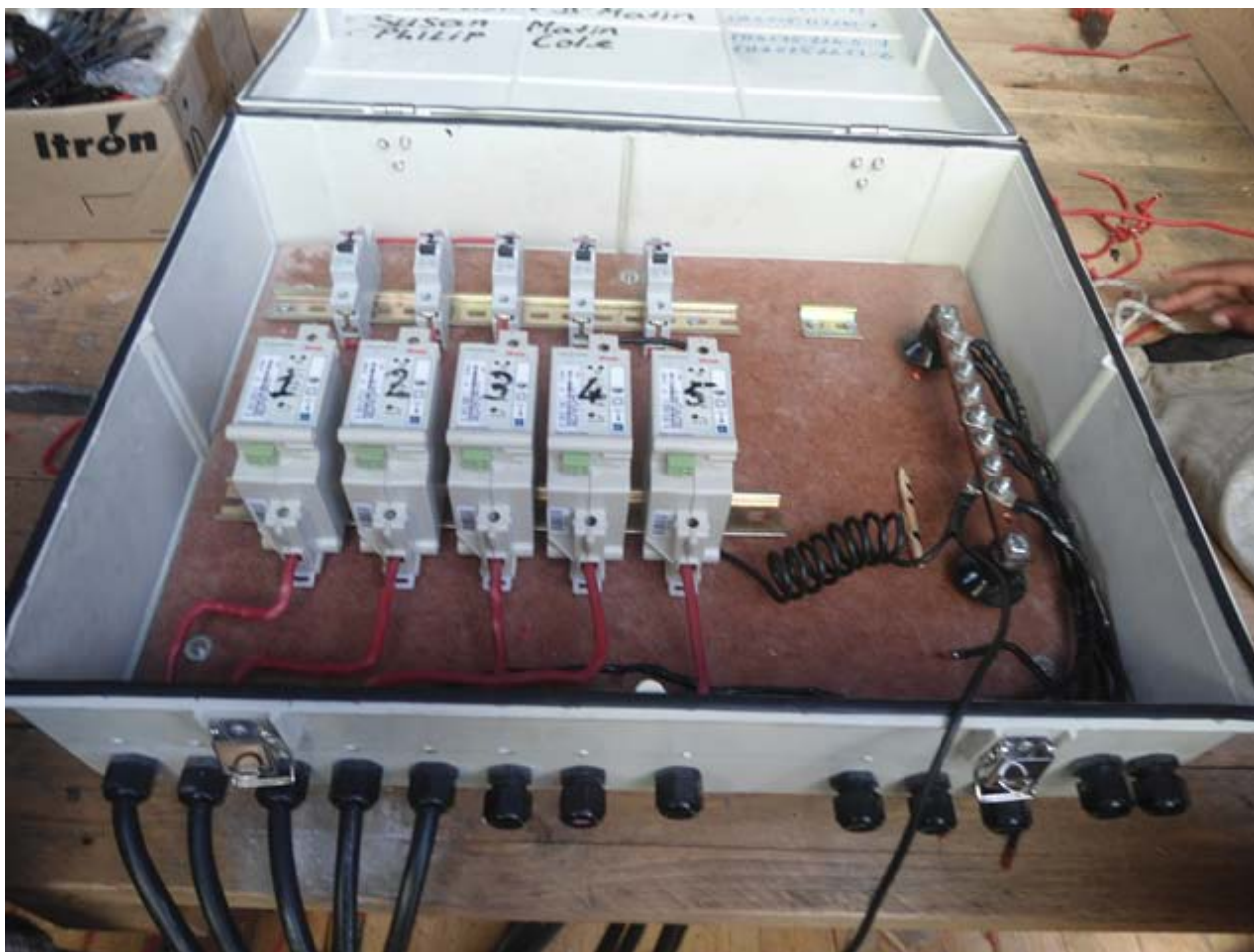
Installation Challenges

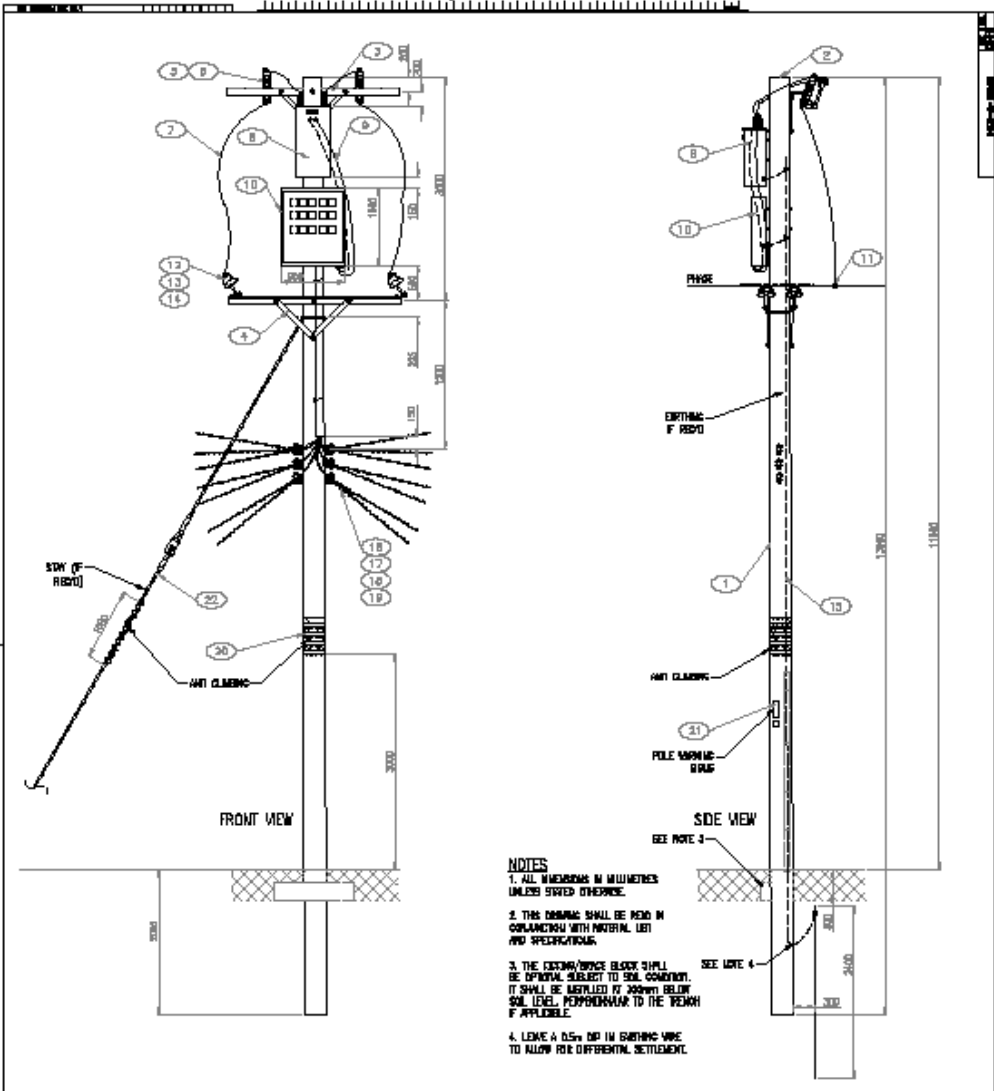
Informal Settlements


- Connection Fees
- No legal surveys
- No ROW's
- No building standards or internal wiring
- Manual siting of poles to best fit
- Construction access very difficult



Itron Split PPM





						 <p>DEPARTMENT STANDARD</p> <p>33kV ANGLE STRUCTURE</p> <p>20 - 34 PINS</p> <p>WITH ANGLE PIN INSULATORS</p> <p>THREE-PHASE INSTALLATION</p>	
NO.	DATE	REVISION	BY	CHECKED	APPROVED	SCALE	M.T.S.
						<p>MOOD-A-28206</p> <p>0001</p>	

Medium Voltage Distribution Only







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Success Factors

- Strong Government Support
- Strong Donor Support

Barriers

- Scale up is totally dependent on donor funds to put infrastructure in place
- Customers cannot afford the connection costs
- Current tariff is very high – US 0.54/kWh
- High Speed Diesel Generation

Solutions

- Customer Financial Assistance – Amortize a low connection fee.
- HFO Next Two Years
- 70 MW hydropower in four years
- Reduce Losses