

AUSLEY McMULLEN

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March 31, 2017

VIA: ELECTRONIC FILING

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Petition of Tampa Electric Company for Approval of Revised Underground Residential Distribution Tariff

Dear Ms. Stauffer:

Attached for filing in the above-styled matter is Tampa Electric Company's Petition for Approval of Revised Tariffs for Underground Residential Distribution.

Thank you for your assistance in connection with this matter.

Sincerely,


James D. Beasley

JDB/pp
Attachment

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Tampa Electric Company)
for Approval of Revised Underground)
Residential Distribution Tariff.)
_____)

DOCKET NO. _____

FILED: March 31, 2017

**PETITION OF
TAMPA ELECTRIC COMPANY**

In accordance with Commission Rule 28-6078(2), F.A.C., Tampa Electric Company (“Tampa Electric” or “the company”) files this Petition for Approval of Revised Tariffs for Underground Residential Distribution. The revised tariff sheets containing updated Underground Residential Distribution (“URD”) charges that reflect the cost differential between overhead (“OH”) and underground (“UG”) distribution service are attached hereto in standard and legislative formats as Exhibits “A” and “B”, respectively. Form PSC/EAG 13, *Overhead/Underground Residential Differential Cost Data*, and supporting data and analyses for the proposed URD charges are provided in Exhibit “C”. In support thereof, the company says:

1. The name, address, telephone number and facsimile number of the petitioner are:

Tampa Electric Company
Post Office Box 111
Tampa, FL 33601
(813) 228-4111
(813) 228-1770 (fax)

2. Tampa Electric is an investor-owned public utility subject to the jurisdiction of the Commission under Chapter 366, Florida Statutes.

3. All notices, pleadings and correspondence required to be served on the Petitioner should be directed to:

James D. Beasley
J. Jeffry Wahlen
Ausley McMullen
Post Office Box 391
Tallahassee, FL 32302

Paula Brown, Manager
Regulatory Coordination
Tampa Electric Company
Post Office Box 111
Tampa, FL 33602

(850) 224-9115
(850) 222-7960 (fax)
jbeasley@ausley.com (email)
jwahlen@ausley.com (email)

(813) 228-1444
(813) 228-1770 (fax)
regdept@tecoenergy.com (email)

Background

4. Pursuant to Rule 25-6.078(3), F.A.C., on October 14, 2016, Tampa Electric filed with the Commission Clerk Form PSC/EDR 13-E, Schedule 1, containing an updated cost differential based on then current material and labor costs. The cost differential calculated in Schedule 1 varied from the differential cost approved by the Commission in 2015 by plus or minus 10% or more thus requiring Tampa Electric to file a written policy and supporting data and analyses as prescribed in subsections (1), (4) and (5) of Rule 6.078 on or before April 1, 2017.

5. The proposed charges and credits contained in Revised Tariff Sheet Nos. 5.510, 5.515, and 5.516 are based on current labor and material costs from the previous twelve-month period and are prepared in accordance with the requirements of Rules 25-6.064, 25-6.078, and 25-6.115, F.A.C.

Proposed “Per Lot” Charges for Low Density and High Density Subdivisions

6. Tampa Electric’s proposed differential charge for low density URD subdivisions is \$247.69 per lot, a 33.7% decrease from the current charge of \$373.86 per lot. The decrease in the proposed low density “per lot” charge is primarily attributable to OH costs increasing at a higher rate than UG costs and a OH net present value (“NPV”) operational costs increasing at a higher rate than the NPV operational cost of the UG system.

7. The company’s proposed high density charge is \$0 per individually-metered lot, a decrease from the current charge of \$47.64 per lot. The decrease in the proposed high density

“per lot” charge is primarily attributable to NPV operational costs of the OH system rising at a higher rate than the NPV operational costs of the UG system,

Proposed Charges for UG Services from OH Distribution Sources

8. For new single-phase UG services from OH distribution sources, the proposed Fixed Charge, representing fixed labor and material costs that are not impacted by the variable service length, has increased from \$56.58 to \$71.55 for 2/0 UG service laterals and from \$95.75 to \$103.92 for 4/0 UG service laterals. Lower NPV operational costs for OH services is the primary cause of the increase in the differential Fixed Charge for services.

9. The proposed “Per Trench Foot” charges have increased from \$9.94 to \$11.06 per foot for 2/0 cable and from \$10.27 to \$10.92 per foot for 4/0 cable. Cable costs decreased for both OH and UG; however, the UG cable cost reductions were off-set by increases in contractor UG labor cost resulting in an increase in “Per Trench Foot” charges.

10. The proposed credit for avoiding a service pole has increased from \$534.28 to \$612.53 due to a shift from using 30-foot wooden poles to using 35-foot wooden poles for clearance reasons.

Proposed Charges for Conversion of Existing OH Services to UG

11. For converted single phase UG services, the proposed OH service removal charge has increased from \$111.45 to \$112.75 for service cable only and has increased from \$508.66 to \$529.04 when removal involves a service pole.

12. Tampa Electric is also proposing updated non-refundable deposit charges for binding estimates conversion of existing OH distribution facilities to UG.

13. Tampa Electric knows of no disputed issues of material fact relative to the tariff revisions proposed herein.

WHEREFORE, Tampa Electric requests that this Commission consent to the above described revised tariff sheets as set forth in Exhibit "A" under the provisions of Section 366.03(3), Florida Statutes.

Dated this 31st day of March, 2017.

Respectfully submitted,



JAMES D. BEASLEY
J. JEFFRY WAHLEN
Ausley McMullen
Post Office Box 391
Tallahassee, FL 32302
(850) 224-9115

ATTORNEYS FOR TAMPA ELECTRIC COMPANY

Exhibit "A"



Continued from Sheet No. 5.500

3.6.5.1 Single Meter Commercial Service

Mobile Home Parks will be supplied single-meter commercial service only where park owner or operator supplies (furnishes) electrical service as a part of his rental and/or general service charge to tenants. Resale of electric energy through park owned meters will not be permitted (See 2.2.1)

3.6.5.2 Individual Company Metered Service

Mobile Home Parks will be supplied through company installed individual meters for individual tenants and other types of service required in park under the provisions required on 3.4.3 and 3.4.4 and the subparts appertaining thereto.

3.6.6 Miscellaneous Types of Electric Service

Certain other types of electric service are available from the company. Information on such services not specifically covered in this Tariff may be obtained at the nearest company office. Such special cases will be given individual consideration.

3.7 SCHEDULE OF STANDARD CHARGES AND NON-REFUNDABLE DEPOSITS FOR COST ESTIMATES FOR UNDERGROUND ELECTRIC DISTRIBUTION SYSTEMS

3.7.1 Standard Charges

The Standard Charges listed here are Contributions In Aid of Construction (CIAC) which are referenced by other sections of these rules and regulations.

3.7.1.1 Residential Subdivision

Low Density Subdivisions per service lateral or dwelling unit...	\$247.69
High Density Subdivisions per service lateral or dwelling unit...	\$0.00

3.7.1.2 New Single-phase UG Service Laterals from Overhead Distribution Systems

Fixed Charge for 2/0 service lateral	\$71.55
Fixed Charge for 4/0 service lateral	\$103.92
Per trench foot charge for 2/0 service lateral	\$11.06
Per trench foot charge for 4/0 service lateral	\$10.92
Credit for service pole if otherwise required for overhead service	\$612.53

Continued to Sheet No. 5.515



AN EMERA COMPANY

Continued from Sheet No. 5.510

3.7.1.3 Single-phase UG Service Laterals Converted from Existing Overhead Service Drops

Removal charge for overhead service with no service pole	\$112.75
Removal charge for overhead service with a service pole	\$550.19
Fixed Charge for 2/0 service lateral	\$71.55
Fixed Charge for 4/0 service lateral	\$103.92
Per trench foot charge for 2/0 service lateral	\$11.06
Per trench foot charge for 4/0 service lateral	\$10.92
Credit for service pole if otherwise required for overhead service	\$612.53

Continued to Sheet No. 5.516



AN EMERA COMPANY

Continued from Sheet No. 5.515

3.7.2 Non-refundable Deposits for Estimates of CIAC for Conversion of Existing Overhead Distribution Facilities to Underground Facilities

Qualified applicants can request, upon payment of a non-refundable deposit as listed below, the conversion of overhead distribution facilities to underground in accordance with these Rules and Regulations for conversion areas of not less than one (1) city block in length along both sides of the main distribution system, or in the absence of city blocks, not less than five (5) contiguous building lots along both sides of the main distribution system, or in the absence of both, not the less than 600 pole-feet of the main distribution system, including all customers served along both sides of the main distribution system, and so as to result in a decrease in the number of non-lighting poles in the system.

Requests for conversions, except for individual residential service covered under Section 3.4.3.3, will be accompanied by a non-refundable amount as follows:

Density Class	Deposit Amount
Urban Commercial or Residential.....	\$9,626 per mile*
Rural Commercial or Residential.....	\$5,630 per mile*
High or Low Density Subdivision.....	\$ 46 per lot

* As measured along the existing overhead primary and secondary distribution system.

Exhibit "B"



AN EMERA COMPANY



TAMPA ELECTRIC

Continued from Sheet No. 5.500

3.6.5.1 Single Meter Commercial Service

Mobile Home Parks will be supplied single-meter commercial service only where park owner or operator supplies (furnishes) electrical service as a part of his rental and/or general service charge to tenants. Resale of electric energy through park owned meters will not be permitted (See 2.2.1)

3.6.5.2 Individual Company Metered Service

Mobile Home Parks will be supplied through company installed individual meters for individual tenants and other types of service required in park under the provisions required on 3.4.3 and 3.4.4 and the subparts appertaining thereto.

3.6.6 Miscellaneous Types of Electric Service

Certain other types of electric service are available from the company. Information on such services not specifically covered in this Tariff may be obtained at the nearest company office. Such special cases will be given individual consideration.

3.7 SCHEDULE OF STANDARD CHARGES AND NON-REFUNDABLE DEPOSITS FOR COST ESTIMATES FOR UNDERGROUND ELECTRIC DISTRIBUTION SYSTEMS

3.7.1 Standard Charges

The Standard Charges listed here are Contributions In Aid of Construction (CIAC) which are referenced by other sections of these rules and regulations.

3.7.1.1 Residential Subdivision

Low Density Subdivisions per service lateral or dwelling unit...	<u>\$373.86247.69</u>
High Density Subdivisions per service lateral or dwelling unit...	<u>\$47.640.00</u>

3.7.1.2 New Single-phase UG Service Laterals from Overhead Distribution Systems

Fixed Charge for 2/0 service lateral	<u>\$56.5871.55</u>
Fixed Charge for 4/0 service lateral	<u>\$95.75103.92</u>
Per trench foot charge for 2/0 service lateral	<u>\$9.9411.06</u>
Per trench foot charge for 4/0 service lateral	<u>\$10.2710.92</u>
Credit for service pole if otherwise required for overhead service	<u>\$534.28612.53</u>

Continued to Sheet No. 5.515



AN EMERA COMPANY



TAMPA ELECTRIC

~~FOURTEENTH-FIFTEENTH~~ REVISED SHEET NO. 5.515
CANCELS ~~THIRTEENTH~~
~~FOURTEENTH~~ REVISED SHEET NO. 5.515

Continued from Sheet No. 5.510

3.7.1.3 Single-phase UG Service Laterals Converted from Existing Overhead Service Drops

Removal charge for overhead service with no service pole	\$111.45 <u>112.75</u>
Removal charge for overhead service with a service pole	\$508.66 <u>550.19</u>
Fixed Charge for 2/0 service lateral	\$56.58 <u>71.55</u>
Fixed Charge for 4/0 service lateral	\$95.75 <u>103.92</u>
Per trench foot charge for 2/0 service lateral	\$9.94 <u>11.06</u>
Per trench foot charge for 4/0 service lateral	\$10.27 <u>10.92</u>
Credit for service pole if otherwise required for overhead service	\$534.28 <u>612.53</u>

Continued to Sheet No. 5.516



Continued from Sheet No. 5.515

3.7.2 Non-refundable Deposits for Estimates of CIAC for Conversion of Existing Overhead Distribution Facilities to Underground Facilities

Qualified applicants can request, upon payment of a non-refundable deposit as listed below, the conversion of overhead distribution facilities to underground in accordance with these Rules and Regulations for conversion areas of not less than one (1) city block in length along both sides of the main distribution system, or in the absence of city blocks, not less than five (5) contiguous building lots along both sides of the main distribution system, or in the absence of both, not the less than 600 pole-feet of the main distribution system, including all customers served along both sides of the main distribution system, and so as to result in a decrease in the number of non-lighting poles in the system.

Requests for conversions, except for individual residential service covered under Section 3.4.3.3, will be accompanied by a non-refundable amount as follows:

Density Class	Deposit Amount
Urban Commercial or Residential.....	\$9,346 <u>9,626</u> per mile*
Rural Commercial or Residential.....	\$5,466 <u>5,630</u> per mile*
High or Low Density Subdivision.....	\$ <u>45-46</u> per lot

* As measured along the existing overhead primary and secondary distribution system.

Exhibit "C"

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Underground (UG) Design Cost	
Design Print - HD UG	HD 2
HD UG Summary	HD 3
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OVERHEAD VS UNDERGROUND SUMMARY SHEET

Single Occupancy Low Density 210 Lot Subdivision
Cost per Lot

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
Labor	\$766.62	\$1,250.19	\$483.57
Material	\$612.85	\$906.12	\$293.27
TOTAL	\$1,379.47	\$2,156.31	\$776.84
NPV Operational Cost Including Storm Restoration and Lost Pole Attachment Revenue	\$1,553.81	\$1,024.66	-\$529.15
TOTAL Including NPV Operational Cost	\$2,933.28	\$3,180.97	\$247.69

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

Single Occupancy Low Density 210 Lot Subdivision
Cost per Lot

ITEM	MATERIAL	LABOR ¹	TOTAL
Service ²	\$75.55	\$148.68	\$224.23
Primary	\$13.70	\$43.58	\$57.28
Secondary	\$110.93	\$157.61	\$268.54
Initial Tree Trim	\$0.00	\$0.00	\$0.00
Poles	\$139.75	\$267.07	\$406.82
Transformers	\$191.55	\$84.02	\$275.57
Subtotal	\$531.48	\$700.96	\$1,232.44
Stores Handling ³	\$81.37	\$0.00	\$81.37
Subtotal	\$612.85	\$700.96	\$1,313.81
Engineering		\$65.66	\$65.66
TOTAL	\$612.85	\$766.62	\$1,379.47

¹ Includes Administration, General, Energy Delivery Supervision, & Transportation

² Includes Meter

³ 15.31% of all Material

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

Single Occupancy Low Density 210 Lot Subdivision
Cost per Lot

ITEM	MATERIAL	LABOR ¹	TOTAL
Service ²	\$190.43	\$189.80	\$380.23
Primary	\$212.52	\$75.33	\$287.85
Secondary	\$41.37	\$52.79	\$94.16
Transformers	\$341.49	\$83.54	\$425.03
Pri. and Sec. Trenching	\$0.00	\$401.02	\$401.02
Service Trenching	\$0.00	\$382.05	\$382.05
Subtotal	\$785.81	\$1,184.53	\$1,970.34
Stores Handling ³	\$120.31	\$0.00	\$120.31
Subtotal	\$906.12	\$1,184.53	\$2,090.65
Engineering		\$65.66	\$65.66
TOTAL	\$906.12	\$1,250.19	\$2,156.31

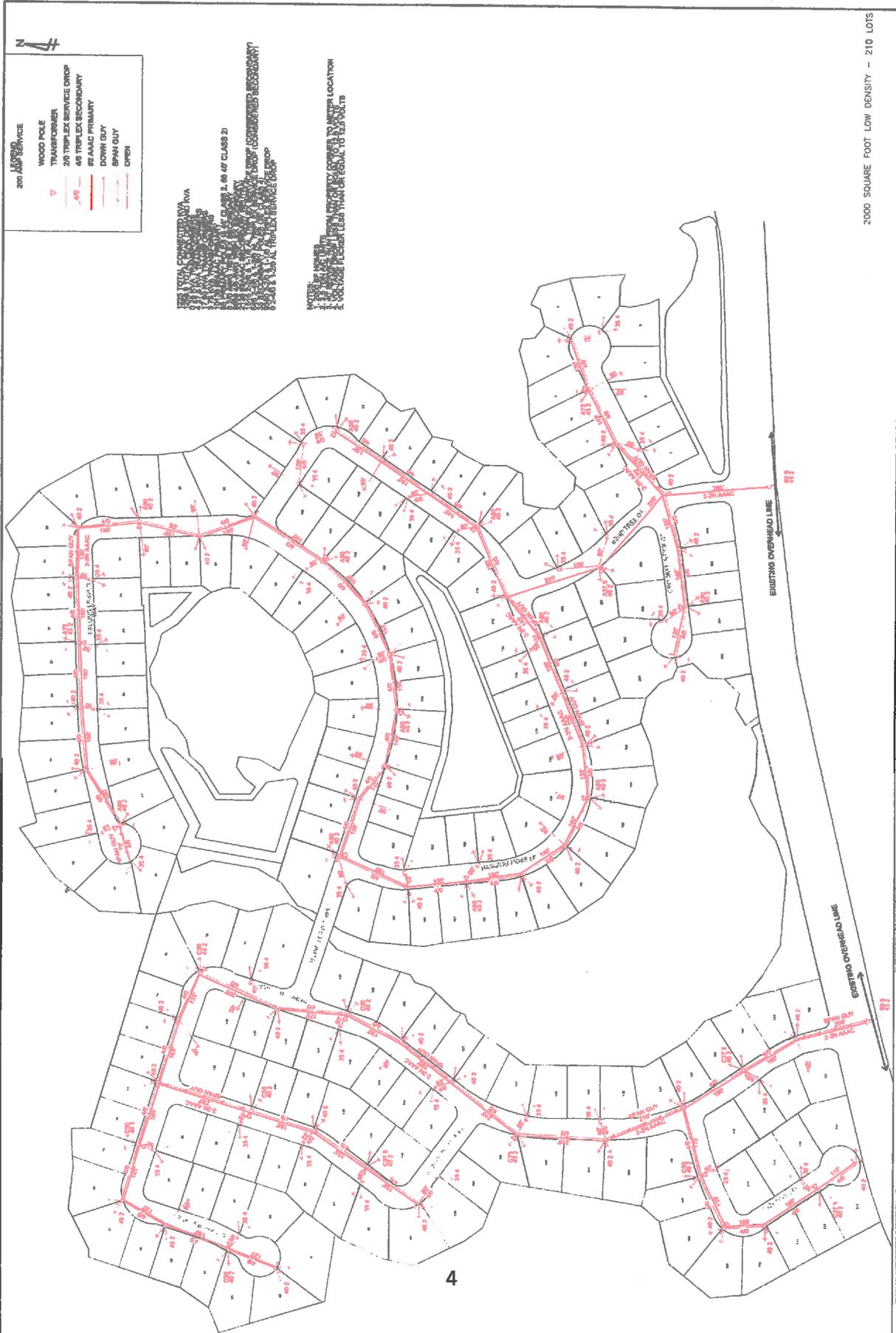
¹ Includes Administration, General, Energy Delivery Supervision, & Transportation

² Includes Meter

³ 15.31% of all Material

TYPICAL SINGLE OCCUPANCY LOW DENSITY 210 LOT SUBDIVISION LAYOUT

Overhead Design



3000 SQUARE FOOT LOW DENSITY - 210 LOTS

- LEGEND**
- 20kV SERVICE
 - WOOD POLE
 - TRANSFORMER
 - 20kV SERVICE DROP
 - 480V TRIPLEX SERVICE DROP
 - 240V PRIMARY
 - DOWN GUY
 - SPAN GUY
 - OPEN

ALL TRIPLEX SERVICE DROPS SHALL BE AT LEAST 12.5 VOLTS

OVERHEAD LOW DENSITY SUBDIVISION DESIGN

DATE: 11/11/11
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 PROJECT NO: [Number]

TAMPA ELECTRIC COMPANY
 1100 N. W. 13th Ave.
 Tampa, FL 33607
 (813) 288-1111

SHEET 1 OF 1

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

Single Occupancy High Density 176 Lot Subdivision
Individually Metered
Cost per Lot

ITEM	MATERIAL	LABOR ¹	TOTAL
Service ²	\$164.30	\$196.86	\$361.16
Primary	\$97.83	\$46.77	\$144.60
Secondary	\$37.38	\$50.76	\$88.14
Transformers	\$242.41	\$60.18	\$302.59
Pri. and Sec. Trenching		\$217.47	\$217.47
Service Trenching		\$382.11	\$382.11
Subtotal	\$541.92	\$954.15	\$1,496.07
Stores Handling ³	\$82.97	\$0.00	\$82.97
Subtotal	\$624.89	\$954.15	\$1,579.04
Engineering		\$61.28	\$61.28
TOTAL	\$624.89	\$1,015.43	\$1,640.32

¹ Includes Administration, General, Energy Delivery Supervision, & Transportation

² Includes Meter

³ 15.31% of all Material

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

Single Occupancy High Density 176 Lot Subdivision
Individually Metered
Cost per Lot

ITEM	MATERIAL	LABOR¹	TOTAL
Service ²	\$81.96	\$134.31	\$216.27
Primary	\$10.65	\$27.19	\$37.84
Secondary	\$57.76	\$90.23	\$147.99
Initial Tree Trim			\$0.00
Poles	\$105.09	\$169.99	\$275.08
Transformers	\$144.54	\$57.12	\$201.66
Subtotal	\$400.00	\$478.84	\$878.84
Stores Handling ³	\$61.24	\$0.00	\$61.24
Subtotal	\$461.24	\$478.84	\$940.08
Engineering		\$61.28	\$61.28
TOTAL	\$461.24	\$540.12	\$1,001.36

¹ Includes Administration, General, Energy Delivery Supervision, & Transportation

² Includes Meter

³ 15.31% of all Material

OVERHEAD VS UNDERGROUND SUMMARY SHEET

Single Occupancy High Density 176 Lot Subdivision
Individually Metered
Cost per Lot

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
Labor	\$540.12	\$1,015.43	\$475.31
Material	\$461.24	\$624.89	\$163.65
TOTAL	\$1,001.36	\$1,640.32	\$638.96
NPV Operational Cost Including Storm Restoration and Lost Pole Attachment Revenue	\$1,157.25	\$484.18	-\$673.07
TOTAL Including NPV Operational Cost	\$2,158.61	\$2,124.50	-\$34.11

OVERHEAD VS UNDERGROUND SUMMARY SHEET

Single Occupancy High Density 176 Lot Subdivision
Multi-Unit Meter Centers
Cost per Lot

ITEM	OVERHEAD	UNDERGROUND	DIFFERENTIAL
Labor	NA	NA	NA
Material	NA	NA	NA
TOTAL	NA	NA	NA

Tampa Electric's URD policy does not include "per lot" charges for multi-unit meter centers. These installations are covered in Tariff Section 5 Subsection 3.4.4.

COST PER SERVICE LATERAL OVERHEAD MATERIAL AND LABOR

Single Occupancy High Density 176 Lot Subdivision
Multi-Unit Meter Centers
Cost per Lot

ITEM	MATERIAL	LABOR ¹	TOTAL
Service ²			\$0.00
Primary			\$0.00
Secondary			\$0.00
Initial Tree Trim			\$0.00
Poles			\$0.00
Transformers			\$0.00
Subtotal	\$0.00	\$0.00	\$0.00
Stores Handling ³			\$0.00
Subtotal	\$0.00	\$0.00	\$0.00
Engineering			\$0.00
TOTAL	\$0.00	\$0.00	\$0.00

¹ Includes Administration, General & Transportation

² Includes Meter

³ 15.31% of all Material

Tampa Electric's URD policy does not include "per lot" charges for multi-unit meter centers. These installations are covered in Tariff Section 5 Subsection 3.4.4.

COST PER SERVICE LATERAL UNDERGROUND MATERIAL AND LABOR

Single Occupancy High Density 176 Lot Subdivision
Multi-Unit Meter Centers
Cost per Lot

ITEM	MATERIAL	LABOR ¹	TOTAL
Service ²			\$0.00
Primary			\$0.00
Secondary			\$0.00
Transformers			\$0.00
Pri. and Sec. Trenching			\$0.00
Service Trenching			\$0.00
Subtotal	\$0.00	\$0.00	\$0.00
Stores Handling ³			\$0.00
Subtotal	\$0.00	\$0.00	\$0.00
Engineering			\$0.00
TOTAL	\$0.00	\$0.00	\$0.00

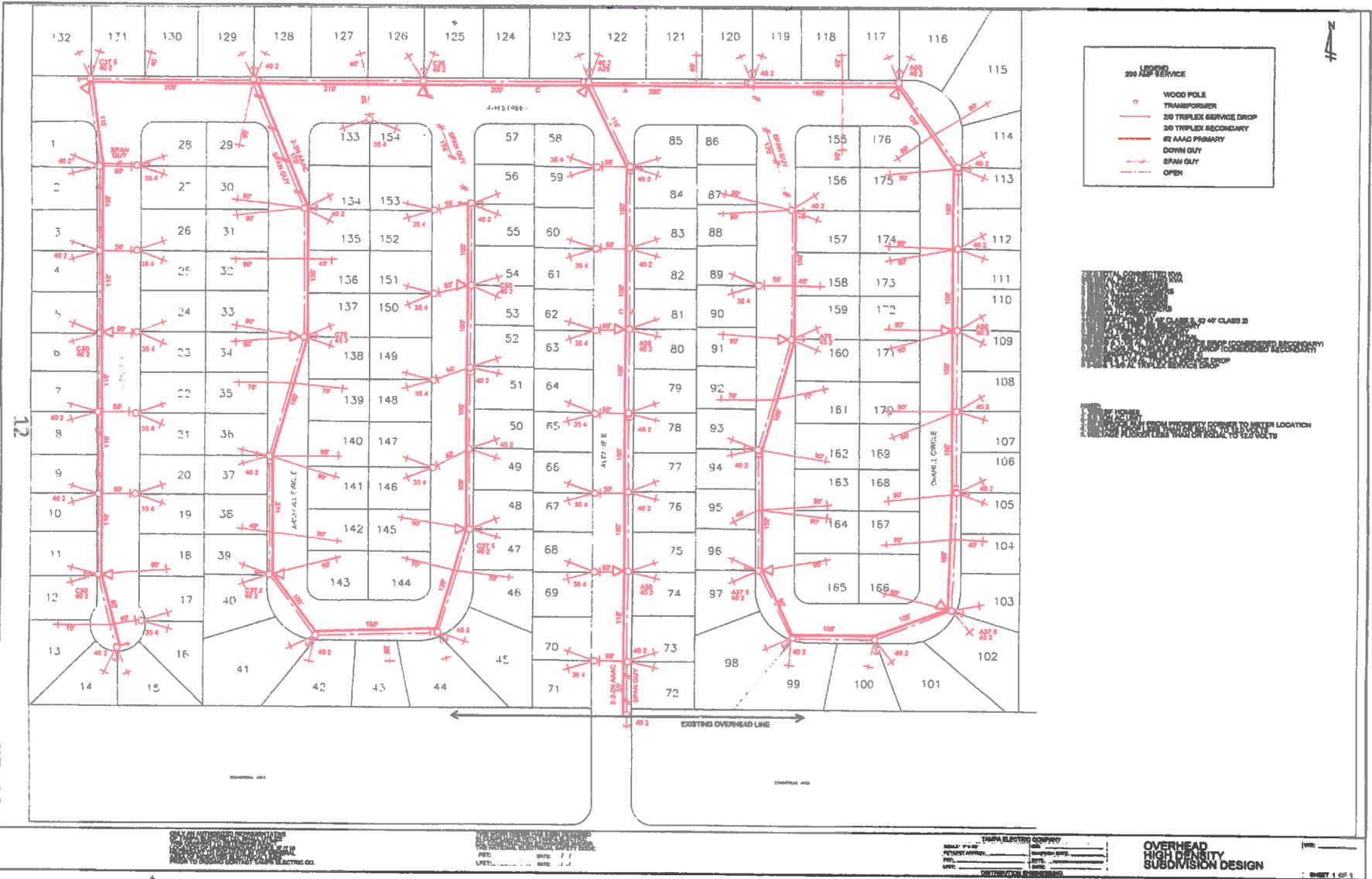
¹ Includes Administration, General & Transportation

² Includes Meter

³ 15.31% of all Material

Tampa Electric's URD policy does not include "per lot" charges for multi-unit meter centers. These installations are covered in Tariff Section 5 Subsection 3.4.4.

TYPICAL SINGLE OCCUPANCY HIGH DENSITY 176 LOT SUBDIVISION LAYOUT
 Overhead Design - Individually Metered



OVERHEAD
 HIGH DENSITY
 SUBDIVISION DESIGN

DATE: 11
 SCALE: 1/8"
 SHEET: 1 OF 1

AVERAGE UNDERGROUND FEEDER COSTS

Underground \$/Ft... _____	Overhead \$/Ft... _____	Difference \$/Ft... _____
With Favorable Trenching \$/Ft... _____		\$/Ft... _____
Additional Trenching Cost* (Difficult Trenching) \$/Ft... _____		\$/Ft... _____

* Difficult trenching charges include underground cost of cable-in-conduit and rock trench adder.

Note: Above costs reflect adjustment of \$ _____ for overhead estimates and \$ _____ for underground estimates.

Feeder cost are not included in Tampa Electric "per lot" charges. Feeder installation policy addressed in Tampa Electric's Tariff Section 5 Subsection 3.4.1.1.

ACTUAL OPERATIONAL DISTRIBUTION EXPENSES IN 2016
For Overhead and Underground

	OVERHEAD	UNDERGROUND
Operational Expense - Distribution	\$78,543,015	\$21,986,640

JOINT TRENCHING WITH OTHER UTILITIES
In RESIDENTIAL DISTRIBUTION

2007 - 2016 ADDITIONS

<u>Date</u> <u>Closed</u>	<u>Location</u>	<u>Work</u> <u>Order</u> <u>Number</u>	<u>Footage</u>	<u>Total</u> <u>Amount</u> <u>Due From</u> <u>Other</u> <u>Utility</u>	<u>Total</u> <u>Amount</u> <u>Due To</u> <u>Other</u> <u>Utility</u>
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Tampa Electric did not engage in joint trenching during calendar year 2016.

JOINT TRENCHING WITH OTHER UTILITIES
In RESIDENTIAL DISTRIBUTION
(continued) 、

<u>Year</u>	<u>Footage Feet</u>	<u>Amount Due From Other Utility</u>	<u>Amount Due To Other Utility</u>
Total For 2007	0	\$0.00	\$0.00
Total For 2008	0	\$0.00	\$0.00
Total For 2009	0	\$0.00	\$0.00
Total For 2010	0	\$0.00	\$0.00
Total For 2011	0	\$0.00	\$0.00
Total For 2012	0	\$0.00	\$0.00
Total For 2013	0	\$0.00	\$0.00
Total For 2014	0	\$0.00	\$0.00
Total For 2015	0	\$0.00	\$0.00
Total For 2016	0	\$0.00	\$0.00
10-Year Total	0	\$0.00	\$0.00

4/2017

LOW DENSITY MODEL

(210 lots)

Underground Costs (per lot)

With overheads filed in rate case

ITEM	MATERIAL		LABOR		TOTAL		EXPLANATION OF % CHANGE
	COST	% CHANGE	COST	% CHANGE	COST	% CHANGE	
SERVICE	190.43	-8.21%	189.80	13.86%	380.23	1.63%	Material Down, TEC & Contractor overheads up
PRIMARY	212.52	-6.47%	76.33	9.36%	287.85	-2.79%	Material Down, TEC & Contractor overheads up
SECONDARY	41.37	-6.25%	52.79	9.36%	94.16	1.90%	Material Down, TEC & Contractor overheads up
TRANSFORMERS	341.49	4.31%	83.54	9.86%	425.03	5.36%	Material up, TEC & Contractor overheads up
TRENCHING							
PRIMARY & SECONDARY			401.02	9.72%	401.02	9.72%	
SERVICES			382.05	11.98%	382.05	11.98%	
SUB-TOTAL	785.81	-2.53%	1,184.53	11.06%	1,970.34	5.21%	
STORES HANDLING	120.31	-36.17%			120.31	-36.17%	Material costs & handling overhead down
SUB-TOTAL	906.12	-8.90%	1,184.53	11.06%	2,090.65	1.43%	
ENGINEERING			65.66	0.00%	65.66	0.00%	
TOTAL	906.12	-8.90%	1,250.19	10.42%	2,156.31	1.38%	
					1,024.66	Net Present Value of the Life Cycle Operational Cost Including Storm Restoration and Lost Pole Attachment Revenue	
Total with NPV Factor					3,180.97	Total Including NPV of Operational Cost	

Overhead Costs (per lot)

ITEM	MATERIAL		LABOR		TOTAL		EXPLANATION OF % CHANGE
	COST	% CHANGE	COST	% CHANGE	COST	% CHANGE	
SERVICE	75.55	-5.76%	148.68	9.42%	224.23	3.79%	Material Down, TEC & Contractor overheads up
PRIMARY	13.70	24.55%	43.58	31.82%	57.28	29.86%	Material up, TEC & Contractor overheads up
SECONDARY	110.93	6.80%	157.61	9.37%	268.54	8.21%	Material up, TEC & Contractor overheads up
INITIAL TREE TRIM			0.00		0.00		
POLES	139.75	1.34%	267.07	49.94%	406.82	28.73%	Material up, TEC & Contractor overheads up
TRANSFORMERS	191.55	5.25%	84.02	9.37%	275.57	6.48%	Material up, TEC & Contractor overheads up
SUB-TOTAL	531.48	3.18%	700.96	23.40%	1,232.44	13.78%	
STORES HANDLING	81.37	-32.44%			81.37	-32.44%	Handling overhead down
SUB-TOTAL	612.85	-3.57%	700.96	23.40%	1,313.81	9.16%	
ENGINEERING			65.66	0.00%	65.66	0.00%	
TOTAL	612.85	-3.57%	766.62	20.98%	1,379.47	8.68%	
					1,553.81	Net Present Value of the Life Cycle Operational Cost Including Storm Restoration and Lost Pole Attachment Revenue	
Total with NPV Factor					2,933.28	Total Including NPV of Operational Cost	

Differential Costs (per lot)

ITEM	MATERIAL		LABOR		TOTAL	
	COST	% CHANGE	COST	% CHANGE	COST	% CHANGE
Differential (per lot)	293.27	-18.33%	483.57	-3.00%	776.84	-9.42%
NPV amount					-529.15	
Differential¹ (per lot)	0.00		0.00		247.69	-33.75%

¹ Includes NPV of Operational Cost

LD 1



LEGEND

200 AMP SERVICE

PAD-MOUNTED TRANSFORMER

HANDHOLE (SECONDARY)

SPLICEBOX

1/8" PRIMARY CABLE

40 SECONDARY CABLE

20 SERVICE CABLE

40 SERVICE CABLE

REMAIN R/A

1/8" PRIMARY CABLE

40 SECONDARY CABLE

20 SERVICE CABLE

40 SERVICE CABLE

NOTE:

1. ALL CABLES TO BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE ALARM AND SIGNAL CODE (NFPA 72).

2. ALL CABLES TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

3. ALL CABLES TO BE INSTALLED IN ACCORDANCE WITH THE LOCAL ELECTRICAL CODES.

4. ALL CABLES TO BE INSTALLED IN ACCORDANCE WITH THE LOCAL FIRE ALARM AND SIGNAL CODES.



2000 SQUARE FOOT LOW DENSITY - 2110 LOTS

TAMPA ELECTRIC COMPANY

DATE: 11/11/11

PROJECT APPROVAL: []

DATE: 11/11/11

DATE: 11/11/11

DISTRIBUTION ENGINEER

DATE: 11/11/11

PROJECT APPROVAL: []

DATE: 11/11/11

DATE: 11/11/11

DISTRIBUTION ENGINEER

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PROJECT APPROVAL: []

DATE: 11/11/11

DATE: 11/11/11

DISTRIBUTION ENGINEER

LD2

UNDERGROUND LOW DENSITY SUBDIVISION DESIGN

**UG Construction Cost Data Summary
Low Density (210-Lot) UG Subdivision Costs**

Line #	A	B	C (C + M) Material and Handling	D	E (F + L) Total Labor Plus Vehicles	F (G + H + I) Total Labor	G	H (G x J x TLF) TEC Labor Overheads	I (G x K x CLF) Contract Labor Overheads	J	K	L	M (D x MHR) Material Handling	N (C+E) Total
Line #	Work Type/WR #	Description		Material	Total Labor Plus Vehicles	Total Labor	Base Labor	TEC Labor Overheads	Contract Labor Overheads	TEC Work %	Contractor Work %	Vehicle	Material Handling	Total
1	Transformers													
2	924920	Install & Ground Transformers	82,692.33	\$71,713.06	12,262.19	10,674.59	5,795.74	4,071.39	807.46	60%	40%	\$1,577.80	10,979.27	94,944.52
3	Contractor	Prepare Pad Site			5,291.94	5,291.94	3,924.90		1,367.04	0%	100%			5,291.94
4			82,692.33	71,713.06	17,544.14	15,966.54	9,720.64	4,071.39	2,174.51			1,577.80	10,979.27	100,236.47
5														
6	Primary													
7	924957	Primary Line - OH-UG Takeoffs	1,275.07	\$1,105.78	1,720.69	1,499.13	813.95	571.78	113.40	60%	40%	\$221.56	169.29	2,995.77
8	925017	Primary Conduit (Material Only)	12,928.34	\$11,211.81									1,716.53	12,928.34
9	925022	Primary Cable	37,268.43	\$32,311.53	14,066.12	12,262.84	6,668.93	4,684.79	929.12	60%	40%	\$1,815.28	4,846.90	51,356.54
10			51,481.84	44,629.12	15,818.81	13,781.97	7,482.88	5,256.57	1,042.51			2,036.84	6,832.72	67,280.65
11	Secondary													
12	925024	Secondary Cable	6,773.56	\$5,874.22	11,065.96	9,658.53	5,244.07	3,683.85	730.60	60%	40%	\$1,427.44	899.34	17,859.63
13	925026	Secondary Conduit (Material Only)	3,244.58	\$2,813.79									430.79	3,244.58
14			10,018.14	8,688.01	11,065.96	9,658.53	5,244.07	3,683.85	730.60			1,427.44	1,330.13	21,104.11
15	Service													
16	925028	Service Cable	22,172.78	\$19,228.84	36,394.23	36,394.23	26,992.68		9,401.55	0%	100%		2,943.94	58,567.01
17	925029	Set Meters	8,674.83	\$7,696.50	3,464.51	3,018.42	1,638.84	1,151.25	228.32	60%	40%	\$446.09	1,178.33	12,330.34
18	925030	Service Conduit Material	15,066.38	\$13,065.98									2,000.40	15,066.38
19			46,113.99	39,991.32	39,858.74	39,412.65	28,631.52	1,151.25	9,829.87			446.09	8,122.67	85,972.73
20														
21	Trenching													
22	Contractor	Primary Trenching			60,672.06	60,672.06	44,998.93		15,673.13	0%	100%			60,672.06
23	Contractor	Secondary Trenching			7,219.90	7,219.90	5,354.82		1,865.08	0%	100%			7,219.90
24	TEC	Inspection for Primary			18,321.55	15,463.83				100%	0%	857.72		18,321.55
25					84,213.51	83,356.79	50,353.75		17,538.21			857.72		84,213.51
26														
27	Contractor	Svc Trenching Prt. Prop			48,306.62	48,306.62	35,827.80		12,478.82	0%	100%			48,306.62
28	Contractor	Svc Trenching Rts-of-Wy			22,250.33	22,250.33	16,502.51		5,747.82	0%	100%			22,250.33
29	TEC	Inspection for Service			9,672.92	9,164.72				100%	0%	508.20		9,672.92
30					80,229.88	79,721.68	52,330.31		18,226.65			508.20		80,229.88
31														
32	Engineering	Design/Inspection/Coordination			13,788.39	13,788.39								13,788.39
33														
34	Totals (Sum of lines 4, 10, 14, 19, 25, 30, and 32)		\$ 190,286.30	\$ 165,021.51	\$ 282,539.43	\$ 255,685.54	\$ 153,763.17	\$ 14,163.07	\$ 49,342.36			\$ 6,853.89	\$ 25,264.79	\$ 452,825.73
35	Cost per Lot	(line 34 /210 lots)	\$ 906.13		\$ 1,250.19									\$ 2,156.31

LD 3

Adjustment Factors

TEC Operations Labor Overhead Factor	TLF =	1.1708
Contractor Labor Overhead Factor	CLF =	0.3463
Current year material handling charge rate	MHR =	0.1531

reflects removal of 8.55% for engineering which is a separate line item in this document
reflects removal of 7.28% for engineering which is a separate line item in this document

UG Contractor Labor Estimate - 210 lot low density

Prepare pad site (Primary Contractor Labor Costs)

	Total	Cost	Pad sites
Pad site preparation	\$3,024.90	\$1.02	30

Primary Trenching & Conduit (Primary Contractor Labor Costs)

	Total	Cost	Feet	
	\$36,407.80	\$2.60	14003	Machine Trenching Cost Only
	\$8,081.06	\$0.51	15806	2" Conduit Installation (both trenching and in existing trench)
	\$0.00	\$0.00	14003	Pull-tape Installation (used exact length for labor cost not 5% extra)
	\$530.07	\$176.69	3	1# splice box (30" x 48" x 18"), UG GR&S 6-21
Primary Trenching	Sub-total \$44,988.93			

Secondary Trenching & Conduit (Primary Contractor Labor Costs)

	Total	Cost	Feet	
	\$4,152.20	\$2.60	1597	Machine Trenching Cost Only
	\$0.00	\$0.51	0	2" Conduit Installation
	\$172.80	\$0.00	320	3" Conduit Installation
	\$1,029.82	\$0.62	1681	4" Conduit Installation
	\$0.00	\$0.00	1597	Pull-tape Installation (used exact length not 5% extra)
Secondary Trenching	Sub-total \$6,354.82			

Primary Contractor Labor **Total \$50,353.75**

Service Trenching & Conduit (Primary Contractor Labor Costs)

	Total	Cost	Feet	
	\$9,341.80	\$2.60	3593	Trenching Cost -Trenching feet required for 2" service conduit
	\$1,495.00	\$2.60	575	Trenching Cost -Trenching feet required for 3" service conduit
	\$4,415.07	\$0.51	8657	2" Conduit Installation
	\$1,250.64	\$0.54	2316	3" Conduit Installation
	\$0.00	\$0.00	10973	Pull-tape Installation (used exact length not 5% extra)
Svc Trenching Rts-of-Wy	Sub-total \$16,502.51			

Service Trenching & Conduit on Private Property (Service Contractor Labor Costs)

	Total	Cost	Feet	
Svc Trenching Pri. Prop	Sub-total \$35,827.80	\$0.50	8330	Trenching & conduit labor cost - Trenching feet = 30 ft x 210 lots

Service Cable (Service Contractor Labor Costs)

	Total	Cost	Feet	
Service Cable Labor	Sub-total \$26,992.68	\$1.56	17303	Installing 2/0 or 4/0 Cable in existing conduit from source to meter
Service Contractor Labor	Total \$78,322.99			

Total Contractor Labor Cost \$129,676.74

Inspection (TECO Labor Cost)

	TEC Labor Total	TEC Labor Rate	Feet/Qty	TEC Vehicle Rate	TEC Vehicle Total	Inspection costs for Primary Contractor (TECO Labor Cost)
	\$10,861.35	\$87.26	14003	\$4.84	\$602.44	Primary inspection chg = (mach. trench ft / 900 ft per day)*(8 hr/day)*Contractor rate
	\$1,238.70	\$87.26	1597	\$4.84	\$88.71	Secondary inspection chg = (mach. trench ft / 900 ft per day)*(8 hr/day)*Contractor rate
	\$3,232.89	\$87.26	4168	\$4.84	\$179.32	Service ROW inspection chg = (machine trench ft / 900 ft per day)*(8 hr/day)*Contractor rate
	\$130.69	\$43.63	3	\$2.42	\$7.26	1# splice box (30" x 48" x 18"), UG GR&S 6-21
Inspection costs for Primary Contractor	Sub-total \$15,463.63				\$857.72	

	TEC Labor Total	TEC Labor Rate	Feet/Qty	TEC Vehicle Rate	TEC Vehicle Total	Inspection costs for Service Contractor (TECO Labor Cost)
Inspection costs for Service Contractor	Sub-total \$9,162.30	\$43.63	210	\$2.42	\$506.20	Service Private Property Inspection = .6hr x # of lots x rate

Total TEC Inspection Cost \$24,626.55

Please modify the low density construction drawing legend as shown below.

UG Material List - 1501-2500 sq ft same trench 210 lot low density

1250 Total Connected KVA

1272.2 Total initial peak demand KVA

6 25 kVA Transformers

8 37.5 kVA Transformers

16 50 kVA Transformers

0 75 kVA Transformers

14003 Trench Feet of 1/0 AL Primary Cable

1803 Existing trench feet of 1/0 AL Primary Cable

0 Trench Feet of 2/0 AL Secondary Cable

0 Existing trench feet of 2/0 AL Secondary Cable

1597 Trench Feet of 4/0 AL Secondary Cable

384 Existing trench feet of 4/0 AL Secondary Cable

0 Trench Feet of 500 MCM AL Secondary Cable

0 Existing trench feet of 500 MCM AL Secondary Cable

9233 Trench Feet of 2/0 AL Service Cable

5064 Existing trench feet of 2/0 AL Service Cable

1265 Trench Feet of 4/0 AL Service Cable

1741 Existing trench feet of 4/0 AL Service Cable

0 Load Break Cabinet

Notes:

1. 1501-2500 SF Homes
2. 3.5 Ton AC Units
3. 40' Service run from property corner to meter location
4. Voltage drop less than or equal to 12.0 volts
5. Voltage flicker less than or equal to 12.0 volts

UG CU Totals (Material and Labor) - 2000 sq ft - 210 lot low density

Links allow this worksheet to summarize the material and CU entries from the ParkhurstPole worksheet through the BentTreePole worksheet. The totals are broken down into material construction units (CUs) for WorkPro work requests and labor inputs for the Contractor Labor worksheet.

Station All Stations - This information is used to create Work Requests to obtain costs.

==== Blue shading indicates fields to be updated. In WorkPro search for each Work Request Number shown in the blue areas. Then copy each work request which will create a new work request number to be entered.

Transfer the values from Qty and CU columns highlighted in yellow to the new WorkPro Work Requests to obtain new costs.

Those costs are then entered into the LDdifferentialMonth-Year.xls workbook to calculate the Low Density Differential cost.

Work Request

Number

924920

Transformers - Cost for: Material only, TEC labor & overhead, vehicle

Qty	CU	Definition	Total Connected KVA	
0	pku51a3n	25 kva, 6 tap 250mcm	0	
6	pku51c3n	25 kva, 8 tap 250mcm	150	150
0	pku51a4n	37.5 kva, 6 tap 250mcm	0	150
1	pku51b4n	37.5 kva, 6 tap 500mcm	37.5	187.5
0	pku51c4n	37.5 kva, 8 tap 250mcm	0	187.5
7	pku51d4n	37.5 kva, 8 tap 500mcm	262.5	450
0	pku51a5n	50 kva, 6 tap 250mcm	0	450
0	pku51b5n	50 kva, 6 tap 500mcm	0	450
0	pku51c5n	50 kva, 8 tap 250mcm	0	450
16	pku51d5n	50 kva, 8 tap 500mcm	800	1250
0	pku51a6n	75 kva, 6 tap 250mcm	0	1250
0	pku51b6n	75 kva, 6 tap 500mcm	0	1250
0	pku51c6n	75 kva, 8 tap 250mcm	0	1250
0	pku51d6n	75 kva, 8 tap 500mcm	0	1250
1	bushcover_arrest	open position on loop tx used as radial		1250
1	bushdummy_arrest	normal open tx in loop		
2	bushinsert_arrest	at adjacent tx to normal open in a loop		
33	grdmeg1/2	meggat ground, drive rods, 1 location, 1/2" rods		

Work Request

Number

924957

OH Primary - Cost for: Material only, TEC labor & overhead, vehicle

Qty	CU	Definition
4	PKE601WF1B	TEC material & labor to frame terminal pole CO & LA
4	FLOH103	Fuse
4	grdmeg1/2	meggat ground, drive rods, 1 location, 1/2" rods

Primary Trenching - Labor Only

Done by contractors

Used to determine contractor labor cost on the Contractor Labor worksheet

Qty	CU	Definition
14003		Trenching feet required for 2" primary conduit
1803		Existing trench feet used for 2" primary conduit
14003		Install Pulling Tape (blow in tape for pull - trench feet used to determine contractor cost)

Work Request

Number

925017

Primary Conduit - Cost for Material only

Material used by contractors to install the conduit system

Qty	CU	Definition
40	COND2G	Conduit, galvanized 2", 10' with coupling, for up terminal pole TEC # 2004389
16166	COND2_SCHA	2" PVC Schedule A conduit TEC # 2004488
16506	MULE TAPE	Pulling tape - actual length - does not need any 5% adder TEC # 2007414
88	ELL2G90	2" elbow 90 galv 9.5" radius TEC # 2004395
1	ELL2G45	2" elbow 45 galv 9.5" radius TEC # 2004394
178	COUP2P	Coupling, 2" PVC (2 per elbow) TEC # 2004507
33	GLUECONDF	2" & 3" pvc 1 qt for 500' fast dry
3	HH1PHPRI	1ø splice box (30" x 48" x 18"), UG GR&S 6-21

**Work Request
Number**

925022

Primary Cable - Cost for: Material only, TEC labor & overhead, vehicle

Qty	CU	Definition	
4	PKU16WF	pothead, 38' 1c 1/0AL cable, 20' pvc, ground conn, wood pole	152
61	PKU11F	safebreak, 5' 1c 1/0AL cable, ground conn	305
0	PKU31P3	switch cubicle(lbc) 1ph, 200a deadfront, 3 position w/pad, grnd	
0	PKU31P4	switch cubicle(lbc) 1ph, 200a deadfront, 4 position w/pad, grnd	
0	FAULT1PA	fault indicator, 1ph 1/0-4/0 above grade, 400a	
15806	WIU1PF	cable, 1/0AL concentric neutral 15kV	15806
35	WIU1F	labor to pull ug cable in conduit	
Our checkl -Work request material 1/0AL concentric neutral 15kV cable total should be ==>			17060.9

Secondary Trenching - Labor Only - Done By Contractors

Used to determine contractor labor cost on the Contractor Labor worksheet

Qty	CU	Definition
0		Trenching feet required for 2" secondary conduit
0		Existing trench feet used for 2" secondary conduit
0		Trenching feet required for 3" secondary conduit used for 2/0 service cable
0		Existing trench feet used for 3" secondary conduit used for 2/0 service cable
0		Trenching feet required for 3" secondary conduit used for 4/0 service cable
320		Existing trench feet used for 3" secondary conduit used for 4/0 service cable
1597		Trenching feet required for 4" secondary conduit used for 4/0 service cable
64		Existing trench feet used for 4" secondary conduit used for 4/0 service cable
0		Trenching feet required for 4" secondary conduit used for 500 service cable
0		Existing trench feet used for 4" secondary conduit used for 500 service cable
1597		Install Pulling Tape (blow in tape for pull - trench feet used to determine contractor cost)

**Work Request
Number**

925024

Secondary Cable & Hand Holes - Cost for: Material only, TEC labor & overhead, vehicle

Qty	CU	Definition	
0	wiu3sb	2c 2/0 1c 1 neutral, 600 v - added 5% here	This CU adds 5% and we want it to.
2171	wiu3sc	2c 4/0 1c 2/0 neutral, 600v - added 5% here	This CU adds 5% and we want it to.
0	wiu3sn	2c 500 1c 350 neutral, 600v - added 5% here	This CU adds 5% and we want it to.
0	insbus350/4	crab 4 position up to 350mcm	
0	insbus350/6	crab 6 position up to 350mcm	
0	insbus500/4	crab 4 position up to 500mcm	
69	insbus500/6	crab 6 position up to 500mcm	
0	insbus500/8	crab 8 position up to 500mcm	
23	wiu1f	labor to pull ug cable in conduit	
23	svholtx	energize ug secondary in transformer	
23	svhothh	energize ug secondary in hand hole	
0	hhscc	secondary h/h 12"x20", 3 or 4 2/0 or 4/0 svc w/ 2/0 or 4/0 sec	
23	hhsccg	secondary h/h 17"x30", 5 to 7 2/0 or 4/0 svc w/ 4/0 or 500 sec (any time 500 used)	

**Work Request
Number**

925026

Secondary Conduit - Cost for Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition
0	COND2_SCHA	2" conduit sched A bell end TEC # 2004488
340	COND3_SCHA	3" conduit sched A bell end TEC # 2004517
1871	COND4_PVC_SC	4" conduit sched A bell end TEC # 2004529
2326	MULE TAPE	Pulling tape, plus adding 5% extra here TEC # 2007414
0	ELL2P90	2" elbow 90 PVC 9.5" radius TEC # 2004511
0	ELL2P45	2" elbow 45 PVC 9.5" radius TEC # 2004510
4	ELL3P90	3" elbow 90 PVC 13" radius TEC # 2004524
0	ELL3P45	3" elbow 45 PVC 13" radius TEC # 2004523
42	ELL4P90	4" elbow 90 PVC 16" radius TEC # 2004538
0	ELL4G45	4" elbow 45 galv 16" radius TEC # 2004427
0	COUP2P	Coupling, 2" PVC (2 per elbow) TEC # 2004507
8	COUP3P	Coupling, 3" PVC (2 per elbow) TEC # 2004521
84	COUP4P	Coupling, 4" PVC (2 per elbow) TEC # 2004535
1	GLUECONDF	2" & 3" pvc 1 qt for 500' fast dry
8	GLUECONDM	4" & 6" pvc 1 qt for 250' medium dry

Work Request**Number**

925028

Service Cable - Cost for Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition	
16177	wiu3sb	2c 2/0 & 1c 1 neutral, 600 v service cable	This CU adds 5% and we want it to.
3236	wu3ec	2c 4/0 & 1c 2/0 neutral, 600 v service cable	This CU adds 5% and we want it to.

Work Request**Number**

925029

Set Meter - Cost for: Material only, TEC labor & overhead, vehicle

Qty	CU	Definition
210	meterlabor	
210	1900006	meter, kwh 30a 240v

Service Trenching - Labor Only - Done By Contractors

Used to determine contractor labor cost on the Contractor Labor worksheet

Qty	CU	Definition
188		Number of 2/0 services installed in 2" conduit
0		Number of 2/0 services installed in 3" conduit
23		Number of 4/0 services installed in 3" conduit
5640		Trenching feet for 2" service conduit on private property-service contractor
1880		Trenching feet for 10' stub of 2" service conduit installed by primary contractor
1713		Trenching feet for 2" service conduit installed by primary contractor
5064		Existing trench feet used for 2" service conduit installed by primary contractor
8657		Install Pulling Tape for 2" conduit (blow in tape for pull - Primary Contractor)
0		Trenching feet for 3" service conduit on private property-service contractor for 2/0 service
0		Trenching feet for 10' stub of 3" service conduit installed by primary contractor for 2/0 service
0		Trenching feet for 3" service conduit installed by primary contractor for 2/0 service
0		Existing trench feet used for 3" service conduit installed by primary contractor for 2/0 service
0		Install Pulling Tape for 3" conduit for 2/0 service (blow in tape for pull - Primary Contractor)
690		Trenching feet for 3" service conduit on private property-service contractor for 4/0 service
230		Trenching feet for 10' stub of 3" service conduit installed by primary contractor for 4/0 service
345		Trenching feet for 3" service conduit installed by primary contractor for 4/0 service
1741		Existing trench feet used for 3" service conduit installed by primary contractor for 4/0 service
2316		Install Pulling Tape for 3" conduit for 4/0 service (blow in tape for pull - Primary Contractor)

Work Request**Number**

925030

Service Conduit - Cost for Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition	Used by contractors to install conduit system
5640		Conduit for 2" service on private property-service contractor	
2820		Conduit for 10' stub of 2" service installed by primary contractor	
6777		Conduit for 2" service installed by primary contractor	
10537		Pulling Tape installed in 2" conduit by Primary Contractor)	
15237	COND2_SCHA	Total quantity of 2" conduit for work order - TEC # 2004488	
504	ELL2P90	2" elbow 90 PVC 9.5" radius TEC # 2004395	
0	ELL2P45	2" elbow 45 PVC 9.5" radius TEC # 2004394	
188	LOCKNUT2	2" galvanized Lock Nut TEC # 2004396	
2070	CONDLEX2	2" Flexible PVC conduit TEC # 2004491	
188	ADAPT2F/M	2" PVC Adapter, male thread/female slip TEC # 2004493	
188	RISER2G7	2" PVC Service Riser TEC # 2004401	
1008	COUP2P	Coupling, 2" PVC (2 per elbow) TEC # 2004507	
690		Conduit for 3" service on private property-service contractor	
345		Conduit for 10' stub of 3" service installed by primary contractor	
2086		Conduit for 3" service installed by primary contractor	
2546		Pulling Tape installed in 3" conduit by Primary Contractor)	
3121	COND3_SCHA	Total quantity of 3" conduit for work order - TEC # 2004517	
69	ELL3P90	3" elbow 90 PVC 13" radius TEC # 2004524	
0	ELL3P45	3" elbow 45 PVC 13" radius TEC # 2004523	
23	RISER21/2G7	2-1/2" house riser TEC # 2004409	
23	LOCKNUT21/2	2-1/2" galvanized Lock Nut TEC # 2004408	
23	CONDLEX3	3" Flexible PVC conduit TEC # 2004491	Used by contractors to install conduit system
23	ADAPT2F/F	2-1/2" PVC Adapter, male thread/female slip TEC # 2004462	
138	COUP3P	Coupling, 3" PVC (2 per elbow) TEC # 2004521	
37	GLUECONDF	2" & 3" pvc 1 qt for 500' fast dry	
13083	MULE TAPE	Total Pulling Tape installed in conduit by Primary Contractor) TEC # 2007414	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 924920

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Transformers 2000 Sq Ft

Additional Information: URD filing for 1501-2500 sq ft low density

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$71,713.06	\$0.00	\$71,713.06
OVERHEAD:	\$10,979.27	\$0.00	\$10,979.27
	\$82,692.33	\$0.00	\$82,692.33
LABOR HOURS:	148.52	0	148.52
LABOR COST:	\$5,795.74	\$0.00	\$5,795.74
OVERHEAD:	\$8,363.25	\$0.00	\$8,363.25
	\$14,158.99	\$0.00	\$14,158.99
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$96,851.32	\$0.00	\$96,851.32
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$96,851.32	\$0.00	\$96,851.32

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 924920

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
2	2003816 ARRESTER, UD, 10KV PARKING L/A, 8.40 KVR	\$144.07	\$288.14	Y
2	2003815 ARRESTER, URD, 10KV ELBOW L/A, 8.40 KVRM	\$60.36	\$120.72	Y
4	2003817 ARRESTER, URD, 10KV, BUSHING L/A, 8.40KV	\$173.13	\$692.52	Y
30	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$45.00	N
60	2078000 CLAMP, TRANSFORMER GROUND 10-SOL - #1 ST	\$2.22	\$133.20	N
4	2077931 CONNECTOR, VICE CU #2 STR	\$2.28	\$9.12	N
90	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$366.30	N
30	2001315 PAD, CONCRETE 40" X 45" X 4" 25- 50KVA T	\$77.12	\$2,313.60	N
0	2001316 PAD, CONCRETE 44" X 52" X 4" 75-250KVA T	\$73.80	\$0.00	N
30	2007395 PADLOCK, RED BRASS BODY 1/4" BRASS SHACK	\$13.49	\$404.70	N
30	2007489 REPELLENT, FIRE ANT GRANULE 4 OZ BIFENTH	\$2.21	\$66.30	N
120	2077980 ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$1,646.40	N
60	2004031 STUD, GALVANIZED, 11 THREAD PER INCH ALL	\$2.47	\$148.20	N
90	2004904 TERMINAL, SLIP FIT AL 5/8 IN 8-POS #2-50	\$16.56	\$1,490.40	N
0	2004948 TERMINAL, SLIP FIT ALUMINUM STUD TYPE, 6	\$6.00	\$0.00	N
0	2004954 TERMINAL, SLIP FIT ALUMINUM STUD TYPE, 6	\$11.56	\$0.00	N
0	2004950 TERMINAL, SLIP FIT ALUMINUM STUD TYPE, 8	\$6.84	\$0.00	N
6	2001518 TX,PM,LP,1P,25 kVA,240/120,FR3,SS	\$1,727.30	\$10,363.80	Y
8	2001519 TX,PM,LP,1P,37.5 kVA,240/120,FR3,SS	\$1,934.25	\$15,474.00	Y
16	2001520 TX,PM,LP,1P,50 kVA,240/120,FR3,SS	\$2,377.22	\$38,035.52	Y
0	2001521 TX,PM,LP,1P,75 kVA,240/120,FR3,SS	\$2,785.05	\$0.00	Y
180	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$113.40	N
6	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$1.74	N
		Total	\$71,713.06	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 924957

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Term Poles - low density 2000 sq ft

Additional Information: Low density URD filing - 2000 sq ft homes
WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$1,105.78	\$0.00	\$1,105.78
OVERHEAD:	\$169.29	\$0.00	\$169.29
	\$1,275.07	\$0.00	\$1,275.07
LABOR HOURS:	20.86	0	20.86
LABOR COST:	\$813.40	\$0.00	\$813.40
OVERHEAD:	\$1,173.73	\$0.00	\$1,173.73
	\$1,987.13	\$0.00	\$1,987.13
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$3,262.20	\$0.00	\$3,262.20
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$3,262.20	\$0.00	\$3,262.20

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).
LD 11



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 924957

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
4	2003651 ARRESTER, LIGHTNING DISTRIBUTION CLASS 8	\$36.17	\$144.68	Y
4	2077754 BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$3.92	N
4	2004661 BRACKET, "L" 11IN PROJECTED LGTH FOR MOU	\$8.59	\$34.36	N
4	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$6.00	N
4	2077911 CLAMP, HOT LINE CU TO CU #6 SOL- 2 STR T	\$5.54	\$22.16	N
160	2078012 CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$70.40	N
4	2077837 CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$2.36	N
8	2077930 CONNECTOR, VICE CU #4 STR	\$2.05	\$16.40	N
15	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$61.05	N
4	2003846 CUTOUT, 15KV, 100A FUSE HLDR, 300A UNVRS	\$55.34	\$221.36	Y
4	2077793 FUSE LINK, 80A UNVRS 100A CUTOUT 23" OA	\$5.85	\$23.40	N
4	2077822 KIT, ATTACHMENT, FOR ATTACHING "FLYING"	\$47.49	\$189.96	N
8	2077965 MOULDING, GROUND WIRE, PVC 1/2 IN X 8 FT	\$0.99	\$7.92	N
16	2077980 ROD, GROUND, 1/2 COPPER 10MI POINT & CHAMFER	\$13.72	\$219.52	N
4	2077789 SCREW, LAG PILOT POINT 3/8 X 3	\$0.26	\$1.04	N
40	2077997 STAPLE, SECURES 1/2" PVC MOULDING TO WOO	\$0.25	\$10.00	N
4	2077828 STIRRUP, AL BODY & CU BAIL 1/0-397	\$13.15	\$52.60	N
4	2078006 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$0.76	N
12	2004187 WIRE, 125' SPOOL, #2 BARE, STRANDED SOFT	\$0.98	\$11.76	N
4	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$2.65	N
12	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$3.48	N
		Total	\$1,105.78	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925017

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Primary conduit 2000 Sq Ft

Additional Information: Low density 2000 sq ft URD filing

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$11,211.81	\$0.00	\$11,211.81
OVERHEAD:	\$1,716.54	\$0.00	\$1,716.54
	\$12,928.35	\$0.00	\$12,928.35
LABOR HOURS:	103.67	0	103.67
LABOR COST:	\$4,045.18	\$0.00	\$4,045.18
OVERHEAD:	\$5,837.20	\$0.00	\$5,837.20
	\$9,882.38	\$0.00	\$9,882.38
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$22,810.73	\$0.00	\$22,810.73
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$22,810.73	\$0.00	\$22,810.73

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925017

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
33	2007227	CEMENT, PVC CLEAR FAST DRY QUART W/DAUBE	\$5.24	\$172.92	N
40	2004389	CONDUIT, GALVANIZED 2 IN 10 FT WITH COUP	\$4.29	\$171.60	Y
16156	2004488	CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$6,300.84	Y
178	2004507	COUPLING, PVC 2 IN SCH 40 TEMS 13.01	\$0.55	\$97.90	N
88	2004395	ELBOW, 2" 90 DEGREE ,GALVANIZED, 24" MIN	\$28.84	\$2,537.92	N
1	2004394	ELBOW, GALV 2 INCH 45 DEG THD 15" RADIUS	\$15.35	\$15.35	N
3	2004719	HANDHOLE, SPLICING SINGLE PHASE PRIMARY	\$456.86	\$1,370.58	Y
18157	2007414	TAPE, PULLING, POLYSTER, RATED AT 1250#,	\$0.03	\$544.70	N
Total			\$11,211.81		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925022

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Primary cable - 2000 Sq Ft

Additional Information: URD Low Density 2000 PSC filing

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$32,311.53	\$0.00	\$32,311.53
OVERHEAD:	\$4,946.90	\$0.00	\$4,946.90
	\$37,258.43	\$0.00	\$37,258.43
LABOR HOURS:	170.92	0	170.92
LABOR COST:	\$6,668.93	\$0.00	\$6,668.93
OVERHEAD:	\$9,623.26	\$0.00	\$9,623.26
	\$16,292.19	\$0.00	\$16,292.19
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$53,550.62	\$0.00	\$53,550.62
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$53,550.62	\$0.00	\$53,550.62

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).
LD 15



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925022

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
0	2004577 ANCHOR, LEAD EXPANSION, MEDIUM DUTY, SIZ	\$0.65	\$0.00	N
0	2003157 BOLT, 1/2" - 13 X 1-1/2" 18-8 SS HEX HEA	\$2.59	\$0.00	N
0	2003167 BOLT, MACHINE GALV HEX HEAD 5/8 X 1-1/4"	\$0.18	\$0.00	N
17859	2004343 CABLE, ALUMINUM, 15KV, 1/C, 1/0 AWG SOLI	\$1.68	\$30,002.78	Y
4	2004514 CAP, CONDUIT 2"	\$11.34	\$45.36	N
4	2004453 CAP, END CABLE 600 V CABLE RANGE .940 -	\$1.69	\$6.76	N
4	2003752 CLAMP, CONDUIT GROUND 1-1/4 IN - 2 IN CO	\$7.73	\$30.92	N
0	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$0.00	N
80	2004488 CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$31.20	Y
8	2077837 CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$4.72	N
0	2005009 CONNECTOR, LDBRK 8.3/14.4KV 200A 3POS	\$99.12	\$0.00	N
77	2077931 CONNECTOR, VICE CU #2 STR	\$2.28	\$175.56	N
0	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$0.00	N
0	2004982 ENCLOSURE, 200A AL SWITCH MOD/1 PH DUMMY	\$789.62	\$0.00	Y
0	2001315 PAD, CONCRETE 40" X 45" X 4" 25- 50KVA T	\$77.12	\$0.00	N
0	2007394 PADLOCK, GREEN TESS SOLID BRASS BODY P/N	\$16.65	\$0.00	N
0	2007489 REPELLENT, FIRE ANT GRANULE 4 OZ BIFENTH	\$2.21	\$0.00	N
0	2077980 ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$0.00	N
32	2004403 STRAP, GALV 2 IN 2 HOLE	\$0.22	\$7.04	N
61	2004883 TERMINATOR, LOADBREAK 200 AMP	\$30.70	\$1,872.70	Y
4	2004634 TERMINATOR, POTHEAD 15KV OUTDOOR W/STEM	\$32.36	\$129.44	Y
0	2078005 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8	\$0.23	\$0.00	N
0	2078006 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$0.00	N
8	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$5.04	N
		Total	\$32,311.52	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925024

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Sec Cable and Handholes 2000 sq ft

Additional Information: URD low density 2000 homes - PSC filing

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$5,874.22	\$0.00	\$5,874.22
OVERHEAD:	\$899.34	\$0.00	\$899.34
	\$6,773.56	\$0.00	\$6,773.56
LABOR HOURS:	134.4	0	134.4
LABOR COST:	\$5,244.07	\$0.00	\$5,244.07
OVERHEAD:	\$7,567.20	\$0.00	\$7,567.20
	\$12,811.27	\$0.00	\$12,811.27
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$19,584.83	\$0.00	\$19,584.83
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$19,584.83	\$0.00	\$19,584.83

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925024

Page 1 of 1

	Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL						
	0	2004351	CABLE, CONVERSE, AL, UG, 600V, 2/C, 2/0,	\$0.86	\$0.00	Y
	0	2004356	CABLE, RIDER,AL,UG,600V,2/C,500 MCM, 37	\$4.05	\$0.00	Y
	2605	2004354	CABLE,SWEETBRIAR, AL,UG,600V,2/C,4/0 AWG	\$1.19	\$3,100.19	Y
	0	2005021	CONNECTOR, 600V URD, 4 POSITION, CONDUCT	\$13.97	\$0.00	N
	0	2005022	CONNECTOR, 600V URD, 6 POSITION, CONDUCT	\$12.08	\$0.00	N
	69	2005024	CONNECTOR, 600V URD, 6 POSITION, CONDUCT	\$19.14	\$1,320.66	N
	0	2005025	CONNECTOR, 600V, URD, 8 POSITION, CONDUCT	\$25.55	\$0.00	N
	0	2005020	CONNECTOR, URD 600 V 4 POSITION #10-350M	\$8.02	\$0.00	N
	0	2004730	HANDHOLE, NON-METALLIC CONST 12" TO 14"	\$43.26	\$0.00	N
	23	2004734	HANDHOLE, SECONDARY URD 17" X 30"	\$61.46	\$1,413.58	N
	23	2005212	MARKER, CURB LEXAN .040 THICK, ROUND 2.5	\$1.73	\$39.79	N
			Total	\$5,874.22		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925026

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Secondary conduit-2000 sq ft

Additional Information: URD low density 2000 sq ft PSC filing

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$2,813.79	\$0.00	\$2,813.79
OVERHEAD:	\$430.79	\$0.00	\$430.79
	\$3,244.58	\$0.00	\$3,244.58
LABOR HOURS:	47.4	0	47.4
LABOR COST:	\$1,849.46	\$0.00	\$1,849.46
OVERHEAD:	\$2,668.77	\$0.00	\$2,668.77
	\$4,518.23	\$0.00	\$4,518.23
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$7,762.81	\$0.00	\$7,762.81
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$7,762.81	\$0.00	\$7,762.81

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925026

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
1	2007227 CEMENT, PVC CLEAR FAST DRY QUART W/DAUBE	\$5.24	\$5.24	N
8	2007228 CEMENT, PVC GRAY MEDIUM DRY QUART W/DAUB	\$6.03	\$48.24	N
0	2004488 CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$0.00	Y
340	2004517 CONDUIT, PVC P & C 3 IN 20 FT	\$0.53	\$180.20	Y
1871	2004529 CONDUIT, PVC, 4" X 20', DB-60-TC-6	\$1.01	\$1,889.71	Y
0	2004507 COUPLING, PVC 2 IN SCH 40 TEMS 13.01	\$0.55	\$0.00	N
8	2004521 COUPLING, PVC 3 IN SCH 40 TEMS 13.01	\$3.15	\$25.20	N
84	2004535 COUPLING, PVC 4 IN SCH 40 TEMS 13.01	\$3.72	\$312.48	N
0	2004511 ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-	\$1.15	\$0.00	N
0	2004427 ELBOW, GALV 4 IN 45 DEG THD 16 IN RAD	\$42.64	\$0.00	N
0	2004510 ELBOW, PVC 2 IN 45 DEG 9-1/2 IN RAD SCH	\$0.94	\$0.00	N
0	2004523 ELBOW, PVC 3 IN 45 DEG 13 IN RAD SCH 40	\$3.19	\$0.00	N
4	2004524 ELBOW, PVC 3 IN 90 DEG 13 IN RAD SCH 40	\$4.52	\$18.08	N
42	2004538 ELBOW, PVC 4", 90 DEG., 16" RADIUS, SCHE	\$6.14	\$257.88	N
2559	2007414 TAPE, PULLING, POLYSTER, RATED AT 1250#,	\$0.03	\$76.76	N
		Total	\$2,813.79	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925028

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Service Cable-2000 sq ft

Additional Information: Low density URD filing 2000 sq ft

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$19,228.84	\$0.00	\$19,228.84
OVERHEAD:	\$2,943.94	\$0.00	\$2,943.94
	\$22,172.78	\$0.00	\$22,172.78
LABOR HOURS:	1.94	0	1.94
LABOR COST:	\$75.76	\$0.00	\$75.76
OVERHEAD:	\$109.31	\$0.00	\$109.31
	\$185.07	\$0.00	\$185.07
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$22,357.85	\$0.00	\$22,357.85
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$22,357.85	\$0.00	\$22,357.85

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

LD 21



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925028

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
16986 2004351	CABLE, CONVERSE, AL, UG, 600V, 2/C, 2/0,	\$0.86	\$14,607.87	Y
3883 2004354	CABLE, SWEETBRIAR, AL, UG, 600V, 2/C, 4/0 AWG	\$1.19	\$4,621.01	Y
	Total		\$19,228.84	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925030

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Service Conduit- 2000 sq ft

Additional Information: Low density URD filing for 2000 sq ft homes

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$13,065.98	\$0.00	\$13,065.98
OVERHEAD:	\$2,000.41	\$0.00	\$2,000.41
	\$15,066.39	\$0.00	\$15,066.39
LABOR HOURS:	681.53	0	681.53
LABOR COST:	\$26,594.14	\$0.00	\$26,594.14
OVERHEAD:	\$38,375.31	\$0.00	\$38,375.31
	\$64,969.45	\$0.00	\$64,969.45
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$80,035.84	\$0.00	\$80,035.84
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$80,035.84	\$0.00	\$80,035.84

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

LD 23



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925030

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
188	2004493	ADAPTOR, 2" PVC, FEMALE SLIP TO MALE THR	\$0.32	\$60.16	N
23	2004492	ADPTR,COND PVC FMLE 2" SCH 40 SOCXFPT	\$0.40	\$9.20	N
37	2007227	CEMENT, PVC CLEAR FAST DRY QUART W/DAUBE	\$5.24	\$193.88	N
23	2004409	COND,SRVC RISER,TYPE IIPVC,40,2.5"X7'	\$6.48	\$149.04	N
15237	2004488	CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$5,942.43	Y
2070	2004491	CONDUIT, PVC 2 IN 250 FT ROLL FLEXIBLE	\$0.90	\$1,863.00	N
23	2004518	CONDUIT, PVC 3 IN X 250 FT ROLL FLEXIBL	\$1.75	\$40.25	N
3121	2004517	CONDUIT, PVC P & C 3 IN 20 FT	\$0.53	\$1,654.13	Y
188	2004401	CONDUIT, SERVICE RISER, PVC, 2"	\$4.60	\$864.80	N
754	2004507	COUPLING, PVC 2 IN SCH 40 TEMS 13.01	\$0.55	\$414.70	N
138	2004521	COUPLING, PVC 3 IN SCH 40 TEMS 13.01	\$3.15	\$434.70	N
504	2004511	ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-	\$1.15	\$579.60	N
0	2004510	ELBOW, PVC 2 IN 45 DEG 9-1/2 IN RAD SCH	\$0.94	\$0.00	N
0	2004523	ELBOW, PVC 3 IN 45 DEG 13 IN RAD SCH 40	\$3.19	\$0.00	N
69	2004524	ELBOW, PVC 3 IN 90 DEG 13 IN RAD SCH 40	\$4.52	\$311.88	N
188	2004396	NUT, LOCK GALV 2 IN	\$0.54	\$101.52	N
23	2004408	NUT, LOCK GALV 2-1/2 IN	\$0.65	\$14.95	N
14391	2007414	TAPE, PULLING, POLYSTER, RATED AT 1250#,	\$0.03	\$431.74	N
Total			\$13,065.98		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925029

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
Meter Labor- 2000 sq ft

Additional Information: Low density URD filing 2000 sq ft homes

WR Description

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	42	0	42
LABOR COST:	\$1,638.84	\$0.00	\$1,638.84
OVERHEAD:	\$2,364.85	\$0.00	\$2,364.85
	\$4,003.69	\$0.00	\$4,003.69
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$4,003.69	\$0.00	\$4,003.69
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$4,003.69	\$0.00	\$4,003.69

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

LD 25

**OH Construction Cost Data Summary
Low Density (210-Lot) OH Subdivision Costs**

Line #	A Work Type/WR #	B Description	C (C+M) Material and Handling	D Material	E (F+L) Total Labor Plus Vehicle	F (G+H+I) Total Labor	G Base Labor	H (G x J x TLF) TEC Labor Overheads	I (G x K x CLF) Contract Labor Overheads	J TEC Work %	K Contractor Work %	L Vehicle	M (D x MHR) Material Handling	N (C+E) Total
1	Transformers													
2	925037	Install & Ground Transformers	48,384.82	\$40,226.02	17,843.81	15,371.81	8,346.08	5,862.95	1,162.78	60%	40%	\$2,271.80	6,158.60	64,028.24
3														
4	Primary													
5	925038	Install Primary Line	3,316.74	\$2,876.37	9,151.70	7,973.32	4,329.09	3,041.10	603.13	60%	40%	\$1,178.38	440.37	12,468.44
6		Includes Grounding Primary Takeoffs												
7	Poles													
8	925039	Install Poles and Guy Stubs	33,841.33	\$29,348.13	56,085.33	48,863.75	26,530.43	18,637.10	3,698.22	60%	40%	\$7,221.58	4,493.20	89,926.66
9		Includes Haul Poles Out												
10	Secondary													
11	925040	Install Secondary Cable	26,864.37	\$23,294.92	33,097.74	28,836.05	15,666.45	10,998.34	2,181.28	80%	40%	\$4,261.69	3,566.45	59,959.11
12														
13	Services													
14	926547	Install Service Cable & Meters	16,286.86	\$15,866.52	31,222.19	27,202.00	14,769.25	10,375.10	2,057.65	60%	40%	\$4,020.19	2,428.16	49,517.88
15														
16														
17	Engineering	Design/Inspection/Coordination			13,788.39	13,788.39				100%	0%			13,788.39
18														
19	Tree Trim													
20														
21	Totals (Sum of lines 2, 5, 8, 11, 14, 17, and 19)			\$ 128,889.75	\$ 111,811.96	\$ 160,888.96	\$ 142,035.32	\$ 69,631.30	\$ 48,814.60	\$ 9,701.03		\$ 18,953.64	\$ 17,087.79	\$ 289,688.71
22	Cost per Lot (line 21 / 210 lots)			\$ 612.86	\$	\$ 766.61								\$ 1,378.47

Adjustment Factors	
TEC Operations Labor Overhead Factor	TLF = 1.1708
Contractor Labor Overhead Factor	CLF = 0.3483
Current year material handling charge rate	MHR = 0.1531

LD 27

Low Density - 210 Lots - Overhead Material List

This worksheet lists the totals for major materials to be listed on the associated work request print as requested by the PSC.

1225.0	Total Connected KVA
1258.9	Total peak demand KVA
0	25 kVA Transformers
4	37.5 kVA Transformers
17	50 kVA Transformers
3	75 kVA Transformers
10130	#2AAAC Primary
65	Primary Poles
0	2/0 AWG Triplex Secondary
8000	4/0 AWG Triplex Secondary
2135	#2AAAC Secondary Neutral
1515	2-2/0 & 1-1/0 AL Triplex Service Drop (considered secondary)
545	2-4/0 & 1-2/0 AL Triplex Service Drop (considered secondary)
35	Secondary Poles
9360	2-2/0 & 1-1/0 AL Triplex Service Drop
0	2-4/0 & 1-2/0 AL Triplex Service Drop

Summary of assemblies (CU's) for Low Density 2000 sq ft Overhead Design - March 2017

Work Request #1	Transformers (enter these Construction Units into WorkPro)						
Assemblies	25 KVA PKT11W3F	37.5 KVA PKT11W4F	50 KVA PKT11W5F	75 KVA PKT11W6F	Stirrup ALSTRP10	Spacer SEWC	Grounding GRDMEG1/2
Total Quantities	0	4	17	3	24	24	24

Work Request #2	Primary							
Assemblies	#2 AAAC WIOPA	1st span WIO1F	Add'l WIO1A	Fused cutout PKP102WB3A	Deadend & tap PKP101WA3A	2 way lateral PKP105WA4A	Fuse FLOH103	Grounding GRDMEG1/2
Total Quantities	10130	19	43	2	7	2	2	5

Work Request #3	Poles and Guys												
Should be	Pole haul	1st tangent	1st tangent	1st Deadend	1st angle <20	1st angle <20	1st angle >20	1st angle >20	3rd	Down guys	Pole hardware	Guy wire	Down guys
Assemblies	POLE_HAUL	STP101_TAN_40C2	STP101_TAN_45C2	STP401_DE_40C2	STP101_ANG_40C2	STP101_ANG_45C2	STP301_RC_40C2	STP301_RC_45C2	STP104_TAN_45C2	PKG12W2H	PKG31W1H	GUYSTR3/8	PKG11W1H
Total Quantities	65	12	1	11	20	1	17	1	2	56	2	70	0

Work Request #4	Secondary - From Secondary&Neutral worksheet										
Assemblies	2/0 WIO3SB	4/0 WIO3SC	#2 Neutral WIOPA	1st span WIO1F	Add'l WIO1A	1st span WIOCF	Add'l WIOCA	Eyebolt SBWIDEN	Eye nut SEGIDEN	DE+Bolt PKS11W	CABLEOPEN
Total Quantities	0	8000	2135	9	2	33	20	4	12	30	12

More of Work Request #4	Secondary continued - From Secondary&Neutral worksheet and SlackSecondary (service cable) & Secondary Poles worksheet										
Assemblies	Pole hardware PKG31W1H	Guy wire GUYSTR3/8	POLE_HAUL	35' Class 4 STS11C	35' Class 6 STS11B	30' Class 6 STS11A	Down guy PKG11W1H	PKS21G	CA2/0TPX	CA4/0TPX	SVLABOR
Total Quantities	16	1390	35	35	0	0	0	34	1515	545	34

Work Request #5	Services			
Assemblies	CA2/0TPX	CA4/0TPX	SVLABOR	METERLABOR
Total Quantities	9360	0	210	210

LD 29



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925037

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
LDOH 2000 sq ft Transformers

Additional Information: Used for Low Density 2000 sq ft 3.5 ton ac

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$40,226.02	\$0.00	\$40,226.02
OVERHEAD:	\$6,158.60	\$0.00	\$6,158.60
	\$46,384.62	\$0.00	\$46,384.62
LABOR HOURS:	213.89	0	213.89
LABOR COST:	\$8,346.08	\$0.00	\$8,346.08
OVERHEAD:	\$12,043.43	\$0.00	\$12,043.43
	\$20,389.51	\$0.00	\$20,389.51
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$66,774.13	\$0.00	\$66,774.13
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$66,774.13	\$0.00	\$66,774.13

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).
LD 30



Work Request Material Summary

Includes Truck Stock

Printed Date: 3/10/2017

Dist: CSA

WR No. 925037

Design Number 1

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
24	2003646 ARRESTER, LIGHTNING DISTRIBUTION CLASS 1	\$24.59	\$590.16	Y
24	2077754 BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$23.52	N
48	2077755 BOLT, MACHINE 5/8" X 12", GALV. FULL	\$1.02	\$48.96	N
24	2003690 BRACKET, CUTOUT, ARRESTER & POTHEAD DWG	\$6.41	\$153.84	N
24	2004660 BRACKET,"L" 5-5/8"IN LENGTH FOR MTG CUTO	\$10.26	\$246.24	N
312	2004197 CABLE, HANDCOIL, COPPER, 600V, 2/0 AWG,	\$2.11	\$658.32	N
36	2004199 CABLE, HANDCOIL, COPPER, 600V, 4/0 AWG,	\$3.44	\$123.84	N
24	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$36.00	N
24	2077911 CLAMP, HOT LINE CU TO CU #6 SOL- 2 STR T	\$5.54	\$132.96	N
48	2078000 CLAMP, TRANSFORMER GROUND 10-SOL - #1 ST	\$2.22	\$106.56	N
960	2078012 CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$422.40	N
6	2003528 CONNECTOR, 2-BOLT AL MAIN 336-500MCM TAP	\$21.76	\$130.56	N
63	2077839 CONNECTOR, COMPRESSION H-BLOCK ACSR 1/0-	\$0.47	\$29.61	N
24	2077837 CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$14.16	N
3	2077845 CONNECTOR, COMPRESSION H-BLOCK ACSR 4/0	\$0.63	\$1.89	N
96	2077930 CONNECTOR, VICE CU #4 STR	\$2.05	\$196.80	N
72	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$293.04	N
42	2003516 COVER, SNAP-ON SQUEEZON CONNECTOR D DIE	\$0.37	\$15.54	N
24	2003846 CUTOUT, 15KV, 100A FUSE HLDR, 300A UNVRS	\$55.34	\$1,328.16	Y
17	2077806 FUSE LINK, 10A UNVRSL 100A CUTOUT 23" OA	\$3.57	\$60.69	N
3	2077807 FUSE LINK, 15A UNVRSL 100A CUTOUT 23" OA	\$3.39	\$10.17	N
4	2077805 FUSE LINK, 7A UNVRSL 100A CUTOUT 23" OAL	\$3.77	\$15.08	N
48	2077965 MOULDING, GROUND WIRE, PVC 1/2 IN X 8 FT	\$0.99	\$47.52	N
24	2007368 PROTECTOR, WILD LIFE, SLIP-ON TYPE	\$4.10	\$98.40	N
96	2077980 ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$1,317.12	N
24	2077767 ROLLED BOLT, DOUBLE-ARMING, 5/8"X 16"	\$2.14	\$51.36	N
24	2077789 SCREW, LAG PILOT POINT 3/8 X 3	\$0.26	\$6.24	N
24	2077812 SPACER, CABLED SECONDARY	\$6.79	\$162.96	N
240	2077997 STAPLE, SECURES 1/2" PVC MOULDING TO WOO	\$0.25	\$60.00	N
24	2077826 STIRRUP, AL BODY & CU BAIL 2-4/0	\$8.72	\$209.28	N
4	2001368 TX,OH,37.5 KVA,7.62/13.2Y,120/240,FR3	\$1,211.26	\$4,845.04	Y
17	2001369 TX,OH,50 KVA,7.62/13.2Y,120/240,FR3	\$1,373.14	\$23,343.38	Y
3	2001370 TX,OH,75 KVA,7.62/13.2Y,120/240,FR3	\$1,766.57	\$5,299.71	Y
120	2078006 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$22.80	N
72	2078014 WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$6.48	N
76	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$47.63	N
240	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$69.60	N
		Total	\$40,226.02	



Estimate Summary

Design Number 1

Contact Name:

Distribution Services
LDOH 2000 sq ft Primary

Printed Date: 3/10/2017

District: CSA

WR No. 925038

Date Sched: 3/10/17

Date Required: 3/10/17

Additional Information: Used for 2000 square foot design

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$2,876.37	\$0.00	\$2,876.37
OVERHEAD:	\$440.38	\$0.00	\$440.38
	\$3,316.75	\$0.00	\$3,316.75
LABOR HOURS:	110.96	0	110.96
LABOR COST:	\$4,329.09	\$0.00	\$4,329.09
OVERHEAD:	\$6,246.90	\$0.00	\$6,246.90
	\$10,575.99	\$0.00	\$10,575.99
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$13,892.74	\$0.00	\$13,892.74
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$13,892.74	\$0.00	\$13,892.74

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

LD 52



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925038

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
5	2003646 ARRESTER, LIGHTNING DISTRIBUTION CLASS 1	\$24.59	\$122.95	Y
9	2077739 BOLT, EYE, 5/8 IN. X 10 IN., GALVANIZED	\$3.12	\$28.08	N
7	2077754 BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$6.86	N
2	2077780 BOLT, SPOOL, 5/8" X 10", GALV. SINGLE UP	\$2.64	\$5.28	N
5	2003681 BRACKET, "L", LIGHTNING ARRESTER 10 KV	\$6.47	\$32.35	N
2	2003685 BRACKET, FIBERGLASS STANDOFF VERTICAL PI	\$26.01	\$52.02	N
2	2004660 BRACKET, "L" 5-5/8" IN LENGTH FOR MTG CUTO	\$10.26	\$20.52	N
18	2077818 CLAMP, DEADEND ACSR OR AAC #2-4/0 OR .30-	\$8.60	\$154.80	N
5	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$7.50	N
16	2077911 CLAMP, HOT LINE CU TO CU #6 SOL- 2 STR T	\$5.54	\$88.64	N
10637	2004331 CONDUCTOR, BARE OVERHEAD, 2 AWG, AAAC, 7	\$0.13	\$1,382.75	Y
200	2078012 CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$88.00	N
22	2077838 CONNECTOR, COMPRESSION H-BLOCK ACSR #2-1	\$0.37	\$8.14	N
16	2077837 CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$9.44	N
10	2077930 CONNECTOR, VICE CU #4 STR	\$2.05	\$20.50	N
15	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$61.05	N
2	2003846 CUTOUT, 15KV, 100A FUSE HLDR, 300A UNVRS	\$55.34	\$110.68	Y
4	2077765 DOUBLE-ARMING, GALVANIZED 5/8 "X 12"	\$2.35	\$9.40	N
2	2077794 FUSE LINK, 103A UNVRS 100A CUTOUT 23" O	\$24.62	\$49.24	N
2	2077954 INSULATOR, PIN TYPE, 10KV, ANSI CLASS 55	\$3.31	\$6.62	N
2	2077952 INSULATOR, SPOOL, ANSI CLASS 53-3, TRANS	\$0.78	\$1.56	N
9	2077959 INSULATOR, SUSPENSION, POLYMER, 25KV, AP	\$10.42	\$93.78	N
10	2077965 MOULDING, GROUND WIRE, PVC 1/2 IN X 8 FT	\$0.99	\$9.90	N
9	2077783 NUT, EYE, STANDARD, 1-1/2" GALVANIZED FO	\$1.28	\$11.52	N
20	2077980 ROD, GROUND, 1/2 COPPER 10MI POINT & CHAMFER	\$13.72	\$274.40	N
7	2077789 SCREW, LAG PILOT POINT 3/8 X 3	\$0.26	\$1.82	N
50	2077997 STAPLE, SECURES 1/2" PVC MOULDING TO WOO	\$0.25	\$12.50	N
2	2077828 STIRRUP, AL BODY & CU BAIL 1/0-397	\$13.15	\$26.30	N
14	2077826 STIRRUP, AL BODY & CU BAIL 2-4/0	\$8.72	\$122.08	N
2	2003613 TIE, TOP, FORMED WIRE #2 ACSR OR #2 AAAC	\$2.57	\$5.14	N
22	2078006 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$4.18	N
4	2078014 WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$0.36	N
67	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$42.21	N
20	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$5.80	N
		Total	\$2,876.37	



Estimate Summary

Design Number 1

Distribution Services
LDOH 2000 sq ft - POLES

Printed Date: 3/10/2017

District: CSA

WR No. 925039

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Additional Information: Used for 2000 square foot design

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$29,348.13	\$0.00	\$29,348.13
OVERHEAD:	\$4,493.21	\$0.00	\$4,493.21
	\$33,841.34	\$0.00	\$33,841.34
LABOR HOURS:	679.95	0	679.95
LABOR COST:	\$26,530.43	\$0.00	\$26,530.43
OVERHEAD:	\$38,283.38	\$0.00	\$38,283.38
	\$64,813.81	\$0.00	\$64,813.81
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$98,655.15	\$0.00	\$98,655.15
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$98,655.15	\$0.00	\$98,655.15

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

LD 34



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925039

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
114	2077764	6<BOLT, MACHINE 3/4" X 12", GALV.	\$1.62	\$184.88	N
56	2003632	ANCHOR,SCRW GALV 10" WING 1-1/4" ROD 8"	\$49.00	\$2,744.00	N
37	2077739	BOLT, EYE, 5/8 IN. X 10 IN., GALVANIZED	\$3.12	\$115.44	N
68	2077754	BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$66.64	N
44	2077755	BOLT, MACHINE 5/8" X 12", GALV. FULL	\$1.02	\$44.88	N
40	2077753	BOLT, MACHINE 5/8" X 8", GALV.	\$1.02	\$40.80	N
2	2077780	BOLT, SPOOL, 5/8" X 10", GALV. SINGLE UP	\$2.64	\$5.28	N
4	2003685	BRACKET, FIBERGLASS STANDOFF VERTICAL PI	\$26.01	\$104.04	N
18	2077818	CLAMP, DEADEND ACSR OR AAC #2-4/0OR .30-	\$8.60	\$154.80	N
19	2003508	CLAMP, SUSPENSION AL ANGLE RANGE .50 TO	\$13.59	\$258.21	N
40	2077924	CLEVIS, STEEL LESS INSULATOR 5/8 IN PIN	\$7.27	\$290.80	N
315	2078012	CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$138.60	N
60	2077837	CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$35.40	N
63	2077930	CONNECTOR, VICE CU #4 STR	\$2.05	\$129.15	N
4	2077765	DOUBLE-ARMING, GALVANIZED 5/8 "X 12"	\$2.35	\$9.40	N
56	2003636	EXTENSION ROD, ANCHOR 1-1/4 X 72 6 FT	\$44.02	\$2,465.12	N
226	2077949	GRIP, GUY, FORMED WIRE 3/8 INTWISTED LOO	\$2.25	\$508.50	N
37	2077862	GUARD, LINE #2 ACSR & AAAC STR 6/1, 7	\$1.79	\$66.23	N
114	2077951	HOOK, GUY	\$2.67	\$304.38	N
40	2077954	INSULATOR, PIN TYPE, 10KV, ANSI CLASS 55	\$3.31	\$132.40	N
2	2077952	INSULATOR, SPOOL, ANSI CLASS 53-3, TRANS	\$0.78	\$1.56	N
58	2077961	INSULATOR, STRAIN FIBERGLASS 36 IN 15,00	\$13.33	\$773.14	N
37	2077959	INSULATOR, SUSPENSION, POLYMER, 25KV, AP	\$10.42	\$385.54	N
56	2077979	MARKER, GUY WIRE PLASTIC 8' IN LENGTH CO	\$4.37	\$244.72	N
36	2077974	PIN, POLE TOP, PRESSED STEEL 18" LONG, 1	\$7.53	\$271.08	N
60	2002857	POLE, WOOD, 40FT CLASS 2, CCA TREATED	\$268.91	\$16,134.60	Y
5	2002858	POLE, WOOD, 45 FT CLASS 2, CCA TREATED.	\$318.26	\$1,591.30	Y
31	2077767	ROLLED BOLT, DOUBLE-ARMING, 5/8"X 16"	\$2.14	\$66.34	N
114	2077790	SCREW, LAG 1/2" X 4", GALV., TWIST DRIVE	\$0.39	\$44.46	N
71	2077812	SPACER, CABLED SECONDARY	\$6.79	\$482.09	N
21	2003612	TIE, PREFORMED SIDE TIE #2 ACSR OR #2 A	\$2.18	\$45.78	N
19	2003613	TIE, TOP, FORMED WIRE #2 ACSR OR #2 AAAC	\$2.57	\$48.83	N
114	2078002	WASHER, CURVED, MALLEABLE, 3" X 3"	\$0.96	\$109.44	N
221	2078006	WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$41.99	N
217	2078014	WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$19.53	N
4774	2005879	WIRE, GUY, GALV STEEL, 3/8 IN 7 STR HS B	\$0.27	\$1,288.98	N
		Total	\$29,348.13		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925040

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
LDOH 2000 sq ft Secondary

Additional Information: Used for 2000 sq ft 3.5 TON AC design

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$23,294.92	\$0.00	\$23,294.92
OVERHEAD:	\$3,566.44	\$0.00	\$3,566.44
	\$26,861.36	\$0.00	\$26,861.36
LABOR HOURS:	401.21	0	401.21
LABOR COST:	\$15,656.45	\$0.00	\$15,656.45
OVERHEAD:	\$22,592.24	\$0.00	\$22,592.24
	\$38,248.69	\$0.00	\$38,248.69
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$65,110.05	\$0.00	\$65,110.05
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$65,110.05	\$0.00	\$65,110.05

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

LD 36



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925040

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
24	2077764	86rBOLT, MACHINE 3/4" X 12", GALV.	\$1.62	\$38.88	N
8	2003632	ANCHOR, SCRW GALV 10" WING 1-1/4" ROD 8"	\$49.00	\$392.00	N
34	2077739	BOLT, EYE, 5/8 IN. X 10 IN., GALVANIZED	\$3.12	\$106.08	N
8	2077755	BOLT, MACHINE 5/8" X 12", GALV. FULL	\$1.02	\$8.16	N
8400	2004339	CABLE, OVERHEAD SECONDARY, TRIPLEX, 4/0	\$1.55	\$13,020.00	Y
1591	2004364	CABLE, SERVICE DROP AL 2-2/0 & 1-1/0 NEU	\$0.83	\$1,320.36	Y
627	2004366	CABLE, SERVICE DROP AL 2-4/0 & 1-2/0 NEU	\$1.23	\$770.96	Y
64	2077818	CLAMP, DEADEND ACSR OR AAC #2-4/0OR .30-	\$8.60	\$550.40	N
2242	2004331	CONDUCTOR, BARE OVERHEAD, 2 AWG, AAAC, 7	\$0.13	\$291.43	Y
192	2077839	CONNECTOR, COMPRESSION H-BLOCK ACSR 1/0-	\$0.47	\$90.24	N
30	2077837	CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$17.70	N
30	2077931	CONNECTOR, VICE CU #2 STR	\$2.28	\$68.40	N
128	2003516	COVER, SNAP-ON SQUEEZON CONNECTOR D DIE	\$0.37	\$47.36	N
8	2003636	EXTENSION ROD, ANCHOR 1-1/4 X 72 6 FT	\$44.02	\$352.16	N
32	2077949	GRIP, GUY, FORMED WIRE 3/8 INTWISTED LOO	\$2.25	\$72.00	N
24	2077951	HOOK, GUY	\$2.67	\$64.08	N
16	2077961	INSULATOR, STRAIN FIBERGLASS 36 IN 15,00	\$13.33	\$213.28	N
8	2077979	MARKER, GUY WIRE PLASTIC 8' IN LENGTH CO	\$4.37	\$34.96	N
46	2077783	NUT, EYE, STANDARD, 1-1/2" GALVANIZED FO	\$1.28	\$58.88	N
0	2002836	POLE, WOOD 30 FT CLASS 6 CCA TREATED NO	\$82.28	\$0.00	Y
35	2002842	POLE, WOOD, 35 FT, CLASS 4, CCA TREATED.	\$139.97	\$4,898.95	Y
35	2077767	ROLLED BOLT, DOUBLE-ARMING, 5/8" X 16"	\$2.14	\$74.90	N
24	2077790	SCREW, LAG 1/2" X 4", GALV., TWIST DRIVE	\$0.39	\$9.36	N
35	2077812	SPACER, CABLED SECONDARY	\$6.79	\$237.65	N
24	2078002	WASHER, CURVED, MALLEABLE, 3" X 3"	\$0.96	\$23.04	N
108	2078006	WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$20.52	N
105	2078014	WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$9.45	N
60	2004184	WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$37.80	N
1726	2005879	WIRE, GUY, GALV STEEL, 3/8 IN 7 STR HS B	\$0.27	\$466.02	N
			Total	\$23,294.92	



Contact Name:

Estimate Summary

Design Number 1

Distribution Services
LDOH 2000 sq ft SERVICE

Printed Date: 3/10/2017

District: CSA

WR No. 926547

Date Sched: 3/10/17

Date Required: 3/10/17

Additional Information: Used for 2000 square foot design

WR Description: LDOH 2000 sq ft SERVICE

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$8,170.02	\$0.00	\$8,170.02
OVERHEAD:	\$1,250.83	\$0.00	\$1,250.83
	\$9,420.85	\$0.00	\$9,420.85
LABOR HOURS:	378.51	0	378.51
LABOR COST:	\$14,769.25	\$0.00	\$14,769.25
OVERHEAD:	\$21,312.03	\$0.00	\$21,312.03
	\$36,081.28	\$0.00	\$36,081.28
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$45,502.13	\$0.00	\$45,502.13
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$45,502.13	\$0.00	\$45,502.13

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).
LD 38



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 926547

Page 1 of 1

Material Number		Description	Unit Price	Total Cost	Asset?
INSTALL					
9828	2004364	CABLE, SERVICE DROP AL 2-2/0 & 1-1/0 NEU	\$0.83	\$8,157.24	Y
0	2004366	CABLE, SERVICE DROP AL 2-4/0 & 1-2/0 NEU	\$1.23	\$0.00	Y
2	2003770	CLAMP, MID SPAN ALUMINUM 1/4 IN - 1/2 IN	\$6.39	\$12.78	N
			Total	\$8,170.02	

4/2017

HIGH DENSITY MODEL
(176 lots)

Underground Costs (per lot)

ITEM	MATERIAL		LABOR		TOTAL		EXPLANATION OF % CHANGE
	COST	% CHANGE	COST	% CHANGE	COST	% CHANGE	
SERVICE	164.30	-6.92%	196.86	12.68%	361.16	2.83%	Material costs down, TEC & Contractor overheads up
PRIMARY	97.83	-7.07%	46.77	-4.71%	144.80	-6.32%	Material costs down
SECONDARY	37.38	-7.70%	50.76	-4.57%	88.14	-5.92%	Material Costs down
TRANSFORMERS	242.41	-1.07%	60.18	0.13%	302.59	-0.83%	Material costs down
TRENCHING							
PRIMARY & SECONDARY			217.47	8.48%	217.47	8.48%	Contractor overheads up
SERVICES			382.11	11.98%	382.11	11.98%	Contractor overheads up
SUB-TOTAL	541.92	-4.47%	954.15	8.81%	1,496.07	3.59%	
STORES HANDLING	82.97	-37.44%			82.97	-37.44%	Material costs down, therefore handling down
SUB-TOTAL	624.89	-10.72%	954.15	8.81%	1,579.04	0.14%	
ENGINEERING			61.28	0.00%	61.28	0.00%	
TOTAL	624.89	-10.72%	1,015.43	8.23%	1,640.32	0.13%	
					484.18	Net Present Value of the Life Cycle Operational Cost Including Storm Restoration and Lost Pole Attachment Revenue	
Total with NPV Factor					2,124.50	Total Including NPV of Operational Cost	

Overhead Costs (per lot)

ITEM	MATERIAL		LABOR		TOTAL		EXPLANATION OF % CHANGE
	COST	% CHANGE	COST	% CHANGE	COST	% CHANGE	
SERVICE	81.96	-6.13%	134.31	-3.17%	216.27	-4.31%	Material costs down
PRIMARY	10.85	23.56%	27.19	15.55%	37.84	17.70%	Material Costs up, TEC & Contractor overheads up
SECONDARY	57.78	9.56%	90.23	-4.58%	147.99	0.48%	Material costs up
INITIAL TREE TRIM			0.00		0.00		
POLES	105.09	14.18%	169.99	39.05%	275.08	28.37%	Material costs up, TEC & Contractor overheads up
TRANSFORMERS	144.54	-1.45%	57.12	-5.46%	201.66	-2.62%	Material costs down
SUB-TOTAL	400.00	3.27%	478.84	8.96%	878.84	6.29%	
STORES HANDLING	61.24	-32.38%			61.24	-32.38%	Material costs down, therefore handling down
SUB-TOTAL	461.24	-3.49%	478.84	8.96%	940.08	2.47%	
ENGINEERING			61.28	0.00%	61.28	0.00%	
TOTAL	461.24	-3.49%	540.12	7.86%	1,001.36	2.32%	
					1,157.25	Net Present Value of the Life Cycle Operational Cost Including Storm Restoration and Lost Pole Attachment Revenue	
Total with NPV Factor					2,158.61	Total Including NPV of Operational Cost	

Differential Costs (per lot)

ITEM	MATERIAL		LABOR		TOTAL	
	COST	% CHANGE	COST	% CHANGE	COST	% CHANGE
Differential (per lot)	163.65	-26.29%	475.31	8.65%	638.96	-3.11%
NPV amount					-673.07	
Differential¹ (per lot)					-34.11	-171.55%

¹ Includes NPV of Operational Cost

HD 1

High Density - 176 lot - Contractor Labor - Underground Estimate

		Prepara pad site (Primary Contractor Labor Costs)			
	Total	Cost	Feet		
Pad site preparation	\$2,816.00		20		
		Primary Trenching & Conduit (Primary Contractor Labor Costs)			
	Total	Cost	Feet		
	\$14,703.00	\$2.60	5656	Trenching Cost	
	\$2,884.05	\$0.51	5656	Conduit Installation - 2"	
	\$0.00	\$0.00	5855	Pull-tape installation (used exact length for labor cost not 5% extra)	
Primary Trenching	\$17,587.05				
		Secondary Trenching & Conduit (Primary Contractor Labor Costs)			
	Total	Cost	Feet		
	\$3,382.60	\$2.60	1301	Trenching Cost	
	\$0.00	\$0.51	0	Conduit Installation - 2"	
	\$146.34	\$0.54	271	Conduit Installation - 3"	
	\$762.60	\$0.54	1230	Conduit Installation - 4"	
	\$0.00	\$0.00	1501	Pull-tape installation (used exact length not 5% extra)	
Secondary Trenching	\$4,291.54				
		Service Trenching & Conduit (Primary Contractor Labor Costs)			
	Total	Cost	Feet		
	\$9,786.40	\$2.60	3764	Trenching feet required for 2" service conduit	
	\$0.00	\$2.60	0	Trenching feet required for 3" service conduit	
	\$4,186.28	\$0.51	8228	Conduit Installation - 2"	
	\$0.00	\$0.54	0	Conduit Installation - 3"	
	\$0.00	\$0.00	8228	Pull-tape installation (used exact length not 5% extra)	
Svc Trenching Rls-of-Wy	\$13,982.68				
		Service Trenching & Conduit on Private Property (Service Contractor Labor Costs)			
	Total	Cost	Feet		
Svc Trenching Ptl. Prop	\$29,884.00		5280	Trenching feet and conduit = 30ft x 176	
		Service Cable (Service Contractor Labor Costs)			
	Total	Cost	Feet		
Service Cable Labor	\$23,818.08		15208	Installing 2/0 or 4/0 Cable in existing conduit	
Service Labor	\$67,688.58				
		Inspection (TECO Labor Cost)			
	TEC Labor	Rate	Feet/Qty	Rate	Total
	\$4,386.27	\$87.26	5656	\$4.84	\$243.20
	\$1,009.11	\$87.26	1301	\$4.84	\$55.97
	\$2,919.53	\$87.26	3764	\$4.84	\$161.94
Sub-total	\$8,314.91				\$461.29
	TEC Labor	Rate	Feet/Qty	Rate	Total
	\$7,678.88	\$87.26	176	\$2.42	\$426.82
Sub-total	\$7,678.88				\$426.82
		Inspection costs for Primary Contractor (TECO Labor Cost)			
		Primary inspection chg = (mach. tmch ft / 900 ft per day)*(8 hr/day)*Contractor rate			
		Secondary inspection chg = (mach. tmch ft / 900 ft per day)*(8 hr/day)*Contractor rate			
		Service ROW inspection chg = (machine trench ft / 900 ft per day)*(8 hr/day)*Contractor rate			
		Inspection costs for Service Contractor (TECO Labor Cost)			
		Service Private Property inspection = .5hr x # of lots x rate			

Revised 3/17/17

UG Construction Cost Data Summary
High Density (176-Lot) UG Subdivision Costs

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Line #	Work Type/AVR #	(D+M) Material and Handling	Material	(F+L) Total Labor Plus Vehicles	(G+H+I) Total Labor	Base Labor	(G x J x TLF) Operations Labor Overheads	(G x K x CLF) Contract Labor Overheads	TEC Work %	Contractor Work %	Vehicle	(D x MHR) Material Handling	(C+E) Total
1	Transformers												
2	925091 Install Transformer	47,648.12	\$41,321.76	4,764.11	4,757.07	\$2,582.84	1,814.39	359.84	60%	40%	\$7.03	6,326.36	52,412.23
3	925095 Ground Transformer	1,547.23	\$1,341.80	2,298.98	2,295.58	\$1,246.38	875.56	173.65	60%	40%	\$3.39	205.43	3,846.20
4	Contractor Prepare Pad Site	-	-	3,527.96	3,527.96	\$2,816.60	-	911.36	0%	100%	-	-	3,527.96
5		49,195.35	42,663.56	10,591.04	10,580.62	6,445.82	2,689.95	1,444.85			10.42	6,531.79	59,786.39
6	Primary												
7	925096 Primary Line - OH-UG Takeoffs	519.06	\$450.14	518.77	518.01	\$281.25	197.57	39.18	60%	40%	\$0.77	68.92	1,037.83
8	925097 Ground OH to UG Take-offs	154.72	\$134.18	229.90	229.56	\$124.64	87.56	17.36	60%	40%	\$0.34	20.54	384.62
9	925098 Primary Conduit (Material Only)	4,793.23	\$4,156.82	-	-	-	-	-			-	636.41	4,793.23
10	925100 Primary Cable	14,388.07	\$12,477.73	7,483.52	7,472.48	\$4,057.16	2,850.07	565.24	60%	40%	\$11.04	1,910.34	21,871.59
11		19,855.08	17,218.87	8,232.19	8,220.05	4,463.05	3,135.20	621.79			12.15	2,636.21	28,087.27
12	Secondary												
13	925103 Secondary Cable	4,990.07	\$4,327.53	8,933.37	8,920.19	\$4,843.19	3,402.24	674.75	60%	40%	\$13.18	662.54	13,923.45
14	925104 Secondary Conduit (Material Only)	2,597.03	\$2,252.22	-	-	-	-	-			-	344.81	2,597.03
15		7,587.11	6,579.75	8,933.37	8,920.19	4,843.19	3,402.24	674.75			13.18	1,007.36	16,520.48
16	Service												
17	925106 Service Cable	15,962.35	\$13,842.99	32,113.92	32,113.92	\$23,818.08	-	8,295.84	0%	100%	-	2,119.36	48,076.27
18	925108 Set Meters	7,437.96	\$6,450.40	2,533.45	2,529.71	\$1,373.50	964.86	191.36	60%	40%	\$3.74	967.56	9,971.41
19	925110 Service Conduit (Material Only)	9,942.95	\$8,622.80	-	-	-	-	-			-	1,320.15	9,942.95
20		33,343.26	28,916.19	34,647.37	34,643.63	25,191.58	964.86	8,487.19			3.74	4,427.07	67,990.63
21	Trenching												
22	Contractor Primary Trenching	-	-	23,712.62	23,712.62	\$17,587.05	-	6,125.57	0%	100%	-	-	23,712.62
23	Contractor Secondary Trenching	-	-	5,786.28	5,786.28	\$4,291.54	-	1,494.74	0%	100%	-	-	5,786.28
24	TEC Inspection for Primary	-	-	8,776.11	8,314.91	\$8,314.91	-	-	0%	0%	\$461.20	-	8,776.11
25		-	-	38,275.01	37,813.81	30,193.50	-	7,620.31			461.20	-	38,275.01
26													
27	Contractor Svc Trenching Pri. Prop	-	-	40,293.68	40,293.68	\$29,884.80	-	10,408.88	0%	100%	-	-	40,293.68
28	Contractor Svc Trenching Rts-of-Wy	-	-	18,852.85	18,852.85	\$13,982.68	-	4,870.17	0%	100%	-	-	18,852.85
29	TEC Inspection for Service	-	-	8,104.80	7,678.88	\$7,678.88	-	-	0%	0%	\$425.92	-	8,104.80
30		-	-	67,251.32	66,825.40	51,546.36	-	15,279.04			425.92	-	67,251.32
31													
32	Engineering Design/Inspection/Coordination	-	-	10,785.62	-	-	-	-			-	-	10,785.62
33													
34	Totals (Sum of lines 5, 11, 15, 20, 25, 30, and 32)	109,980.80		178,715.94	167,003.70	122,683.50	10,192.25	34,127.94			928.61	14,602.43	288,698.73
35	Cost "Per Lot" (Line 34/ 176 lots)	624.89		1,015.43									1,640.32

HD 3

Adjustment Factors	
TEC Labor Overhead Factor (excludes engineering)	TLF = 1.1708
Contractor Labor Overhead Factor	CLF = 0.3483
Current year material handling charge rate	MHR = 0.1531

reflects removal of 8.55% for engineering costs which is a separate line item on this document
reflects removal of 7.28% for engineering costs which is a separate line item on this document

High Density - 176 lot - Contractor Labor - Underground Estimate

Prepare pad site (Primary Contractor Labor Costs)

	Total	Cost	Pad sites
Pad site preparation	Total	\$2,616.60	\$1,308.30 20

Primary Trenching & Conduit (Primary Contractor Labor Costs)

	Total	Cost	Feet	
	\$14,703.00	\$2.60	5655	Trenching Cost
	\$2,884.05	\$0.51	5655	Conduit Installation - 2"
	\$0.00	\$0.00	5655	Pull-tape installation (used exact length for labor cost not 5% extra)
Primary Trenching	Total	\$17,587.05		

Secondary Trenching & Conduit (Primary Contractor Labor Costs)

	Total	Cost	Feet	
	\$3,382.60	\$2.60	1301	Trenching Cost
	\$0.00	\$0.51	0	Conduit Installation - 2"
	\$146.34	\$0.54	271	Conduit Installation - 3"
	\$762.60	\$0.54	1230	Conduit Installation - 4"
	\$0.00	\$0.00	1501	Pull-tape installation (used exact length not 5% extra)
Secondary Trenching	Total	\$4,291.54		

Service Trenching & Conduit (Primary Contractor Labor Costs)

	Total	Cost	Feet	
	\$9,786.40	\$2.60	3764	Trenching feet required for 2" service conduit
	\$0.00	\$2.60	0	Trenching feet required for 3" service conduit
	\$4,196.28	\$0.51	8228	Conduit Installation - 2"
	\$0.00	\$0.54	0	Conduit Installation - 3"
	\$0.00	\$0.00	8228	Pull-tape installation (used exact length not 5% extra)
Svc Trenching Rte-ct-Wy	Sub-total	\$13,982.68		

Service Trenching & Conduit on Private Property (Service Contractor Labor Costs)

	Total	Cost	Feet	
Svc Trenching Pri. Prop	Sub-total	\$29,884.80	\$6.99 5280	Trenching feet and conduit = 30ft x 176

Service Cable (Service Contractor Labor Costs)

	Total	Cost	Feet	
Service Cable Labor	Sub-total	\$23,818.08	\$1.55 15268	Installing 2/0 or 4/0 Cable in existing conduit
Service Labor	Total	\$67,685.56		

Inspection (TECO Labor Cost)

TEC Labor	TEC Labor	TEC Vehicle	TEC Vehicle	
Total	Rate	Feet/Qty	Rate	Total
\$4,386.27	\$87.26	5655	\$4.84	\$243.28
\$1,006.11	\$87.26	1301	\$4.84	\$55.97
\$2,919.53	\$87.26	3764	\$4.84	\$181.94
Sub-total	\$8,314.91			\$481.20

Inspection costs for Primary Contractor (TECO Labor Cost)
 Primary inspection chg = (mach. trench ft / 900 ft per day)*(8 hr/day)*Contractor rate
 Secondary inspection chg = (mach. trench ft / 900 ft per day)*(8 hr/day)*Contractor rate
 Service ROW inspection chg = (machine trench ft / 900 ft per day)*(8 hr/day)*Contractor rate

Inspection costs for Service Contractor (TECO Labor Cost)

TEC Labor	TEC Labor	TEC Vehicle	TEC Vehicle	
Total	Rate	Feet/Qty	Rate	Total
\$7,678.88	\$87.26	176	\$2.42	\$425.92
Sub-total	\$7,678.88			\$425.92

Service Private Property inspection = .5hr x # of lots x rate

High Density - 176 Lots - Underground Material List

This worksheet lists the totals for major materials to be listed on the associated work request print as requested by the PSC.

750 Total Connected KVA
804 Total peak demand KVA
 0 25 kVA Transformers
 20 37.5 kVA Transformers
 0 50 kVA Transformers
 0 75 kVA Transformers
5655 Trench Feet of 1/0 AL Primary Cable
 0 Existing trench feet of 1/0 AL Primary Cable
 0 Trench Feet of 2/0 AL Secondary Cable
 0 Existing trench feet of 2/0 AL Secondary Cable
1301 Trench Feet of 4/0 AL Secondary Cable
 200 Existing trench feet of 4/0 AL Secondary Cable
 Trench Feet of 500 MCM AL Secondary Cable
 0 Existing trench feet of 500 MCM AL Secondary Cable
9044 Trench Feet of 2/0 AL Service Cable
4464 Existing trench feet of 2/0 AL Service Cable
 0 Trench Feet of 4/0 AL Service Cable
 0 Existing trench feet of 4/0 AL Service Cable
0 Load Break Cabinet

Notes:

1. 1250 SF Homes
2. 2.5 Ton AC Units
3. 40' Service run from property corner to meter location
4. Voltage drop less than or equal to 12.0 volts
5. Voltage flicker less than or equal to 12.0 volts

High Density - 176 Lots - Underground Material CU List

This worksheet summarizes the entries from the other worksheets (from PoleAveA through PoleOakHill) and provides the Contractor Labor worksheet with input totals to calculate contractor costs.

Station All Stations - This information is used to create Work Requests to obtain costs.
 Transfer the values from Qty and CU columns highlighted in yellow to the WorkPro Work Requests to obtain costs. Those costs are then entered into the HDdifferential.xls workbook to calculate the High Density Differential cost.
 <=== Blue shading indicates fields to be updated.

Work Request

Number **Transformer Material CUs**
 925091

Qty	CU	Definition	Total Connected KVA	
0	pku51a3n	25 kva, 6 tap 250mcm	0	
0	pku51c3n	25 kva, 8 tap 250mcm	0	0
0	pku51a4n	37.5 kva, 6 tap 250mcm	0	0
0	pku51b4n	37.5 kva, 6 tap 500mcm	0	0
0	pku51c4n	37.5 kva, 8 tap 250mcm	0	0
20	pku51d4n	37.5 kva, 8 tap 500mcm	750	750
0	pku51a5n	50 kva, 6 tap 250mcm	0	750
0	pku51b5n	50 kva, 6 tap 500mcm	0	750
0	pku51c5n	50 kva, 8 tap 250mcm	0	750
0	pku51d5n	50 kva, 8 tap 500mcm	0	750
0	pku51a6n	75 kva, 6 tap 250mcm	0	750
0	pku51b6n	75 kva, 6 tap 500mcm	0	750
0	pku51c6n	75 kva, 8 tap 250mcm	0	750
0	pku51d6n	75 kva, 8 tap 500mcm	0	750
1	bushcover	Cover hot Tx bushing - at open position on loop tx, or at radial Tx		
1	bushdummy	Parking bushing at normal open tx in loop		

Work Request

Number **Ground Pad Mounted Tx - Material CUs**
 925095

Qty	CU	Definition
20	grdmeg1/2	meggar ground, drive rods, 1 location, 1/2" rods

Work Request

Number **Primary Overhead - Material CUs**
 925096

Qty	CU	Definition
2	PKE601WF1B	TEC material & labor to frame terminal pole CO & LA
2	FLOH103	Fuse

Work Request

Number **Meggar Ground at Terminal Pole**
 925097

Qty	CU	Definition
2	grdmeg1/2	meggar ground, drive rods, 1 location, 1/2" rods

Primary Trenching - Labor Only - Done By Contractors

Used to determine contractor labor cost on the Contractor Labor worksheet

Qty	CU	Definition
5655	Trenching feet required for 2" primary conduit	
0	Existing trench feet used for 2" primary conduit	
5655	Install Pulling Tape (blow in tape for pull - trench feet used to determine contractor cost)	

Work Request

Number **Primary Cable**
 925100

Qty	CU	Definition	
2	pku16wf	pothead, 38' 1c 1/0AL cable, 20' pvc, ground conn, wood pole	76
40	pku11f	safebreak, 5' 1c 1/0AL cable, ground conn	200
0	pku31p3	switch cubicle(lbc) 1ph, 200a deadfront, 3 position w/pad, gmd	
0	pku31p4	switch cubicle(lbc) 1ph, 200a deadfront, 4 position w/pad, gmd	
0	fault1pa	fault indicator, 1ph 1/0-4/0 above grade, 400a	
5655	wiu1pf	cable, 1/0AL concentric neutral 15kV - round up to add extra	6524.1
21	wiu1f	labor to pull ug cable in conduit	

Work Request**Number**

925098

Primary Conduit - Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition
20	5512000	Conduit, galvanized 2", 10' with coupling, for up terminal pole
5875	5522000	2" conduit
6095	5853530	Pulling tape - actual length
48	5512220	2" elbow 90 galv 9.5" radius
8	5512210	2" elbow 45 galv 9.5" radius
112	5522180	Coupling, 2" PVC (2 per elbow)
12	gluecondf	2"&3" pvc 1 qt for 500' fast dry

Secondary Trenching - Labor Only - Done By Contractors

Used to determine contractor labor cost on the Contractor Labor worksheet

Qty	CU	Definition
0		Trenching feet required for 2" secondary conduit
0		Existing trench feet used for 2" secondary conduit
71		Trenching feet required for 3" secondary conduit
200		Existing trench feet used for 3" secondary conduit
1230		Trenching feet required for 4" secondary conduit
0		Existing trench feet used for 4" secondary conduit
1501		Install Pulling Tape (blow in tape for pull - trench feet used to determine contractor cost)

Work Request**Number**

925103

Secondary Cable & Hand Holes

Qty	CU	Definition
0	wiu3sb	2c 2/0 1c 1 neutral, 600 v - added 5% here
1691	wiu3ec	2c 4/0 1c 2/0 neutral, 600v - added 5% here
0	wiu3sn	2c 500 1c 350 neutral, 600v - added 5% here
0	insbus350/4	crab 4 position up to 350mcm
0	insbus350/6	crab 6 position up to 350mcm
0	insbus500/4	crab 4 position up to 500mcm
66	insbus500/6	crab 6 position up to 500mcm
0	insbus500/8	crab 8 position up to 500mcm
22	wiu1f	labor to pull ug cable in conduit
22	svhotbx	energize ug secondary in transformer
22	svhothh	energize ug secondary in hand hole
0	hsec	secondary h/h 12"x20", 3 or 4 2/0 or 4/0 svc w/ 2/0 or 4/0 sec
22	hsecld	secondary h/h 17"x30", 5 to 7 2/0 or 4/0 svc w/ 4/0 or 500 sec (any time 500 used)

Work Request**Number**

925104

Secondary Conduit - Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition
0	5522000	2" conduit sched A bell end
291	5523000	3" conduit sched A bell end
1410	5524000	4" conduit sched A bell end
1901	5853530	Pulling tape, plus adding 5% extra here
0	5522220	2" elbow 90 PVC 9.5" radius
0	5522210	2" elbow 45 PVC 9.5" radius
8	5523220	3" elbow 90 PVC 13" radius
0	5523210	3" elbow 45 PVC 13" radius
36	5524220	4" elbow 90 PVC 16" radius
0	5514300	4" elbow 90 galv 30" radius
0	5514210	4" elbow 45 galv 16" radius
0	5522180	Coupling, 2" PVC (2 per elbow)
16	5523180	Coupling, 3" PVC (2 per elbow)
72	5524180	Coupling, 4" PVC (2 per elbow)
1	gluecondf	2"&3" pvc 1 qt for 500' fast dry
6	gluecondm	4"& 6" pvc 1 qt for 250' medium dry

Work Request

Number

925108

Set Meter

Qty	CU	Definition
176	meterlabor	
176	1900006	meter, kwh 30a 240v

Service Trenching - Labor Only - Done By Contractors

Used to determine contractor labor cost on the Contractor Labor worksheet

Qty	CU	Definition
176		Number of 2/0 services
5280		Trenching feet for 2" service conduit on private property-service contractor
1760		Trenching feet for 10' stub of 2" service conduit installed by primary contractor
2004		Trenching feet for 2" service conduit installed by primary contractor
4464		Existing trench feet used for 2" service conduit installed by primary contractor
8228		Install Pulling Tape for 2" conduit (blow in tape for pull - Primary Contractor)
0		Trenching feet for 3" service conduit on private property-service contractor
0		Trenching feet for 10' stub of 3" service conduit installed by primary contractor
0		Trenching feet for 3" service conduit installed by primary contractor
0		Existing trench feet used for 3" service conduit installed by primary contractor
0		Install Pulling Tape for 3" conduit (blow in tape for pull - Primary Contractor)

13508

1760 Work Request

15268 Number

925106

Service Cable Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition	
15268	wiu3sb	2c 2/0 & 1c 1 neutral, 600 v service cable	16031.4
0	wiu3sc	2c 4/0 & 1c 2/0 neutral, 600 v service cable	0

Work Request

15268 Number

925110

Service Conduit Material Only

Material used by contractors to install the conduit system

Qty	CU	Definition
5280		Conduit for 2" service on private property-service contractor
3520		Conduit for 10' stub of 2" service installed by primary contractor
6468		Conduit for 2" service installed by primary contractor
11748		Pulling Tape installed in 2" conduit by Primary Contractor)
15268	5522000	Total 2" conduit for work order quantity
448	5522220	2" elbow 90 PVC 9.5" radius
0	5522210	2" elbow 45 PVC 9.5" radius
176	5512260	2" galvanized Lock Nut
176	5522030	2" Flexible PVC conduit
176	5522050	2" PVC Adapter, male thread/female slip
176	5512370	2" PVC Service Riser
896	5522180	Coupling, 2" PVC (2 per elbow)
0		Conduit for 3" service on private property-service contractor
0		Conduit for 10' stub of 3" service installed by primary contractor
0		Conduit for 3" service installed by primary contractor
0		Pulling Tape Installed in 3" conduit by Primary Contractor)
0	5523000	Total 3" conduit for work order quantity
0	5523220	3" elbow 90 PVC 13" radius
0	5523210	3" elbow 45 PVC 13" radius
0	5512770	2-1/2" house riser
0	5523220	3" elbow 90 PVC 13" radius at house riser
0	5512670	2-1/2" galvanized Lock Nut Used by contractors to install conduit system
0	5523030	3" Flexible PVC conduit
0	5521000	2-1/2"PVC Adapter, male thread/female slip
0	5523180	Coupling, 3" PVC (2 per elbow)
31	gluecondf	2"&3" pvc 1 qt for 500' fast dry
11748	5853530	Total Pulling Tape installed in conduit by Primary Contractor)



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925091

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
HDUG Transformers

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$41,321.76	\$0.00	\$41,321.76
OVERHEAD:	\$6,326.37	\$0.00	\$6,326.37
	\$47,648.13	\$0.00	\$47,648.13
LABOR HOURS:	66.21	0	66.21
LABOR COST:	\$2,582.84	\$0.00	\$2,582.84
OVERHEAD:	\$3,727.02	\$0.00	\$3,727.02
	\$6,309.86	\$0.00	\$6,309.86
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$53,957.99	\$0.00	\$53,957.99
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$53,957.99	\$0.00	\$53,957.99

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 9



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925091

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
1	2004816 BUSHING, PARKING, 15KV, INSULATED	\$28.96	\$28.96	N
20	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$30.00	N
40	2078000 CLAMP, TRANSFORMER GROUND 10-SOL - #1 ST	\$2.22	\$88.80	N
2	2077931 CONNECTOR, VICE CU #2 STR	\$2.28	\$4.56	N
1	2004817 COVER, BUSHING 15 KV PDMT EQUIP W/FLEXIB	\$21.61	\$21.61	N
20	2001315 PAD, CONCRETE 40" X 45" X 4" 25- 50KVA T	\$77.12	\$1,542.40	N
20	2007395 PADLOCK, RED BRASS BODY 1/4" BRASS SHACK	\$13.49	\$269.80	N
20	2007489 REPELLENT, FIRE ANT GRANULE 4 OZ BIFENTH	\$2.21	\$44.20	N
40	2004031 STUD, GALVANIZED, 11 THREAD PER INCH ALL	\$2.47	\$98.80	N
9	2004948 TERMINAL, SLIP FIT ALUMINUM STUD TYPE, 6	\$6.00	\$54.00	N
6	2004954 TERMINAL, SLIP FIT ALUMINUM STUD TYPE, 6	\$11.56	\$69.36	N
45	2004950 TERMINAL, SLIP FIT ALUMINUM STUD TYPE, 8	\$6.84	\$307.80	N
20	2001519 TX,PM,LP,1P,37.5 KVA,240/120,FR3,SS	\$1,934.25	\$38,685.00	Y
120	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$75.60	N
3	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$0.87	N
	Total		\$41,321.76	



Estimate Summary

Design Number 1

Distribution Services
HDUG GRD Transformers

Printed Date: 3/10/2017

District: CSA

WR No. 925095

Date Sched: 3/10/17

Date Required: 3/10/17

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$1,341.80	\$0.00	\$1,341.80
OVERHEAD:	\$205.43	\$0.00	\$205.43
	\$1,547.23	\$0.00	\$1,547.23
LABOR HOURS:	31.94	0	31.94
LABOR COST:	\$1,246.38	\$0.00	\$1,246.38
OVERHEAD:	\$1,798.52	\$0.00	\$1,798.52
	\$3,044.90	\$0.00	\$3,044.90
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$4,592.13	\$0.00	\$4,592.13
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$4,592.13	\$0.00	\$4,592.13

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 11



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925095

Page 1 of 1

Material Number		Description	Unit Price	Total Cost	Asset?
INSTALL					
60	2077939	COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$244.20	N
80	2077980	ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$1,097.60	N
Total				\$1,341.80	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925096

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
HDUG FRAME OH Takeoff

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$450.14	\$0.00	\$450.14
OVERHEAD:	\$68.95	\$0.00	\$68.95
	\$519.09	\$0.00	\$519.09
LABOR HOURS:	7.21	0	7.21
LABOR COST:	\$281.25	\$0.00	\$281.25
OVERHEAD:	\$405.85	\$0.00	\$405.85
	\$687.10	\$0.00	\$687.10
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$1,206.19	\$0.00	\$1,206.19
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$1,206.19	\$0.00	\$1,206.19

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925096

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
2	2003651 ARRESTER, LIGHTNING DISTRIBUTION CLASS 8	\$36.17	\$72.34	Y
2	2077754 BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$1.96	N
2	2004661 BRACKET, "L" 11IN PROJECTED LGTH FOR MOU	\$8.59	\$17.18	N
2	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$3.00	N
2	2077911 CLAMP, HOT LINE CU TO CU #6 SOL- 2 STR T	\$5.54	\$11.08	N
80	2078012 CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$35.20	N
2	2077837 CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$1.18	N
4	2077930 CONNECTOR, VICE CU #4 STR	\$2.05	\$8.20	N
0	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$0.00	N
2	2003846 CUTOUT, 15KV, 100A FUSE HLDR, 300A UNVRS	\$55.34	\$110.68	Y
2	2077794 FUSE LINK, 103A UNVRSL 100A CUTOUT 23" O	\$24.62	\$49.24	N
2	2077822 KIT, ATTACHMENT, FOR ATTACHING "FLYING"	\$47.49	\$94.98	N
4	2077965 MOULDING, GROUND WIRE, PVC 1/2 IN X 8 FT	\$0.99	\$3.96	N
0	2077980 ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$0.00	N
2	2077789 SCREW, LAG PILOT POINT 3/8 X 3	\$0.26	\$0.52	N
20	2077997 STAPLE, SECURES 1/2" PVC MOULDING TO WOO	\$0.25	\$5.00	N
2	2077828 STIRRUP, AL BODY & CU BAIL 1/0-397	\$13.15	\$26.30	N
2	2078006 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$0.38	N
6	2004187 WIRE, 125' SPOOL, #2 BARE, STRANDED SOFT	\$0.98	\$5.88	N
2	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$1.32	N
6	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$1.74	N
		Total	\$450.14	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925097

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG GRD takeoff POLE

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$134.18	\$0.00	\$134.18
OVERHEAD:	\$20.54	\$0.00	\$20.54
	\$154.72	\$0.00	\$154.72
LABOR HOURS:	3.19	0	3.19
LABOR COST:	\$124.64	\$0.00	\$124.64
OVERHEAD:	\$179.85	\$0.00	\$179.85
	\$304.49	\$0.00	\$304.49
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$459.21	\$0.00	\$459.21
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$459.21	\$0.00	\$459.21

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).
HD 15



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925097

Page 1 of 1

Material Number		Description	Unit Price	Total Cost	Asset?
INSTALL					
6	2077939	COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$24.42	N
8	2077980	ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$109.76	N
Total				\$134.18	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925098

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Engineering
HDUG Pri Conduit Material

Additional Information

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$4,156.82	\$0.00	\$4,156.82
OVERHEAD:	\$636.40	\$0.00	\$636.40
	\$4,793.22	\$0.00	\$4,793.22
LABOR HOURS:	0	0	0
LABOR COST:	\$0.04	\$0.00	\$0.04
OVERHEAD:	\$0.07	\$0.00	\$0.07
	\$0.11	\$0.00	\$0.11
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$4,793.33	\$0.00	\$4,793.33
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$4,793.33	\$0.00	\$4,793.33

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 17



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925098

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
12	2007227	CEMENT, PVC CLEAR FAST DRY QUART W/DAUBE	\$5.24	\$62.88	N
20	2004389	CONDUIT, GALVANIZED 2 IN 10 FT WITH COUP	\$4.29	\$85.80	Y
5935	2004488	CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$2,314.65	Y
108	2004507	COUPLING, PVC 2 IN SCH 40 TEMS 13.01	\$0.55	\$59.40	N
46	2004395	ELBOW, 2" 90 DEGREE ,GALVANIZED, 24" MIN	\$28.84	\$1,326.64	N
8	2004394	ELBOW, GALV 2 INCH 45 DEG THD 15" RADIUS	\$15.35	\$122.80	N
6155	2007414	TAPE, PULLING, POLYSTER, RATED AT 1250#,	\$0.03	\$184.65	N
		Total	\$4,156.82		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925100

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG PRIMARY

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$12,477.73	\$0.00	\$12,477.73
OVERHEAD:	\$1,910.34	\$0.00	\$1,910.34
	\$14,388.07	\$0.00	\$14,388.07
LABOR HOURS:	103.96	0	103.96
LABOR COST:	\$4,057.16	\$0.00	\$4,057.16
OVERHEAD:	\$5,854.48	\$0.00	\$5,854.48
	\$9,911.64	\$0.00	\$9,911.64
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$24,299.71	\$0.00	\$24,299.71
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$24,299.71	\$0.00	\$24,299.71

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925100

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
6570	2004343	CABLE, ALUMINUM, 15KV, 1/C, 1/0 AWG SOLI	\$1.68	\$11,037.77	Y
2	2004514	CAP, CONDUIT 2"	\$11.34	\$22.68	N
2	2004453	CAP, END CABLE 600 V CABLE RANGE .940 -	\$1.69	\$3.38	N
2	2003752	CLAMP, CONDUIT GROUND 1-1/4 IN - 2 IN CO	\$7.73	\$15.46	N
0	2004488	CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$0.00	Y
2	2077837	CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$1.18	N
44	2077931	CONNECTOR, VICE CU #2 STR	\$2.28	\$100.32	N
8	2004403	STRAP, GALV 2 IN 2 HOLE	\$0.22	\$1.76	N
40	2004883	TERMINATOR, LOADBREAK 200 AMP	\$30.70	\$1,228.00	Y
2	2004633	TERMINATOR, POTHEAD 15KV OUTDOOR 1/0 JCN	\$32.33	\$64.66	Y
4	2004184	WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$2.52	N
		Total	\$12,477.73		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925103

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG SECONDARY

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$4,327.53	\$0.00	\$4,327.53
OVERHEAD:	\$662.55	\$0.00	\$662.55
	\$4,990.08	\$0.00	\$4,990.08
LABOR HOURS:	124.13	0	124.13
LABOR COST:	\$4,843.19	\$0.00	\$4,843.19
OVERHEAD:	\$6,988.72	\$0.00	\$6,988.72
	\$11,831.91	\$0.00	\$11,831.91
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$16,821.99	\$0.00	\$16,821.99
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$16,821.99	\$0.00	\$16,821.99

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 21



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925103

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
2029	2004354	CABLE, SWEETBRIAR, AL, UG, 600V, 2/C, 4/0 AWG	\$1.19	\$2,414.75	Y
45	2005022	CONNECTOR, 600V URD, 6 POSITION, CONDUCT	\$12.08	\$543.60	N
12	2005025	CONNECTOR, 600V, URD, 8 POSITION, CONDUCT	\$25.55	\$306.60	N
18	2004730	HANDHOLE, NON-METALLIC CONST 12" TO 14"	\$43.26	\$778.68	N
4	2004734	HANDHOLE, SECONDARY URD 17" X 30"	\$61.46	\$245.84	N
22	2005212	MARKER, CURB LEXAN .040 THICK, ROUND 2.5	\$1.73	\$38.06	N
		Total	\$4,327.53		

HD 22



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925104

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG SEC CONDUIT

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$2,252.22	\$0.00	\$2,252.22
OVERHEAD:	\$344.82	\$0.00	\$344.82
	\$2,597.04	\$0.00	\$2,597.04
LABOR HOURS:	0	0	0
LABOR COST:	\$0.02	\$0.00	\$0.02
OVERHEAD:	\$0.04	\$0.00	\$0.04
	\$0.06	\$0.00	\$0.06
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$2,597.10	\$0.00	\$2,597.10
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$2,597.10	\$0.00	\$2,597.10

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 23



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925104

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
1	2007227 CEMENT, PVC CLEAR FAST DRY QUART W/DAUBE	\$5.24	\$5.24	N
6	2007228 CEMENT, PVC GRAY MEDIUM DRY QUART W/DAUB	\$6.03	\$36.18	N
291	2004517 CONDUIT, PVC P & C 3 IN 20 FT	\$0.53	\$154.23	Y
1410	2004529 CONDUIT, PVC, 4" X 20', DB-60-TC-6	\$1.01	\$1,424.10	Y
16	2004521 COUPLING, PVC 3 IN SCH 40 TEMS 13.01	\$3.15	\$50.40	N
72	2004535 COUPLING, PVC 4 IN SCH 40 TEMS 13.01	\$3.72	\$267.84	N
8	2004524 ELBOW, PVC 3 IN 90 DEG 13 IN RAD SCH 40	\$4.52	\$36.16	N
36	2004538 ELBOW, PVC 4", 90 DEG., 16" RADIUS, SCHE	\$6.14	\$221.04	N
1901	2007414 TAPE, PULLING, POLYSTER, RATED AT 1250#.	\$0.03	\$57.03	N
		Total	\$2,252.22	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925106

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG SERVICE CABLE

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$13,842.99	\$0.00	\$13,842.99
OVERHEAD:	\$2,119.36	\$0.00	\$2,119.36
	\$15,962.35	\$0.00	\$15,962.35
LABOR HOURS:	1.53	0	1.53
LABOR COST:	\$59.82	\$0.00	\$59.82
OVERHEAD:	\$86.32	\$0.00	\$86.32
	\$146.14	\$0.00	\$146.14
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$16,108.49	\$0.00	\$16,108.49
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$16,108.49	\$0.00	\$16,108.49

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925106

Page 1 of 1

Material Number		Description	Unit Price	Total Cost	Asset?
INSTALL					
16097	2004351	CABLE, CONVERSE, AL, UG, 600V, 2/C, 2/0,	\$0.86	\$13,842.99	Y
			Total	\$13,842.99	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925110

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG SERVICE CONDUIT

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$8,622.80	\$0.00	\$8,622.80
OVERHEAD:	\$1,320.16	\$0.00	\$1,320.16
	\$9,942.96	\$0.00	\$9,942.96
LABOR HOURS:	0	0	0
LABOR COST:	\$0.11	\$0.00	\$0.11
OVERHEAD:	\$0.18	\$0.00	\$0.18
	\$0.29	\$0.00	\$0.29
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$9,943.25	\$0.00	\$9,943.25
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$9,943.25	\$0.00	\$9,943.25

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 27



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925110

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
176	2004493	ADAPTOR, 2" PVC, FEMALE SLIP TO MALE THR	\$0.32	\$56.32	N
31	2007227	CEMENT, PVC-CLEAR FAST DRY QUART W/DAUBE	\$5.24	\$162.44	N
15330	2004488	CONDUIT, PVC 2 IN 20 FT BELL END	\$0.39	\$5,978.70	Y
176	2004491	CONDUIT, PVC 2 IN 250 FT ROLL FLEXIBLE	\$0.90	\$158.40	N
176	2004401	CONDUIT, SERVICE RISER, PVC, 2"	\$4.60	\$809.60	N
896	2004507	COUPLING, PVC 2 IN SCH 40 TEMS 13.01	\$0.55	\$492.80	N
448	2004511	ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-	\$1.15	\$515.20	N
176	2004396	NUT, LOCK GALV 2 IN	\$0.54	\$95.04	N
11810	2007414	TAPE, PULLING, POLYSTER, RATED AT 1250#,	\$0.03	\$354.30	N
Total			\$8,622.80		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925108

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDUG SET METERS

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	35.2	0	35.2
LABOR COST:	\$1,373.50	\$0.00	\$1,373.50
OVERHEAD:	\$1,981.97	\$0.00	\$1,981.97
	\$3,355.47	\$0.00	\$3,355.47
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$3,355.47	\$0.00	\$3,355.47
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$3,355.47	\$0.00	\$3,355.47

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 29

Revised 3/17/17

OH Construction Cost Data Summary
High Density (176-Lot) OH Subdivision Costs

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Line #	Work Type/WR #	(D+ M) Material and Handling	Material	(F + L) Total Labor Plus Vehicles	(G + H + I) Total Labor	Base Labor	(G x J x TLF) Operations Labor Overheads	(G x K x CLF) Contract Labor Overheads	TEC Work %	Contractor Work %	Vehicle	(D x MHR) Material Handling	(C+E) Total
1	Transformers												
2	925111 Install & Ground Transformers	29,333.98	25,439.23	10,053.07	10,038.23	5,450.23	3,828.68	759.33	60%	40%	\$14.84	3,894.75	39,387.05
3	Primary												
4	925112 Install Primary Line	2,161.95	1,874.90	4,785.94	4,778.88	2,594.68	1,822.71	361.49	60%	40%	\$7.06	287.05	6,947.89
5	Includes Grounding Primary Takeoffs												
6	Poles												
7	925113 Install Poles and Guy Stubs	21,326.88	18,495.26	29,918.02	29,873.87	16,219.93	11,394.18	2,259.76	60%	40%	\$44.15	2,831.62	51,244.90
8	Includes Haul Poles Out												
9	Secondary												
10	925114 Install Secondary Cable	11,721.52	10,165.22	15,881.32	15,857.88	8,609.99	6,048.35	1,199.54	60%	40%	\$23.44	1,556.30	27,602.83
11	Services												
12	927142 Install Service Cable	9,195.72	7,974.78	20,461.60	20,431.40	11,093.17	7,792.73	1,545.50	60%	40%	\$30.20	1,220.94	29,657.31
13	927163 Install Meters	7,437.96	\$6,450.40	3,177.74	2,529.71	1,373.50	964.86	191.36	60%	40%	648.03	987.56	10,615.70
14		16,633.68	14,425.18	23,639.34	22,961.11	12,466.67	8,757.59	1,736.86			678.23	2,208.50	40,273.01
15	Engineering Design/Inspection/Coordination	-	-	10,785.62	-	-	-	-	100%	0%	-	-	10,785.62
16	Tree Trim	-	-	-	-	-	-	-					
17													
18	Totals (Sum of lines 2, 5, 8, 11, 16, 18, and 20)	81,178.00	70,399.79	95,063.31	83,509.97	45,341.50	31,851.50	6,316.98			767.71	10,778.21	176,241.31
19	Cost "Per Lot" (Line 34/ 176 lots)	461.24		540.13									1,001.36

Adjustment Factors		
TEC Labor Overhead Factor (excludes engineering)	TLF =	1.1708
Contractor Labor Overhead Factor	CLF =	0.3483
Current year material handling charge rate	MHR =	0.1531

reflects removal of 8.55% for engineering costs which is a separate line item on this document
reflects removal of 7.28% for engineering costs which is a separate line item on this document

HD 31

High Density - 176 Lots - Overhead Material List

This worksheet lists the totals for major materials to be listed on the associated work request print as requested by the PSC.

737.5 Total Connected KVA
800 Total peak demand KVA
2 25 kVA Transformers
5 37.5 kVA Transformers
7 50 kVA Transformers
2 75 kVA Transformers
0 100 kVA Transformers
6165 #2AAAC Primary
44 Primary Poles
5155 2/0 AWG Triplex Secondary
0 4/0 AWG Triplex Secondary
225 #2AAAC Secondary Neutral
965 2-2/0 & 1-1/0 AL Triplex Service Drop (considered secondary)
0 2-4/0 & 1-2/0 AL Triplex Service Drop (considered secondary)
19 Secondary Poles
8960 2-2/0 & 1-1/0 AL Triplex Service Drop
0 2-4/0 & 1-2/0 AL Triplex Service Drop

Summary of assemblies (CU's) for High Density Overhead Design - March 2017

Work Request #1	- Transformers (enter these Construction Units into WorkPro)							
Assemblies =>	25 KVA PKT11W3F	37.5 KVA PKT11W4F	50 KVA PKT11W5F	75 KVA PKT11W6F	100 KVA PKT11W7F	Stirrup ALSTRP1/0	Spacer SEWC	Grounding GRDMEG1/2
Total Quantities =>	2	5	7	2	0	16	16	16

Work Request #2	- Primary								
Assemblies =>	#2 AAAC WIOPA	1st span WIO2F	Additional WIO2A	1st span WIO1F	Additional WIO1A	Fused cutouts PKP208WB3A	DE & TAP PKP101WA3A	Fuses FLOH103	Grounding GRDMEG1/2
Total Quantities =>	6165	1	7	3	32	1	4	2	3

Work Request #3	- Poles and Guys												
Should be =>	Pole haul	2ø Deadend	2 ø tangent	2 ø Corner	1ø Deadend	1ø angle <20	1ø angle <20	1ø Tangent	1ø angle >20	3 ø	Down guys	Pole hardware	Guy wire
Assemblies =>	POLE_HAUL	STP402_DE_40C2	STP103_TAN_40C2	STP302_RC_40C2	STP401_DE_40C2	STP101_ANG_40C2	STP101_ANG_45C2	STP101_TAN_40C2	STP301_RC_40C2	STP104E4B	PKG12W2H	PKG31WIH	GUYSTR3/8
Total Quantities =>	44	1	6	1	4	5	2	13	11	1	29	4	340

Work Request #4	- Secondary - From Secondary&Neutral worksheet												
Assemblies =>	35' CL 4 STS11C	POLE_HAUL	2/0 WIO3SB	4/0 WIO3SC	#2 Neutral C2AAAC	Labor WIOCF	Labor WIOCA	Eyebolt SEW1DRN	Eye nut SEGIDEN	DE+Bolt PKS11W	CABLEOPEN	Pole hardware PKG31WIH	Guy wire GUYSTR3/8
Total Quantities =>	0	0	5155	0	225	6	37	2	2	8	14	8	565

More of Work Request #4	- Secondary continued - From Secondary&Neutral worksheet and SlackSecondary (service cable) & Secondary Poles worksheet										
Assemblies =>	POLE_HAUL	35' Class 4 STS11C	Deadend PKS21G	Clamp CLMIDSPAN	2/0 triplex CA20TPX	4/0 triplex CA40TPX	0	Down guys PKG11WIH	Pole hardware PKG31WIH	Guy wire GUYSTR3/8	
Total Quantities =>	19	19	35	3	965	0	19	1	2	50	

Work Request #5	- Services			
Assemblies	2/0 triplex CA20TPX	4/0 triplex CA40TPX	Clamp CLMIDSPAN	SVLABOR
Quantities	8960	0	26	176

Work Request #5	- Set Meter
Assemblies	METERLABOR
Quantities	176

HD 33



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925111

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
HDOH TRANSFORMER

Additional Information:

WR Description

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$25,439.23	\$0.00	\$25,439.23
OVERHEAD:	\$3,894.78	\$0.00	\$3,894.78
	\$29,334.01	\$0.00	\$29,334.01
LABOR HOURS:	139.67	0	139.67
LABOR COST:	\$5,450.23	\$0.00	\$5,450.23
OVERHEAD:	\$7,864.70	\$0.00	\$7,864.70
	\$13,314.93	\$0.00	\$13,314.93
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$42,648.94	\$0.00	\$42,648.94
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$42,648.94	\$0.00	\$42,648.94

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 34



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925111

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
16	2003646	ARRESTER, LIGHTNING DISTRIBUTION CLASS 1	\$24.59	\$393.44	Y
14	2077754	BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$13.72	N
32	2077755	BOLT, MACHINE 5/8" X 12", GALV. FULL	\$1.02	\$32.64	N
16	2003690	BRACKET, CUTOUT, ARRESTER & POTHEAD DWG	\$6.41	\$102.56	N
16	2004660	BRACKET,"L" 5-5/8"IN LENGTH FOR MTG CUTO	\$10.26	\$164.16	N
208	2004197	CABLE, HANDCOIL, COPPER, 600V, 2/0 AWG,	\$2.11	\$438.88	N
24	2004199	CABLE, HANDCOIL, COPPER, 600V, 4/0 AWG,	\$3.44	\$82.56	N
16	2077906	CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$24.00	N
16	2077911	CLAMP, HOT LINE CU TO CU #6 SOL- 2 STR T	\$5.54	\$88.64	N
32	2078000	CLAMP, TRANSFORMER GROUND 10-SOL - #1 ST	\$2.22	\$71.04	N
640	2078012	CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$281.60	N
4	2003528	CONNECTOR, 2-BOLT AL MAIN 336-500MCM TAP	\$21.76	\$87.04	N
42	2077839	CONNECTOR, COMPRESSION H-BLOCK ACSR 1/0-	\$0.47	\$19.74	N
16	2077837	CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$9.44	N
2	2077845	CONNECTOR, COMPRESSION H-BLOCK ACSR 4/0	\$0.63	\$1.26	N
64	2077930	CONNECTOR, VICE CU #4 STR	\$2.05	\$131.20	N
48	2077939	COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$195.36	N
24	2003516	COVER, SNAP-ON SQUEEZON CONNECTOR D DIE	\$0.37	\$8.88	N
16	2003846	CUTOUT, 15KV, 100A FUSE HLDR, 300A UNVRS	\$55.34	\$885.44	Y
7	2077806	FUSE LINK, 10A UNVRSL 100A CUTOUT 23" OA	\$3.57	\$24.99	N
2	2077807	FUSE LINK, 15A UNVRSL 100A CUTOUT 23" OA	\$3.39	\$6.78	N
2	2077804	FUSE LINK, 5A UNVRSL 100A CUTOUT 23" OAL	\$3.65	\$7.30	N
5	2077805	FUSE LINK, 7A UNVRSL 100A CUTOUT 23" OAL	\$3.77	\$18.85	N
32	2077965	MOULDING, GROUND WIRE, PVC 1/2 IN X 8 FT	\$0.99	\$31.68	N
16	2007368	PROTECTOR, WILD LIFE, SLIP-ON TYPE	\$4.10	\$65.60	N
64	2077980	ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$878.08	N
16	2077767	ROLLED BOLT, DOUBLE-ARMING, 5/8"X 16"	\$2.14	\$34.24	N
16	2077789	SCREW, LAG PILOT POINT 3/8 X 3	\$0.26	\$4.16	N
16	2077812	SPACER, CABLED SECONDARY	\$6.79	\$108.64	N
140	2077997	STAPLE, SECURES 1/2" PVC MOULDING TO WOO	\$0.25	\$35.00	N
2	2001367	TX,OH,25 KVA,7.62/13.2Y,120/240,FR3	\$946.61	\$1,893.22	Y
5	2001368	TX,OH,37.5 KVA,7.62/13.2Y,120/240,FR3	\$1,211.26	\$6,056.30	Y
7	2001369	TX,OH,50 KVA,7.62/13.2Y,120/240,FR3	\$1,373.14	\$9,611.98	Y
2	2001370	TX,OH,75 KVA,7.62/13.2Y,120/240,FR3	\$1,766.57	\$3,533.14	Y
80	2078006	WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$15.20	N
48	2078014	WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$4.32	N
50	2004184	WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$31.75	N
160	2078011	WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$46.40	N
		Total		\$25,439.23	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925112

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
HDOH PRIMARY

Additional Information:

WR Description

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$1,874.90	\$0.00	\$1,874.90
OVERHEAD:	\$287.05	\$0.00	\$287.05
	\$2,161.95	\$0.00	\$2,161.95
LABOR HOURS:	66.49	0	66.49
LABOR COST:	\$2,594.68	\$0.00	\$2,594.68
OVERHEAD:	\$3,744.13	\$0.00	\$3,744.13
	\$6,338.81	\$0.00	\$6,338.81
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$8,500.76	\$0.00	\$8,500.76
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$8,500.76	\$0.00	\$8,500.76

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

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Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925112

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?
INSTALL				
3	2003646 ARRESTER, LIGHTNING DISTRIBUTION CLASS 1	\$24.59	\$73.77	Y
2	2077738 BOLT, 5/8" X 8" EYE GALV RTS 12,400 LBS.	\$2.19	\$4.38	N
4	2077739 BOLT, EYE, 5/8 IN. X 10 IN., GALVANIZED	\$3.12	\$12.48	N
2	2077744 BOLT, MACHINE 1/2 INCH X 7 INCH	\$0.51	\$1.02	N
4	2077754 BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$3.92	N
1	2077756 BOLT, MACHINE 5/8" X 14", GALV. FULL	\$1.26	\$1.26	N
3	2003681 BRACKET, "L", LIGHTNING ARRESTER 10 KV	\$6.47	\$19.41	N
2	2004660 BRACKET,"L" 5-5/8"IN LENGTH FOR MTG CUTO	\$10.26	\$20.52	N
8	2077818 CLAMP, DEADEND ACSR OR AAC #2-4/0OR .30-	\$8.60	\$68.80	N
3	2077906 CLAMP, GROUND ROD COPPER 1/2 IN	\$1.50	\$4.50	N
9	2077911 CLAMP, HOT LINE CU TO CU #6 SOL- 2 STR T	\$5.54	\$49.86	N
3	2077813 CLAMP, SLACK SPAN DEADEND #2 ACSR - 2/0	\$9.11	\$27.33	N
6473	2004331 CONDUCTOR, BARE OVERHEAD, 2 AWG, AAAC, 7	\$0.13	\$841.53	Y
120	2078012 CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$52.80	N
11	2077838 CONNECTOR, COMPRESSION H-BLOCK ACSR #2-1	\$0.37	\$4.07	N
7	2077837 CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$4.13	N
6	2077930 CONNECTOR, VICE CU #4 STR	\$2.05	\$12.30	N
9	2077939 COUPLER, GROUND ROD SECTIONAL, COPPER, T	\$4.07	\$36.63	N
1	2002955 CROSSARM, FIR 5 FT 4-3/4 X 5-3/4 (30 PCS	\$26.61	\$26.61	N
2	2003846 CUTOFF, 15KV, 100A FUSE HLDR, 300A UNVRS	\$55.34	\$110.68	Y
2	2077794 FUSE LINK, 103A UNVRS 100A CUTOFF 23" O	\$24.62	\$49.24	N
1	2003866 GAIN, POLE FOR 5' BRACELESS ARM WITHOUT	\$31.67	\$31.67	N
1	2077954 INSULATOR, PIN TYPE, 10KV, ANSI CLASS 55	\$3.31	\$3.31	N
2	2003882 INSULATOR, POLYMER VERTICAL LINE POST 25	\$39.88	\$79.76	N
4	2077959 INSULATOR, SUSPENSION, POLYMER, 25KV, AP	\$10.42	\$41.68	N
6	2077965 MOULDING, GROUND WIRE, PVC 1/2 IN X 8 FT	\$0.99	\$5.94	N
5	2077783 NUT, EYE, STANDARD, 1-1/2" GALVANIZED FO	\$1.28	\$6.40	N
1	2077971 PIN, CROSSARM 5/8" X 6-1/2" BOLT, 1" LEA	\$4.72	\$4.72	N
12	2077980 ROD,GROUND,1/2COPPER 10MI POINT& CHAMFER	\$13.72	\$164.64	N
3	2077789 SCREW, LAG PILOT POINT 3/8 X 3	\$0.26	\$0.78	N
30	2077997 STAPLE, SECURES 1/2" PVC MOULDING TO WOO	\$0.25	\$7.50	N
2	2077828 STIRRUP, AL BODY & CU BAIL 1/0-397	\$13.15	\$26.30	N
7	2077826 STIRRUP, AL BODY & CU BAIL 2-4/0	\$8.72	\$61.04	N
2	2004029 STUD-LINEPOST INSULATOR 3/4"X5/8 7"BOLT	\$2.97	\$5.94	N
4	2078005 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8	\$0.23	\$0.92	N
13	2078006 WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$2.47	N
2	2008135 WASHER, LOCK T316SS 1/2 IN	\$0.18	\$0.36	N
3	2004184 WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$1.89	N
15	2078011 WIRE, COPPER, TIE, #6 SOLID SOFT DRAWN	\$0.29	\$4.35	N
		Total	\$1,874.90	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925113

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
HDOH POLES

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$18,495.26	\$0.00	\$18,495.26
OVERHEAD:	\$2,831.60	\$0.00	\$2,831.60
	\$21,326.86	\$0.00	\$21,326.86
LABOR HOURS:	415.69	0	415.69
LABOR COST:	\$16,219.93	\$0.00	\$16,219.93
OVERHEAD:	\$23,405.34	\$0.00	\$23,405.34
	\$39,625.27	\$0.00	\$39,625.27
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$60,952.13	\$0.00	\$60,952.13
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$60,952.13	\$0.00	\$60,952.13

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

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Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925113

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
62	2077764	66-BOLT, MACHINE 3/4" X 12", GALV.	\$1.62	\$100.44	N
29	2003632	ANCHOR,SCRW GALV 10" WING 1-1/4" ROD 8"	\$49.00	\$1,421.00	N
20	2077739	BOLT, EYE, 5/8 IN. X 10 IN., GALVANIZED	\$3.12	\$62.40	N
40	2077754	BOLT, MACHINE 5/8" X 10", GALV. FULL	\$0.98	\$39.20	N
45	2077755	BOLT, MACHINE 5/8" X 12", GALV. FULL	\$1.02	\$45.90	N
19	2077753	BOLT, MACHINE 5/8" X 8", GALV.	\$1.02	\$19.38	N
1	2077780	BOLT, SPOOL, 5/8" X 10", GALV. SINGLE UP	\$2.64	\$2.64	N
8	2003685	BRACKET, FIBERGLASS STANDOFF VERTICAL PI	\$26.01	\$208.08	N
7	2077818	CLAMP, DEADEND ACSR OR AAC #2-4/0OR .30-	\$8.60	\$60.20	N
13	2003508	CLAMP, SUSPENSION AL ANGLE RANGE .50 TO	\$13.59	\$176.67	N
19	2077924	CLEVIS, STEEL LESS INSULATOR 5/8 IN PIN	\$7.27	\$138.13	N
105	2078012	CONDUCTOR, COPPERWELD, 3 STR. #9, DSA 30	\$0.44	\$46.20	N
25	2077837	CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$14.75	N
21	2077930	CONNECTOR, VICE CU #4 STR	\$2.05	\$43.05	N
2	2077765	DOUBLE-ARMING, GALVANIZED 5/8 "X 12"	\$2.35	\$4.70	N
29	2003636	EXTENSION ROD, ANCHOR 1-1/4 X 72 6 FT	\$44.02	\$1,276.58	N
120	2077949	GRIP, GUY, FORMED WIRE 3/8 INTWISTED LOO	\$2.25	\$270.00	N
22	2077862	GUARD, LINE #2 ACSR & AAAC STR 6/1, 7	\$1.79	\$39.38	N
3	2077863	GUARD, LINE 2/0 ACSR & AAAC STR 6/1, 7	\$2.46	\$7.38	N
62	2077951	HOOK, GUY	\$2.67	\$165.54	N
35	2077954	INSULATOR, PIN TYPE, 10KV, ANSI CLASS 55	\$3.31	\$115.85	N
1	2077952	INSULATOR, SPOOL, ANSI CLASS 53-3, TRANS	\$0.78	\$0.78	N
33	2077961	INSULATOR, STRAIN FIBERGLASS 36 IN 15,00	\$13.33	\$439.89	N
19	2077959	INSULATOR, SUSPENSION, POLYMER, 25KV, AP	\$10.42	\$197.98	N
29	2077979	MARKER, GUY WIRE PLASTIC 8' IN LENGTH CO	\$4.37	\$126.73	N
27	2077974	PIN, POLE TOP, PRESSED STEEL 18" LONG, 1	\$7.53	\$203.31	N
42	2002857	POLE, WOOD, 40FT CLASS 2, CCA TREATED	\$268.91	\$11,294.22	Y
2	2002858	POLE, WOOD, 45 FT CLASS 2, CCA TREATED.	\$318.26	\$636.52	Y
23	2077767	ROLLED BOLT, DOUBLE-ARMING, 5/8"X 16"	\$2.14	\$49.22	N
62	2077790	SCREW, LAG 1/2" X 4", GALV., TWIST DRIVE	\$0.39	\$24.18	N
48	2077812	SPACER, CABLED SECONDARY	\$6.79	\$325.92	N
7	2003612	TIE, PREFORMED SIDE TIE #2 ACSR OR #2 A	\$2.18	\$15.26	N
28	2003613	TIE, TOP, FORMED WIRE #2 ACSR OR #2 AAAC	\$2.57	\$71.96	N
62	2078002	WASHER, CURVED, MALLEABLE, 3" X 3"	\$0.96	\$59.52	N
156	2078006	WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$29.64	N
146	2078014	WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$13.14	N
2776	2005879	WIRE, GUY, GALV STEEL, 3/8 IN 7 STR HS B	\$0.27	\$749.52	N
		Total	\$18,495.26		

HD 39



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 925114

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Eng
HDOH SECONDARY

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$10,165.22	\$0.00	\$10,165.22
OVERHEAD:	\$1,556.29	\$0.00	\$1,556.29
	\$11,721.51	\$0.00	\$11,721.51
LABOR HOURS:	220.66	0	220.66
LABOR COST:	\$8,609.99	\$0.00	\$8,609.99
OVERHEAD:	\$12,424.23	\$0.00	\$12,424.23
	\$21,034.22	\$0.00	\$21,034.22
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$32,755.73	\$0.00	\$32,755.73
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$32,755.73	\$0.00	\$32,755.73

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).
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Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 925114

Page 1 of 1

Material Number	Description	Unit Price	Total Cost	Asset?	
INSTALL					
11	2077764	6-BOLT, MACHINE 3/4" X 12", GALV.	\$1.62	\$17.82	N
1	2003632	ANCHOR,SCRW GALV 10" WING 1-1/4" ROD 8"	\$49.00	\$49.00	N
10	2077739	BOLT, EYE, 5/8 IN. X 10 IN., GALVANIZED	\$3.12	\$31.20	N
1	2077755	BOLT, MACHINE 5/8" X 12", GALV. FULL	\$1.02	\$1.02	N
5413	2004338	CABLE, OVERHEAD SECONDARY, TRIPLEX, 2/0	\$0.99	\$5,358.67	Y
1013	2004364	CABLE, SERVICE DROP AL 2-2/0 & 1-1/0 NEU	\$0.83	\$841.04	Y
43	2077818	CLAMP, DEADEND ACSR OR AAC #2-4/0OR .30-	\$8.60	\$369.80	N
3	2003770	CLAMP, MID SPAN ALUMINUM 1/4 IN - 1/2 IN	\$6.39	\$19.17	N
236	2004331	CONDUCTOR, BARE OVERHEAD, 2 AWG, AAAC, 7	\$0.13	\$30.72	Y
129	2077839	CONNECTOR, COMPRESSION H-BLOCK ACSR 1/0-	\$0.47	\$60.63	N
8	2077837	CONNECTOR, COMPRESSION H-BLOCK ACSR 2/0	\$0.59	\$4.72	N
8	2077931	CONNECTOR, VICE CU #2 STR	\$2.28	\$18.24	N
86	2003516	COVER, SNAP-ON SQUEEZON CONNECTOR D DIE	\$0.37	\$31.82	N
1	2003636	EXTENSION ROD, ANCHOR 1-1/4 X 72 6 FT	\$44.02	\$44.02	N
12	2077949	GRIP, GUY, FORMED WIRE 3/8 INTWISTED LOO	\$2.25	\$27.00	N
11	2077951	HOOK, GUY	\$2.67	\$29.37	N
10	2077961	INSULATOR, STRAIN FIBERGLASS 36 IN 15,00	\$13.33	\$133.30	N
1	2077979	MARKER, GUY WIRE PLASTIC 8" IN LENGTH CO	\$4.37	\$4.37	N
37	2077783	NUT, EYE, STANDARD, 1-1/2" GALVANIZED FO	\$1.28	\$47.36	N
19	2002842	POLE, WOOD, 35 FT, CLASS 4, CCA TREATED.	\$139.97	\$2,659.43	Y
19	2077767	ROLLED BOLT, DOUBLE-ARMING, 5/8"X 16"	\$2.14	\$40.66	N
11	2077790	SCREW, LAG 1/2" X 4", GALV., TWIST DRIVE	\$0.39	\$4.29	N
19	2077812	SPACER, CABLED SECONDARY	\$6.79	\$129.01	N
11	2078002	WASHER, CURVED, MALLEABLE, 3" X 3"	\$0.96	\$10.56	N
50	2078006	WASHER, FLAT, GALVANIZED, 2" X 2" X 1/8"	\$0.19	\$9.50	N
57	2078014	WIRE, ALUMINUM, TIE, #4 BARE ANNEALED	\$0.09	\$5.13	N
16	2004184	WIRE, COPPER, BARE, #4 SOFT DRAWN 7 STR	\$0.63	\$10.08	N
657	2005879	WIRE, GUY, GALV STEEL., 3/8 IN 7 STR HS B	\$0.27	\$177.39	N
		Total	\$10,165.22		



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 927142

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Distribution Services
HDOH SERVICE

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$7,974.78	\$0.00	\$7,974.78
OVERHEAD:	\$1,220.94	\$0.00	\$1,220.94
	\$9,195.72	\$0.00	\$9,195.72
LABOR HOURS:	284.3	0	284.3
LABOR COST:	\$11,093.17	\$0.00	\$11,093.17
OVERHEAD:	\$16,007.44	\$0.00	\$16,007.44
	\$27,100.61	\$0.00	\$27,100.61
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$36,296.33	\$0.00	\$36,296.33
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$36,296.33	\$0.00	\$36,296.33

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).



Work Request Material Summary

Includes Truck Stock

Design Number 1

Printed Date: 3/10/2017

Dist: CSA

WR No. 927142

Page 1 of 1

Material Number		Description	Unit Price	Total Cost	Asset?
INSTALL					
9408	2004364	CABLE, SERVICE DROP AL 2-2/0 & 1-1/0 NEU	\$0.83	\$7,808.64	Y
0	2004366	CABLE, SERVICE DROP AL 2-4/0 & 1-2/0 NEU	\$1.23	\$0.00	Y
26	2003770	CLAMP, MID SPAN ALUMINUM 1/4 IN - 1/2 IN	\$6.39	\$166.14	N
Total				\$7,974.78	



Estimate Summary

Design Number 1

Printed Date: 3/10/2017

District: CSA

WR No. 927163

Date Sched: 3/10/17

Date Required: 3/10/17

Contact Name:

Dist Svcs
HDOH METERS

Additional Information:

WR Description:

INSTALLATION:	Capital	Oper./Maint.	Total
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	35.2	0	35.2
LABOR COST:	\$1,373.50	\$0.00	\$1,373.50
OVERHEAD:	\$1,981.97	\$0.00	\$1,981.97
	\$3,355.47	\$0.00	\$3,355.47
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$3,355.47	\$0.00	\$3,355.47
REMOVAL:			
MATERIAL:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TRANSFER:			
LABOR HOURS:	0	0	0
LABOR COST:	\$0.00	\$0.00	\$0.00
OVERHEAD:	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00
VEHICLE:	\$0.00	\$0.00	\$0.00
CONTRACTOR:	\$0.00	\$0.00	\$0.00
ADDITIONAL ITEMS:	\$0.00	\$0.00	\$0.00
SUBTOTAL:	\$0.00	\$0.00	\$0.00
TOTALS:	\$3,355.47	\$0.00	\$3,355.47

THIS FORM IS NOT TO BE USED FOR CONTRIBUTION IN AID CONSTRUCTION (CIAC).

HD 44

Differential costs for single phase (1Ø) services from an overhead source

OVERHEAD SERVICE

OH Service Cable - Material Per Foot Cost

This cost includes all service clamps, connectors and connector covers required. The per foot cost is a material only number.

<u>Action</u>	<u>Description</u>	<u>Material</u>		<u>(Material Handling) Overhead</u>		<u>OH Service Material Cost Per Foot</u>
install	76' - 1Ø - 2/0 AWG Triplex	\$78.37	+	\$12.00	= \$90.37 ÷ 76 =	\$1.19
install	76' - 1Ø - 4/0 AWG Triplex	\$122.32	+	\$18.73	= \$141.05 ÷ 76 =	\$1.86

OH Service Cable - Fixed Cost

Fixed Cost = TEC labor plus Contractor labor cost to install the service cable, includes labor plus overheads and vehicle plus the Net Present Value of Operation Cost with Storm Cost.

OH Service - Net Present Value of Operation Cost with Storm Cost	\$100.70
Labor cost to install 2/0 triplex service cable	\$132.31
Labor cost to install 4/0 triplex service cable	\$132.31

OH SERVICE CABLE - Cost Table

NS
1

<u>OH Description</u>			<u>Installation Cost</u>	
			<u>Fixed</u>	<u>Per Foot</u>
1Ø - 2/0 AWG Triplex	\$100.70	+\$132.31=	\$233.01	\$1.19
1Ø - 4/0 AWG Triplex	\$100.70	+\$132.31=	\$233.01	\$1.86

OH Service - Poles

This is the cost to haul a service pole to the site and install an overhead service pole.

<u>Action</u>	<u>Description</u>	<u>Total</u>
install	Accessible 35' wood pole	\$612.53
	Average cost to install a service pole	\$612.53

Conversion Cost - Conversions of single phase (1Ø) OH Services to UG Services

The "Conversion Cost" is the sum of: 1) the cost to remove whatever overhead facilities exist;

2) the cost of the remaining book value for those overhead facilities.

After paying the cost to remove and the book value, the Customer essentially becomes a new Customer and is charged the differential cost for his new underground service. The OH Service Cable Removal Cost and the Handy Whitman depreciation tables below are used to calculate the Conversion Cost. The total cost for a customer to convert his overhead service to underground service is the applicable Differential Cost for the new underground service plus the conversion cost.

1) the cost to remove whatever overhead facilities exist

<u>Action</u>	<u>Average length service</u>	<u>Total Removal Cost</u>	<u>System %</u>	<u>System Average Cost</u>
remove	1Ø - #2 AWG Triplex	\$40.83	10%	\$4.08
remove	1Ø - 2/0 AWG Triplex	\$40.83	70%	\$28.58
remove	1Ø - 4/0 AWG Triplex	\$40.83	20%	\$8.17
System Average cost to remove average length 1Ø service				\$40.83
<u>Action</u>	<u>Service length with a service pole</u>	<u>Total Removal Cost</u>	<u>System %</u>	<u>System Average Cost</u>
remove	1Ø - #2 AWG Triplex	\$41.40	10%	\$4.14
remove	1Ø - 2/0 AWG Triplex	\$41.40	70%	\$28.98
remove	1Ø - 4/0 AWG Triplex	\$41.40	20%	\$8.28
remove	30' wood pole, drive hook	\$212.52	50%	\$106.26
remove	35' wood pole, drive hook	\$219.80	50%	\$109.90
System Average cost to remove average long 1Ø service with service pole				\$257.56

2) the cost of the remaining book value for those overhead facilities.

Book Value Assumptions:

1. Average depreciation	0.036
2. Age of pole & service, yrs.	11
3. Handy Whitman Ratio, total dist.plant, 2004/2015	0.52

Book Value = (System Value Today) x (Handy Whitman Ratio) x (1 - (Std Dep. x Age))

<u>Action</u>	<u>Average length service</u>	<u>Total Installation Cost</u>	<u>System %</u>	<u>System Average Cost</u>
install	1Ø - #2 AWG Triplex	\$193.31	10%	\$19.33
install	1Ø - 2/0 AWG Triplex	\$222.68	70%	\$155.88
install	1Ø - 4/0 AWG Triplex	\$273.36	20%	\$54.67
System Average cost to install average length 1Ø service				\$229.88
Book Value for average length 1Ø service				\$71.91
<u>Action</u>	<u>Service length that requires a service pole</u>	<u>Total Installation Cost</u>	<u>System %</u>	<u>System Average Cost</u>
install	1Ø - #2 AWG Triplex	\$239.58	10%	\$23.96
install	1Ø - 2/0 AWG Triplex	\$297.62	70%	\$208.33
install	1Ø - 4/0 AWG Triplex	\$394.63	20%	\$78.93
install	30' wood pole, drive hook	\$319.10	25%	\$79.77
install	30' wood pole, cable spacer	\$409.92	25%	\$102.48
install	35' wood pole, cable spacer	\$476.44	50%	\$238.22
	Haul pole to job site	\$136.10	100%	\$136.10
System Average cost to install average long 1Ø service with service pole				\$867.79
Book Value for average long 1Ø service with service pole				\$271.48

1Ø Conversion Cost from OH to UG service

	<u>Remove Cost</u>	<u>Book value Cost</u>	<u>Conversion Cost</u>
1Ø Average Service - 100 ft or less(Svc without pole) = (book value + removal)	\$40.83	\$71.91	\$112.75
1Ø Average Long Service- Greater than 100 ft (svc with one pole) = (book value + removal)	\$257.56	\$271.48	\$529.04

UNDERGROUND SERVICE

UG Service from an OH Source - Per Foot Cost

This is the material cost of the conduit and cable in the trench, plus the contractor labor to dig the trench and install the conduit and cable in the trench, plus the cost of the TEC Inspector.

Action	Description	UG Cable Material Cost Per Foot		UG Conduit Material Cost Per Foot		Teco Inspection Labor Per Foot		Contractor labor Machine Trench Per Foot		UG Cable Machine Trench Total Cost Per Foot
install	1Ø - 2/0 AWG Triplex	\$1.04	+	\$0.61	+	\$1.16	+	\$9.44	=	\$12.25
install	1Ø - 4/0 AWG Triplex	\$1.37	+	\$0.81	+	\$1.16	+	\$9.44	=	\$12.78

UG SERVICE CABLE TO METER FROM OH SOURCE - Fixed Cost

This is the cost for the material down the pole and the material at the house riser to the meter can, plus the contractor cost to install the conduit, cable and make the connection on the pole, plus the Net Present Value of Operation Cost with Storm Cost.

UG Service - Net Present Value of Operation Cost with Storm Cost

Action	Description	Material		UG Cable (Material Handling) Overhead		Contractor Labor		NPV OC + SC		Total Fixed Cost
install	1Ø - 2/0 AWG Tpx - 2" conduit	\$75.06	+	\$11.49	+	\$136.58	+	\$81.43	=	\$304.56
install	1Ø - 4/0 AWG Tpx - 3" conduit	\$103.13	+	\$15.79	+	\$136.58	+	\$81.43	=	\$336.93

UG Service Cable from an OH Source - Cost Table

NS S	UG Service Cable from an OH Source to a meter can Cable & Conduit With Machine Trench		Installation Cost		OH Service Equivalent Description	Installation Cost		Service Differential Cost	
			Fixed	Per Foot		Fixed	Per Foot	Fixed	Per Foot
		1Ø - 2/0 AWG Triplex	\$304.56	\$12.25	1Ø - 2/0 AWG Triplex	\$233.01	\$1.19	\$71.55	\$11.06
		1Ø - 4/0 AWG Triplex	\$336.93	\$12.78	1Ø - 4/0 AWG Triplex	\$233.01	\$1.86	\$103.92	\$10.92

Differential costs for single phase (1Ø) services from an overhead source

Fixed Charge	Cost/ft	1Ø UG Secondary or 1Ø UG service In conduit from OH source (Base Charge + service length times Cost/ft)
\$71.55	\$11.06	1Ø 2/0 AWG, 100 ft or less, machine trench, /ft (differential) - a service 100' or less is one that would not have a service pole if it was overhead
\$103.92	\$10.92	1Ø 4/0 AWG, 100 ft or less, machine trench, /ft (differential) - a service 100' or less is one that would not have a service pole if it was overhead
(\$485.01)	\$11.06	1Ø 2/0 AWG, greater than 100 ft, machine trench, /ft (differential) - a service greater than 100' is one that would require a service pole if it was overhead
(\$452.65)	\$10.92	1Ø 4/0 AWG, greater than 100 ft, machine trench, /ft (differential) - a service greater than 100' is one that would require a service pole if it was overhead

Tariff Sheet No. 5.516 (3.7.2)

Density Class	Current Deposit	CPI -U			Proposed Deposit 2017
		2015	2014	2015	
Urban commercial or residential (\$/mile)	\$ 9,346	1.60%	0.10%	1.30%	\$ 9,626
Rural commercial or residential (\$/mile)	\$ 5,466	1.60%	0.10%	1.30%	\$ 5,630
Per Lot Subdivisions (\$/lot)	\$ 45	1.60%	0.10%	1.30%	\$ 46

Table I
OPERATING COSTS

		2014 Actual \$	2015 Actual \$	2016 Actual \$	3-Yr Average \$	OH Ratio	UG Ratio	3-Yr Average Allocated Overhead \$	3-Yr Average Allocated Underground \$
Overhead - Blanket Account									
D-CRR-Voltage-OH (NEW)	New SAP/Funding project CRR-02630, CRR-02879	\$19,465	\$34,226	\$46,177	\$33,289	100.0%	0.0%	\$33,289	\$0
PRE - Dist Line - Fault Indicators	PRE-05060	\$191,954	\$257,568	\$172,262	\$207,261	100.0%	0.0%	\$207,261	\$0
Distr - Maint - Corrective - OH Line	CRR-02682, CRR-03641, PRE-04820	\$11,336,379	\$11,853,173	\$12,492,806	\$11,894,119	100.0%	0.0%	\$11,894,119	\$0
Distribution - Maint - OH System Improvements		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Preventative - OH Line	PRE-02805, PRE-02627	\$945,947	\$2,602,586	\$4,852,428	\$2,800,320	100.0%	0.0%	\$2,800,320	\$0
Distr - Maint - Trouble - OH Storm	CRR-02625, CRR-07052	\$1,575,133	\$1,279,340	\$1,586,273	\$1,480,249	100.0%	0.0%	\$1,480,249	\$0
Distr - Maint - Pole Inspect & Change-Outs	PRE-02624	\$24,093,243	\$21,652,324	\$29,189,331	\$24,978,299	100.0%	0.0%	\$24,978,299	\$0
Distr - Maint - Damage Replacement - OH Line	CRR-02629, CRR-07072	\$1,179,270	\$1,166,707	\$1,205,163	\$1,183,713	100.0%	0.0%	\$1,183,713	\$0
Distr - Maint - Capacitors	PRE-02631, CRR-02628	\$959,094	\$620,653	\$532,395	\$704,044	100.0%	0.0%	\$704,044	\$0
Distr - Maint - Trouble - Non-Storm		\$0	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0
Distr - Maint - Tree Trimming - Planned		\$0	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0
Distr - Env - Train/Permit/Inspect/Audit/Protect		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Tree Trimming - Unplanned		\$0	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0
Distr - Maint - Pole Reinforcements	PRE-03670	\$42,566	\$27,782	\$0	\$23,453	100.0%	0.0%	\$23,453	\$0
Distr - Maint - Pole CLAs & Change-Outs	PRE-03640	\$517,823	\$628,247	\$1,370,240	\$838,770	100.0%	0.0%	\$838,770	\$0
Distr - Maint - Infrared Thermography		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Services - OH Line	CRR-02680	\$589,599	\$596,392	\$833,061	\$673,017	0.0%	0.0%	\$0	\$0
Subtotal		\$41,450,462	\$40,719,008	\$52,280,136	\$44,575,984				
Underground - Blanket Account									
D-CRR-Voltage-UG	CRR-03814	\$6,563	\$32,613	\$331	\$13,169	0.0%	100.0%	\$0	\$13,169
D-PRE-Transformers-UG	PRE-03623	\$638,119	\$446,831	\$485,277	\$623,076	0.0%	100.0%	\$0	\$623,076
Distr - Maint - Corrective - UG Line	CRR-02644, CRR-03842	\$10,182,884	\$,564,715	\$9,578,832	\$9,775,477	0.0%	100.0%	\$0	\$9,775,477
Distribution - Maint - UG System Improvements		\$0	\$0	\$0	\$0	0.0%	100.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination		\$0	\$0	\$0	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Preventative - UG Line	PRE-02809, PRE-02646	\$330,196	\$1,143,025	\$1,025,091	\$832,771	0.0%	100.0%	\$0	\$832,771
Distr - Maint - Network Corrective	CRR-02636	\$1,241,232	\$386,306	\$240,413	\$622,650	0.0%	100.0%	\$0	\$622,650
Distr - Maint - Network Preventative	PRE-04357	\$315,678	\$213,836	\$48,820	\$182,778	0.0%	100.0%	\$0	\$182,778
Distr - Maint - Capacitors - UG	CRR-02651, CRR-03813	\$4,258	\$5,911	\$3,267	\$4,478	0.0%	100.0%	\$0	\$4,478
Distr - Maint - UG Cable Rplcmnt - Planned	CRR-02649	\$2,912,499	\$2,653,299	\$3,719,963	\$3,095,254	0.0%	100.0%	\$0	\$3,095,254
Distr - Maint - Trouble - UG Storm	CRR-02645	\$587,216	\$374,295	\$226,400	\$395,970	0.0%	100.0%	\$0	\$395,970
Distr - Maint - Damage Replacement - UG Line	CRR-02652	\$501,695	\$641,981	\$718,093	\$620,583	0.0%	100.0%	\$0	\$620,583
Distr - Maint - UG Cable Rplcmnt - Unplanned		\$0	\$0	\$0	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Services - UG Line	CRR-02679	\$828,879	\$947,454	\$911,653	\$895,995	0.0%	0.0%	\$0	\$0
Subtotal		\$17,549,218	\$16,409,246	\$16,958,141	\$16,435,956				
Overhead - O&M Account									
D-CRR-Voltage-OH (NEW)	CRR-02630, CRR-02879	\$61,164	\$21,166	\$36,013	\$39,448	100.0%	0.0%	\$39,448	\$0
Distr - Maint - Corrective - OH Line	CRR-02858, CRR-02682	\$5,894,438	\$5,863,607	\$6,702,046	\$6,086,897	100.0%	0.0%	\$6,086,897	\$0
Distribution - Maint - OH System Improvements		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Preventative - OH Line	PRE-02827, PRE-02867, PRE-02888	\$51,339	\$361,010	\$338,407	\$250,252	100.0%	0.0%	\$250,252	\$0
Distr - Maint - Trouble - OH Storm	CRR-02625, CRR-02877	\$1,828,898	\$865,131	\$1,701,574	\$1,465,200	100.0%	0.0%	\$1,465,200	\$0
Distr - Maint - Pole Inspect & Change-Outs	PRE-04039, PRE-02859	\$2,825,280	\$2,220,639	\$3,037,800	\$2,694,573	100.0%	0.0%	\$2,694,573	\$0
Distr - Maint - Damage Replacement - OH Line	CRR-02861, CRR-02629	\$93,056	\$108,021	\$154,903	\$118,660	100.0%	0.0%	\$118,660	\$0
Distr - Maint - Capacitors	CRR-02628, CRR-02857	\$110,999	\$221,207	\$182,804	\$171,670	100.0%	0.0%	\$171,670	\$0
Distr - Maint - Trouble - Non-Storm	CRR-02876	\$2,366,206	\$2,125,185	\$1,971,141	\$2,154,177	0.0%	0.0%	\$0	\$0
CRR - Dist Line - Storms - OH - Restoration	PRR-10852	\$0	\$0	\$4,473	\$1,481	0.0%	0.0%	\$0	\$0
Distr - Maint - Tree Trimming - Planned	PRE-04067	\$8,734,255	\$10,833,612	\$10,947,625	\$10,105,184	0.0%	0.0%	\$0	\$0
Distr - Env - Train/Permit/Inspect/Audit/Protect	OPS-04740, PRE-04060	\$119,786	\$135,371	\$129,887	\$128,341	100.0%	0.0%	\$128,341	\$0
Distr - Maint - Tree Trimming - Unplanned	CRR-03621	\$890,064	\$1,037,807	\$1,415,113	\$1,114,328	0.0%	0.0%	\$0	\$0
Distr - Maint - Pole Reinforcements		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Pole CLAs & Change-Outs	PRE-04062	\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Infrared Thermography		\$0	\$0	\$0	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Services - OH Line	CRR-02680, CRR-02871	\$988,943	\$632,459	\$746,690	\$789,367	0.0%	0.0%	\$0	\$0
Subtotal		\$23,964,426	\$24,025,225	\$27,368,458	\$25,079,922				
Underground - O&M Account									
D-PRE-Transformers-UG	PRE-03623	\$455	\$1,533	\$834	\$941	0.0%	100.0%	\$0	\$941
Distr - Maint - Corrective - UG Line	CRR-02860, CRR-02644	\$1,344,383	1,258,737	\$1,500,889	\$1,387,998	0.0%	100.0%	\$0	\$1,387,998
Distribution - Maint - UG System Improvements		\$0	\$0	\$0	\$0	0.0%	100.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination		\$0	\$0	\$0	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Preventative - UG Line	PRE-02869, PRE-02809, PRE-02646, PRE-02870	\$75,137	\$54,630	\$197,377	\$109,048	0.0%	100.0%	\$0	\$109,048
Distr - Maint - Network Corrective	CRR-02636, CRR-02863	\$116,780	\$43,624	\$3,992	\$54,789	0.0%	100.0%	\$0	\$54,789
Distr - Maint - Network Preventative	PRE-02864	\$933,412	\$593,541	\$503,523	\$676,825	0.0%	100.0%	\$0	\$676,825
Distr - Locate Facilities	PRE-04063	\$866,341	\$1,026,930	\$997,422	\$863,564	0.0%	100.0%	\$0	\$863,564
Distr - Maint - UG Cable Rplcmnt - Planned	CRR-03635, CRR-02649	\$24,162	\$70,422	\$97,486	\$64,017	0.0%	100.0%	\$0	\$64,017
Distr - Maint - Trouble - UG Storm	CRR-02878	\$395,539	\$60,778	\$76,868	\$177,728	0.0%	100.0%	\$0	\$177,728
D-CRR-Capacitors-UG	CRR-02851	\$1,748	\$1,838	\$0	\$1,195	0.0%	100.0%	\$0	\$1,195
D-CRR-Storms-UG	CRR-02645	\$0	\$0	\$1,429	\$476	0.0%	100.0%	\$0	\$476
Distr - Maint - Damage Replacement - UG Line	CRR-02862, CRR-02652	\$76,807	\$71,029	\$5,697	\$51,178	0.0%	100.0%	\$0	\$51,178
Distr - Maint - UG Cable Rplcmnt - Unplanned		\$0	\$0	\$0	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Services - UG Line	CRR-02679, CRR-02872	\$326,507	\$487,461	\$543,869	\$452,612	0.0%	0.0%	\$0	\$0
Subtotal		\$4,160,796	\$3,670,523	\$3,929,366	\$3,919,439				
								\$55,098,380	\$19,543,974

Table II
PRIMARY VOLTAGE SYSTEM

	2014 Actual \$	2015 Actual \$	2016 Actual \$	3-Yr Average \$	OH Ratio	UG Ratio	Allocated Overhead \$	Allocated Underground \$	
Distribution - Maint - Trouble Calls - Non-storm									
Blanket	\$0	\$0	\$0	\$0	75.3%	24.6%	\$0	\$0	
O&M	\$2,366,206	\$2,125,185	\$1,971,141	\$2,154,177	75.3%	24.6%	\$1,622,096	\$529,928	
Operating Cost Total from Table I							\$55,098,360	\$19,543,974	
							(A) 3 Yr Avg Annual Operational Cost	\$56,720,455	\$20,073,902
	2014 Actual \$	2015 Actual \$	2016 Actual \$	3-Yr Average \$	OH Ratio	UG Ratio	Allocated Overhead \$	Allocated Underground \$	
Distr - Maint - Tree Trimming - Planned									
Blanket	\$0	\$0	\$0	\$0	95.0%	5.0%	\$0	\$0	
O&M	\$8,734,255	\$10,633,612	\$10,947,625	\$10,105,164	95.0%	5.0%	\$9,603,097	\$502,067	
Distr - Maint - Tree Trimming - Unplanned									
Blanket	\$0	\$0	\$0	\$0	95.0%	5.0%	\$0	\$0	
O&M	\$890,064	\$1,037,807	\$1,415,113	\$1,114,328	95.0%	5.0%	\$1,058,964	\$55,365	
							(B) 3 Yr Avg Annual Line Clearance Cost	\$10,662,060	\$557,432
Annual Estimated Storm Costs									
Storm Damage Annual Accrual									
Percent for Distribution Lines & Substations									
Percent for Substations									
Percent for Distribution Lines									
Overall Distribution Percent									
Storm Cost Distribution Lines	\$0	\$710,000	\$8,948,000	\$ 3,219,333	96.0%	4.0%	\$3,090,560	\$128,773	
							(C) Estimated Annual Storm Cost	\$3,090,560	\$128,773
Pole Attachment Revenue	\$5,380,210	\$4,281,491	\$4,315,418	\$4,659,040	100.0%	0.0%	\$4,659,040	\$0	
							(D) 2010 Annual Pole Attachment Revenue	\$4,659,040	\$0

Table III
SERVICE CONDUCTOR

Distr - Maint - Services - OH Line									
Blanket	\$589,599	\$596,392	\$833,061	\$673,017	100.0%	0.0%	\$673,017	\$0	
O&M	\$968,943	\$632,469	\$746,690	\$789,367	100.0%	0.0%	\$789,367	\$0	
Distr - Maint - Services - UG Line									
Blanket	\$828,879	\$947,454	\$911,653	\$895,995	0.0%	100.0%	\$0	\$895,995	
O&M	\$326,507	\$487,461	\$543,869	\$452,612	0.0%	100.0%	\$0	\$452,612	
							(A) 3 Yr Avg Annual Operational Cost	\$1,482,384	\$1,348,608

Table IV
ALLOCATION FACTORS

Line Clearance			
2016 No. of company owned distribution poles	307,341	95.0%	
2016 No. of Terminal Poles on System	15,270	5.0%	
Distribution - Maint - Trouble Calls - Non-storm			
	2017	2017	2017
	Entire System	Overhead System	Underground System
No Outage Events (N)	9,191	7,490	1,701
Outage Sys Avg Duration (L-Bar)	202.80	187.41	269.96
Trouble Calls Weighted Avg Proportion (N) X (L-Bar)	1,863,935	1,403,701	459,202
Allocation Percentage		75.3%	24.6%
Service Count (Based on Metered Accounts)			
	No of Services (Based on Metered Accounts)		
Overhead Single & Three Phase (Excluding Multi-Family)	242,796		
Underground Single Phase (Excluding Multi-Family)	276,895		

Table V (A)
NET PRESENT VALUE LIFECYCLE COST CALCULATION
(Primary Voltage System - Installation of Facilities In Subdivisions)

Assumptions:

Inflation Rate	1.30 %
Discount Rate	6.61 %
Book Life	35 Yrs
Pole Attach Revenue Increase	0.80 %

Overhead System								
Yr	(A) 3 Yr Avg Annual Operational Cost (\$)	(D) 3 Yr Avg Annual Pole Attachment Revenue (\$)	(A)+(D) 3 Yr Avg Annual Operational Cost Incl Lost Attachment Revenue(\$)	(B) 3 Yr Avg Annual Line Clearance Cost (\$)	(C) Estimated Annual Storm Cost (\$)	(A)+(B)+(C)+ (D) NPV Incl Storm (\$)	(A)+(B)+(D) NPV Excl Storm (\$)	(C) NPV Storm Only (\$)
1	\$ 56,720,455	\$ (4,659,040)	\$ 52,061,416	\$ -	\$ 3,090,560	\$ 55,151,976	\$52,061,416	\$3,090,560
2	57,457,821	(4,696,312)	52,761,509	-	3,130,737	52,426,833	49,490,207	2,936,626
3	58,204,773	(4,733,882)	53,470,890	-	3,171,437	49,836,232	47,045,873	2,790,360
4	58,961,435	(4,771,754)	54,189,681	-	3,212,666	47,373,538	44,722,160	2,651,378
5	59,727,934	(4,809,928)	54,918,006	-	3,254,430	45,032,440	42,513,121	2,519,319
6	60,504,397	(4,848,407)	55,655,990	-	3,296,738	42,806,940	40,413,103	2,393,838
7	61,290,954	(4,887,194)	56,403,760	-	3,339,595	40,691,336	38,416,730	2,274,606
8	62,087,736	(4,926,292)	57,161,445	-	3,383,010	38,680,205	36,518,892	2,161,313
9	62,894,877	(4,965,702)	57,929,175	-	3,426,989	36,768,393	34,714,730	2,053,663
10	63,712,510	(5,005,428)	58,707,083	-	3,471,540	34,951,000	32,999,625	1,951,375
11	64,540,773	(5,045,471)	59,495,302	-	3,516,670	33,223,367	31,369,185	1,854,181
12	65,379,803	(5,085,835)	60,293,968	-	3,562,387	31,581,063	29,819,234	1,761,829
13	66,229,740	(5,126,522)	61,103,219	-	3,608,698	30,019,879	28,345,803	1,674,076
14	67,090,727	(5,167,534)	61,923,193	-	3,655,611	28,535,812	26,945,117	1,590,694
15	67,962,907	(5,208,874)	62,754,032	12,775,366	3,703,134	32,339,428	30,827,962	1,511,465
16	68,846,424	(5,250,545)	63,595,879	12,941,446	3,751,275	30,738,646	29,302,463	1,436,183
17	69,741,428	(5,292,549)	64,448,878	13,109,685	3,800,041	29,217,052	27,852,403	1,364,650
18	70,648,066	(5,334,890)	65,313,177	13,280,111	3,849,442	27,770,732	26,474,052	1,296,680
19	71,566,491	(5,377,569)	66,188,922	13,452,752	3,899,484	26,395,963	25,163,868	1,232,095
20	72,496,856	(5,420,589)	67,076,266	13,627,638	3,950,178	25,089,210	23,918,482	1,170,727
21	73,439,315	(5,463,954)	67,975,361	13,804,797	4,001,530	23,847,108	22,734,692	1,112,416
22	74,394,026	(5,507,666)	68,886,360	13,984,260	4,053,550	22,666,462	21,609,453	1,057,009
23	75,361,148	(5,551,727)	69,809,421	14,166,055	4,106,246	21,544,233	20,539,871	1,004,362
24	76,340,843	(5,596,141)	70,744,702	14,350,214	4,159,627	20,477,533	19,523,196	954,337
25	77,333,274	(5,640,910)	71,692,364	14,536,767	4,213,702	19,463,616	18,556,812	906,804
26	78,338,607	(5,686,037)	72,652,569	14,725,745	4,268,481	18,499,871	17,638,233	861,638
27	79,357,009	(5,731,526)	73,625,483	14,917,179	4,323,971	17,583,818	16,765,096	818,722
28	80,388,650	(5,777,378)	74,611,272	15,111,103	4,380,182	16,713,098	15,935,155	777,943
29	81,433,702	(5,823,597)	75,610,105	15,307,547	4,437,125	15,885,469	15,146,274	739,195
30	82,492,340	(5,870,186)	76,622,155	15,506,545	4,494,807	15,098,800	14,396,423	702,378
31	83,564,741	(5,917,147)	77,647,593	15,708,130	4,553,240	14,351,066	13,683,672	667,394
32	84,651,082	(5,964,484)	78,686,598	15,912,336	4,612,432	13,640,340	13,006,187	634,153
33	85,751,546	(6,012,200)	79,739,346	16,119,196	4,672,394	12,964,792	12,362,225	602,567
34	86,866,316	(6,060,298)	80,806,019	16,328,746	4,733,135	12,322,681	11,750,127	572,554
35	87,995,579	(6,108,780)	81,886,798	16,541,020	4,794,666	11,712,355	11,168,318	544,037
					SUM	\$ 995,401,287	\$ 943,730,161	\$ 51,671,126

NPV = (Annual Cost)/(1+(Discount Rate/100))^(Year -1)

Table V (B)
NET PRESENT VALUE LIFECYCLE COST CALCULATION
(Primary Voltage System - Installation of Facilities In Subdivisions)

Assumptions:	
Inflation Rate	1.30 %
Discount Rate	6.61 %
Book Life	35 Yrs
Pole Attach Revenue Increase	0.80 %

Underground System						
Yr	(A)	(B)	(C)	(A)+(B)+(C)	(A)+(B)	(C)
	3 Yr Avg Annual Operational Cost (\$)	3 Yr Avg Annual Line Clearance Cost (\$)	Estimated Annual Storm Cost (\$)	NPV Incl Storm (\$)	NPV Excl Storm (\$)	NPV Storm Only (\$)
1	\$ 20,073,902	\$ -	\$ 128,773	\$ 20,202,675	\$ 20,073,902	\$128,773
2	20,334,862	-	130,447	\$ 19,196,426	\$ 19,074,066	\$122,359
3	20,599,215	-	132,143	\$ 18,240,296	\$ 18,124,031	\$116,265
4	20,867,005	-	133,861	\$ 17,331,788	\$ 17,221,314	\$110,474
5	21,138,276	-	135,601	\$ 16,468,532	\$ 16,363,560	\$104,972
6	21,413,074	-	137,364	\$ 15,648,272	\$ 15,548,529	\$99,743
7	21,691,444	-	139,150	\$ 14,868,867	\$ 14,774,092	\$94,775
8	21,973,433	-	140,959	\$ 14,128,283	\$ 14,038,228	\$90,055
9	22,259,087	-	142,791	\$ 13,424,586	\$ 13,339,016	\$85,569
10	22,548,455	-	144,648	\$ 12,755,938	\$ 12,674,630	\$81,307
11	22,841,585	-	146,528	\$ 12,120,594	\$ 12,043,336	\$77,258
12	23,138,526	-	148,433	\$ 11,516,895	\$ 11,443,485	\$73,410
13	23,439,327	-	150,362	\$ 10,943,265	\$ 10,873,511	\$69,753
14	23,744,038	-	152,317	\$ 10,398,206	\$ 10,331,927	\$66,279
15	24,052,710	667,919	154,297	\$ 10,152,912	\$ 10,089,934	\$62,978
16	24,365,396	676,602	156,303	\$ 9,647,218	\$ 9,587,377	\$59,841
17	24,682,146	685,398	158,335	\$ 9,166,713	\$ 9,109,852	\$56,860
18	25,003,014	694,308	160,393	\$ 8,710,140	\$ 8,656,111	\$54,028
19	25,328,053	703,334	162,479	\$ 8,276,307	\$ 8,224,970	\$51,337
20	25,657,318	712,478	164,591	\$ 7,864,084	\$ 7,815,303	\$48,780
21	25,990,863	721,740	166,730	\$ 7,472,392	\$ 7,426,041	\$46,351
22	26,328,744	731,122	168,898	\$ 7,100,209	\$ 7,056,167	\$44,042
23	26,671,018	740,627	171,094	\$ 6,748,564	\$ 6,704,715	\$41,848
24	27,017,741	750,255	173,318	\$ 6,410,533	\$ 6,370,769	\$39,764
25	27,368,972	760,008	175,571	\$ 6,091,239	\$ 6,053,455	\$37,783
26	27,724,768	769,889	177,853	\$ 5,787,848	\$ 5,751,947	\$35,902
27	28,085,190	779,897	180,165	\$ 5,499,569	\$ 5,465,455	\$34,113
28	28,450,298	790,036	182,508	\$ 5,225,648	\$ 5,193,233	\$32,414
29	28,820,151	800,306	184,880	\$ 4,965,370	\$ 4,934,570	\$30,800
30	29,194,813	810,710	187,284	\$ 4,718,057	\$ 4,688,791	\$29,266
31	29,574,346	821,249	189,718	\$ 4,483,061	\$ 4,455,253	\$27,808
32	29,958,813	831,926	192,185	\$ 4,259,770	\$ 4,233,347	\$26,423
33	30,348,277	842,741	194,683	\$ 4,047,601	\$ 4,022,494	\$25,107
34	30,742,805	853,696	197,214	\$ 3,845,999	\$ 3,822,142	\$23,856
35	31,142,461	864,794	199,778	\$ 3,654,438	\$ 3,631,770	\$22,668
			SUM	\$ 341,370,290	\$ 339,217,326	\$ 2,152,964

Table VI (A)
NET PRESENT VALUE LIFECYCLE COST CALCULATION
(Services)

Assumptions:
 Inflation Rate 1.30 %
 Discount Rate 6.61 %
 Book Life 35 Yrs
 Pole Attach Revenue Increase 0.80 %

Overhead System									
Yr	(A) 3 Yr Avg Operational Cost (\$)	(D) 3 Yr Avg Annual Pole Attachment Revenue (\$)	(A)+(D) 3 Yr Avg Annual Operational Cost Incl Lost Attachment Revenue(\$)		(B) 3 Yr Avg Annual Line Clearance Cost (\$)	(C) Estimated Annual Storm Cost (\$)	(A)+(B)+(C)+ (D) NPV Incl Storm (\$)	(A)+(B)+(D) NPV Excl Storm (\$)	(C) NPV Storm Only (\$)
1	\$ 1,462,384	\$ -	\$ 1,462,384	\$ -	\$ -	\$ 1,462,384	\$1,462,384	\$0	
2	1,481,395	-	1,481,395	-	-	1,389,546	\$1,389,546	\$0	
3	1,500,654	-	1,500,654	-	-	1,320,336	\$1,320,336	\$0	
4	1,520,162	-	1,520,162	-	-	1,254,573	\$1,254,573	\$0	
5	1,539,924	-	1,539,924	-	-	1,192,086	\$1,192,086	\$0	
6	1,559,943	-	1,559,943	-	-	1,132,711	\$1,132,711	\$0	
7	1,580,222	-	1,580,222	-	-	1,076,293	\$1,076,293	\$0	
8	1,600,765	-	1,600,765	-	-	1,022,685	\$1,022,685	\$0	
9	1,621,575	-	1,621,575	-	-	971,748	\$971,748	\$0	
10	1,642,656	-	1,642,656	-	-	923,347	\$923,347	\$0	
11	1,664,010	-	1,664,010	-	-	877,357	\$877,357	\$0	
12	1,685,642	-	1,685,642	-	-	833,658	\$833,658	\$0	
13	1,707,556	-	1,707,556	-	-	792,136	\$792,136	\$0	
14	1,729,754	-	1,729,754	-	-	752,681	\$752,681	\$0	
15	1,752,241	-	1,752,241	-	-	715,192	\$715,192	\$0	
16	1,775,020	-	1,775,020	-	-	679,570	\$679,570	\$0	
17	1,798,095	-	1,798,095	-	-	645,722	\$645,722	\$0	
18	1,821,470	-	1,821,470	-	-	613,560	\$613,560	\$0	
19	1,845,150	-	1,845,150	-	-	583,000	\$583,000	\$0	
20	1,869,136	-	1,869,136	-	-	553,962	\$553,962	\$0	
21	1,893,435	-	1,893,435	-	-	526,371	\$526,371	\$0	
22	1,918,050	-	1,918,050	-	-	500,153	\$500,153	\$0	
23	1,942,985	-	1,942,985	-	-	475,242	\$475,242	\$0	
24	1,968,243	-	1,968,243	-	-	451,571	\$451,571	\$0	
25	1,993,830	-	1,993,830	-	-	429,079	\$429,079	\$0	
26	2,019,750	-	2,019,750	-	-	407,708	\$407,708	\$0	
27	2,046,007	-	2,046,007	-	-	387,401	\$387,401	\$0	
28	2,072,605	-	2,072,605	-	-	368,105	\$368,105	\$0	
29	2,099,549	-	2,099,549	-	-	349,771	\$349,771	\$0	
30	2,126,843	-	2,126,843	-	-	332,350	\$332,350	\$0	
31	2,154,492	-	2,154,492	-	-	315,796	\$315,796	\$0	
32	2,182,500	-	2,182,500	-	-	300,067	\$300,067	\$0	
33	2,210,873	-	2,210,873	-	-	285,121	\$285,121	\$0	
34	2,239,614	-	2,239,614	-	-	270,920	\$270,920	\$0	
35	2,268,729	-	2,268,729	-	-	257,426	\$257,426	\$0	
						SUM \$ 24,449,630	\$ 24,449,630	\$ -	

NPV = (Annual Cost)/(1+(Discount Rate/100))^(Year -1)

Table VI (B)
NET PRESENT VALUE LIFECYCLE COST CALCULATION
(Services)

Assumptions:

Inflation Rate	1.30 %
Discount Rate	6.61 %
Book Life	35 Yrs
Pole Attach Revenue Increase	0.80 %

Underground System						
Yr	(A) 3 Yr Avg Annual Operational Cost (\$)	(B) 3 Yr Avg Annual Line Clearance Cost (\$)	(C) Estimated Annual Storm Cost (\$)	(A)+(B)+(C) NPV Incl Storm (\$)	(A)+(B) NPV Excl Storm (\$)	(C) NPV Storm Only (\$)
1	\$ 1,348,608	\$ -	\$ -	\$ 1,348,608	\$ 1,348,608	\$0
2	1,366,140	-	-	1,281,437	1,281,437	\$0
3	1,383,899	-	-	1,217,611	1,217,611	\$0
4	1,401,890	-	-	1,156,965	1,156,965	\$0
5	1,420,115	-	-	1,099,339	1,099,339	\$0
6	1,438,576	-	-	1,044,583	1,044,583	\$0
7	1,457,278	-	-	992,555	992,555	\$0
8	1,476,222	-	-	943,118	943,118	\$0
9	1,495,413	-	-	896,144	896,144	\$0
10	1,514,854	-	-	851,509	851,509	\$0
11	1,534,547	-	-	809,097	809,097	\$0
12	1,554,496	-	-	768,798	768,798	\$0
13	1,574,704	-	-	730,506	730,506	\$0
14	1,595,175	-	-	694,121	694,121	\$0
15	1,615,913	-	-	659,548	659,548	\$0
16	1,636,919	-	-	626,698	626,698	\$0
17	1,658,199	-	-	595,483	595,483	\$0
18	1,679,756	-	-	565,824	565,824	\$0
19	1,701,593	-	-	537,641	537,641	\$0
20	1,723,714	-	-	510,863	510,863	\$0
21	1,746,122	-	-	485,418	485,418	\$0
22	1,768,821	-	-	461,240	461,240	\$0
23	1,791,816	-	-	438,267	438,267	\$0
24	1,815,110	-	-	416,438	416,438	\$0
25	1,838,706	-	-	395,696	395,696	\$0
26	1,862,609	-	-	375,987	375,987	\$0
27	1,886,823	-	-	357,260	357,260	\$0
28	1,911,352	-	-	339,466	339,466	\$0
29	1,936,200	-	-	322,558	322,558	\$0
30	1,961,370	-	-	306,492	306,492	\$0
31	1,986,868	-	-	291,226	291,226	\$0
32	2,012,697	-	-	276,721	276,721	\$0
33	2,038,862	-	-	262,938	262,938	\$0
34	2,065,367	-	-	249,842	249,842	\$0
35	2,092,217	-	-	237,398	237,398	\$0
			SUM	\$ 22,547,395	\$ 22,547,395	\$ -

Table VII
Net Present Value of Operational Costs
Per Mile & Per Service Calculations

<u>Overhead</u>			
Primary Voltage System	Incl Storm	Excl Storm	Storm Only
NPV Life Cycle Cost	\$995,401,287	\$943,730,161	\$51,671,126
System Miles OH	6,263	6,263	6,263
NPV Life Cycle Cost / Mile	\$158,933.62	\$150,683.40	\$8,250.22
Services	Incl Storm	Excl Storm	Storm Only
NPV Life Cycle Cost	\$24,449,630	\$24,449,630	\$0
Number of Services	242,796	242,796	242,796
NPV Life Cycle Cost / Service	\$100.70	\$100.70	\$0.00
 <u>Underground</u>			
Primary Voltage System	Incl Storm	Excl Storm	Storm Only
NPV Life Cycle Cost	\$341,370,290	\$339,217,326	\$2,152,964
System Miles OH	5,153	5,153	5,153
NPV Life Cycle Cost / Mile	\$66,246.90	\$65,829.09	\$417.81
Services	Incl Storm	Excl Storm	Storm Only
NPV Life Cycle Cost	\$22,547,395	\$22,547,395	\$0
Number of Services	276,895	276,895	276,895
NPV Life Cycle Cost / Service	\$81.43	\$81.43	\$0.00
 <u>Differential</u>			
Primary Voltage System	Incl Storm	Excl Storm	Storm Only
NPV Life Cycle Cost / Mile	-\$92,686.72	-\$84,854.31	-\$7,832.41
Services	Incl Storm	Excl Storm	Storm Only
NPV Life Cycle Cost / Service	-\$19.27	-\$19.27	\$0.00

Table VIII
Net Present Value of Operational Costs
Per Lot Calculations

<u>Low Density Subdivision</u>						
<u>Overhead</u>						
	Number of Lots	Miles of Line	Incl Storm \$ / Lot	Excl Storm \$ / Lot	Storm Only \$ / Lot	
Primary Voltage System ¹	210	1.92	\$1,453.11	\$1,377.68	\$75.43	
Services	NA	NA	\$100.70	\$100.70	\$0.00	
Primary & Service			\$1,553.81	\$1,478.38	\$75.43	
 <u>Underground</u>						
Primary Voltage System ¹	210	2.99	\$943.23	\$937.28	\$5.95	
Services	NA	NA	\$81.43	\$81.43	\$0.00	
Primary & Service			\$1,024.66	\$1,018.71	\$5.95	
Primary & Service		<u>Differential</u>	-\$529.15	-\$459.67	-\$69.48	
 <u>High Density Subdivision</u>						
<u>Overhead</u>						
	Number of Lots	Miles of Line	Incl Storm \$ / Lot	Excl Storm \$ / Lot	Storm Only \$ / Lot	
Primary Voltage System ¹	176	1.17	\$1,056.55	\$1,001.70	\$54.85	
Services	NA	NA	\$100.70	\$100.70	\$0.00	
Primary & Service			\$1,157.25	\$1,102.40	\$54.85	
 <u>Underground</u>						
Primary Voltage System ¹	176	1.07	\$402.75	\$400.21	\$2.54	
Services	NA	NA	\$81.43	\$81.43	\$0.00	
Primary & Service			\$484.18	\$481.64	\$2.54	
Primary & Service		<u>Differential</u>	-\$673.07	-\$620.76	-\$52.31	

Note

1. Formula = (NPV Life Cycle Cost / Mile) x (Miles of Line) / (Number of Lots)

Table IX
2016 O&M - FORM 13

	2016 Actual \$	OH Ratio	UG Ratio	2016 Allocated Overhead \$	2016 Allocated Underground \$
Overhead - Blanket Account					
D-CRR-Voltage-OH (NEW)	\$46,177	100.0%	0.0%	\$46,177	\$0
PRE - Dist Line - Fault Indicators	\$172,262	100.0%	0.0%	\$172,262	\$0
Distr - Maint - Corrective - OH Line	\$12,492,806	100.0%	0.0%	\$12,492,806	\$0
Distribution - Maint - OH System Improvements	\$0	100.0%	0.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Preventative - OH Line	\$4,852,428	100.0%	0.0%	\$4,852,428	\$0
Distr - Maint - Trouble - OH Storm	\$1,586,273	100.0%	0.0%	\$1,586,273	\$0
Distr - Maint - Pole Inspect & Change-Outs	\$29,189,331	100.0%	0.0%	\$29,189,331	\$0
Distr - Maint - Damage Replacement - OH Line	\$1,205,163	100.0%	0.0%	\$1,205,163	\$0
Distr - Maint - Capacitors	\$532,395	100.0%	0.0%	\$532,395	\$0
Distr - Maint - Trouble - Non-Storm	\$0	0.0%	0.0%	\$0	\$0
Distr - Maint - Tree Trimming - Planned	\$0	0.0%	0.0%	\$0	\$0
Distr - Env - Train/Permit/Inspect/Audit/Protect	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Tree Trimming - Unplanned	\$0	0.0%	0.0%	\$0	\$0
Distr - Maint - Pole Reinforcements	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Pole CLAs & Change-Outs	\$1,370,240	100.0%	0.0%	\$1,370,240	\$0
Distr - Maint - Infrared Thermography	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Services - OH Line	\$833,061	0.0%	0.0%	\$0	\$0
Subtotal	\$52,280,138				
Underground - Blanket Account					
D-CRR-Voltage-UG	\$331	0.0%	100.0%	\$0	\$331
D-PRR-Transformers-UG	\$485,277	0.0%	100.0%	\$0	\$485,277
Distr - Maint - Corrective - UG Line	\$9,578,832	0.0%	100.0%	\$0	\$9,578,832
Distribution - Maint - UG System Improvements	\$0	0.0%	100.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Preventative - UG Line	\$1,025,091	0.0%	100.0%	\$0	\$1,025,091
Distr - Maint - Network Corrective	\$240,413	0.0%	100.0%	\$0	\$240,413
Distr - Maint - Network Preventative	\$48,820	0.0%	100.0%	\$0	\$48,820
Distr - Maint - Capacitors - UG	\$3,267	0.0%	100.0%	\$0	\$3,267
Distr - Maint - UG Cable Rplcmnt - Planned	\$3,719,963	0.0%	100.0%	\$0	\$3,719,963
Distr - Maint - Trouble - UG Storm	\$226,400	0.0%	100.0%	\$0	\$226,400
Distr - Maint - Damage Replacement - UG Line	\$718,093	0.0%	100.0%	\$0	\$718,093
Distr - Maint - UG Cable Rplcmnt - Unplanned	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Services - UG Line	\$911,653	0.0%	0.0%	\$0	\$0
Subtotal	\$16,958,141				
Overhead - O&M Account					
D-CRR-Voltage-OH (NEW)	\$36,013	100.0%	0.0%	\$36,013	\$0
Distr - Maint - Corrective - OH Line	\$6,702,048	100.0%	0.0%	\$6,702,048	\$0
Distribution - Maint - OH System Improvements	\$0	100.0%	0.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Preventative - OH Line	\$338,407	100.0%	0.0%	\$338,407	\$0
Distr - Maint - Trouble - OH Storm	\$1,701,574	100.0%	0.0%	\$1,701,574	\$0
Distr - Maint - Pole Inspect & Change-Outs	\$3,037,800	100.0%	0.0%	\$3,037,800	\$0
Distr - Maint - Damage Replacement - OH Line	\$154,903	100.0%	0.0%	\$154,903	\$0
Distr - Maint - Capacitors	\$182,804	100.0%	0.0%	\$182,804	\$0
Distr - Maint - Trouble - Non-Storm	\$1,971,141	0.0%	0.0%	\$0	\$0
CRR - Dist Line - Storms - OH - Restoration	\$4,473	0.0%	0.0%	\$0	\$0
Distr - Maint - Tree Trimming - Planned	\$10,947,825	0.0%	0.0%	\$0	\$0
Distr - Env - Train/Permit/Inspect/Audit/Protect	\$129,867	100.0%	0.0%	\$129,867	\$0
Distr - Maint - Tree Trimming - Unplanned	\$1,415,113	0.0%	0.0%	\$0	\$0
Distr - Maint - Pole Reinforcements	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Pole CLAs & Change-Outs	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Infrared Thermography	\$0	100.0%	0.0%	\$0	\$0
Distr - Maint - Services - OH Line	\$746,690	0.0%	0.0%	\$0	\$0
Subtotal	\$27,368,458				
Underground - O&M Account					
D-PRR-Transformers-UG	\$834	0.0%	100.0%	\$0	\$834
Distr - Maint - Corrective - UG Line	\$1,500,889	0.0%	100.0%	\$0	\$1,500,889
Distribution - Maint - UG System Improvements	\$0	0.0%	100.0%	\$0	\$0
Distribution - Maint - Mgmt & Coordination	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Preventative - UG Line	\$197,377	0.0%	100.0%	\$0	\$197,377
Distr - Maint - Network Corrective	\$3,992	0.0%	100.0%	\$0	\$3,992
Distr - Maint - Network Preventative	\$503,523	0.0%	100.0%	\$0	\$503,523
Distr - Locate Facilities	\$997,422	0.0%	100.0%	\$0	\$997,422
Distr - Maint - UG Cable Rplcmnt - Planned	\$97,466	0.0%	100.0%	\$0	\$97,466
Distr - Maint - Trouble - UG Storm	\$76,868	0.0%	100.0%	\$0	\$76,868
D-CRR-Capacitors-UG	\$0	0.0%	100.0%	\$0	\$0
D-CRR-Storms-UG	\$1,429	0.0%	100.0%	\$0	\$1,429
Distr - Maint - Damage Replacement - UG Line	\$5,697	0.0%	100.0%	\$0	\$5,697
Distr - Maint - UG Cable Rplcmnt - Unplanned	\$0	0.0%	100.0%	\$0	\$0
Distr - Maint - Services - UG Line	\$543,869	0.0%	0.0%	\$0	\$0
Subtotal	\$3,929,366				
				\$63,730,490	\$19,431,985
Distribution - Maint - Trouble Calls - Non-storm					
Blanket	\$0	75.3%	24.6%	\$0	\$0
O&M	\$1,971,141	75.3%	24.6%	\$1,484,269	\$484,901
Distr - Maint - Tree Trimming - Planned					
Blanket	\$0	85.0%	5.0%	\$0	\$0
O&M	\$10,947,825	85.0%	5.0%	\$10,403,701	\$543,924
Distr - Maint - Tree Trimming - Unplanned					
Blanket	\$0	95.0%	5.0%	\$0	\$0
O&M	\$1,415,113	95.0%	5.0%	\$1,344,805	\$70,309
Distr - Maint - Services - OH Line					
Blanket	\$833,061	100.0%	0.0%	\$833,061	\$0
O&M	\$746,690	100.0%	0.0%	\$746,690	\$0
Distr - Maint - Services - UG Line					
Blanket	\$911,653	0.0%	100.0%	\$0	\$911,653
O&M	\$543,869	0.0%	100.0%	\$0	\$543,869
				\$78,543,015	\$21,986,640

ENERGY DELIVERY
"2017" ADDER STUDY
 Provided by ED Business Planning

	<u>Toolkit/PDR</u>
	Distribution CIAC
Total Corporate Accounting FRINGE Rates per Activity A&G (for PSTEW)	74.00%
Other "Operating Labor" related adders:	
Non-Productive Time*	13.00%
Energy Delivery (Supervisory/Administrative)	25.56%
Energy Delivery Engineering	0.00%
Small Tools *	4.53%
TOTAL Other "Labor" related Adders	43.08%
TOTAL Fully Loaded "Labor" adders	117.08%
Fleet* as a % of Labor (rate of settled labor w/ fringe)	19.87%
Fleet* as a % of Labor (rate excluding 37% fringe)	27.22%
"Material" related adders:	
Stores Carrying Cost (ED Stores Clearing) *	6.34%
Stores Carrying Cost (WH Space, Taxes, Insurance & Obsolete Mat)	3.20%
Stores Carrying Cost (Cost of Money - PDR only)	0.00%
Self Help *	5.77%
TOTAL "Material" related Adders	15.31%
Other "Contractor" related adders:	
Energy Delivery (Supervisory/Administrative/Engineering)	34.83%
TOTAL Fully Loaded "Contractor" adders	34.83%

* When determining final bill true up or calculating pay-after invoice using actual results, exclude these items, which will already be included in actuals