EVERSOURCE

Project Approval Form

Project Title: State Hwy Proj. Bee St @ Rte 691 & 91	Project Number: CD01790
Date Prepared: 08/23/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** Line Relocations/Act of Public Authority
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** Yes
Project Manager: [redacted]	**Emergency Related Request?** No
Project Sponsor: [redacted]	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 7/1/2023	
Total Capital Request: $2,513.7K (100% reimbursible)	**Authorization Type:** Full Funding

1. Executive Summary

The State of Connecticut is refurbishing the Routes 691 and 91 bridges on Bee Street in Meriden. This requires Eversource to relocate their existing two aerial cables off the bridges. The State wants Eversource to start construction on April 1 and finish construction by April 28 in 2023. The work is 100 percent reimbursable since the work is involved with a limited access highway construction project under trigger #7 in the attachment below.

[redacted]

Full Funding:

The updates to the full funding estimate are based on updated construction units which include additional dollars for increased material and labor cost. In addition, there were two changes in scope from the partial PAF documentation. The first change in scope was the removal of a secondary cable off the bridge which was not included in the partial funding. To remove the overhead secondary, which supplies the commuter parking lot, required installing a single-phase transformer between the overpasses and a supply riser pole on the South side of the overpass with cable and conduits between them ($144K.)

Second change in scope was [redacted]

There was still an open lot that had no service at the time of the partial estimate. Shortly after construction started, a new customer load was requested for that lot. The new customer would be supplied by two transformers and possible four transformers if their proposed charging stations were installed ($88K.)

See the table below for the cost breakdown.

Partial Approved Capital Cost	1,760.8
Partial Approved Expense Cost	63.4
Partial Total Estimate	1,824.2
Partial Total Estimate with Updated Units	2339.4
750 Kcmil Cu EPR verses 4/0	87.7
Relocate commuter parking lot service.	144.1
Revised partial Total Cost	2571.3
Revised partial Capital Cost	2481.9
Revised partial Expense Cost	89.4
Full Capital Cost	2513.7
Variance percentage	1.013%

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2023	2024	Year 3+	Total
Internal Labor and Construction Equipment	80.7	0.0	0.0	80.7
Outside Services	924.6	0.0	0.0	924.6
Materials	267.1	0.0	0.0	267.1
Removals	119.1	0.0	0.0	119.1
Risk and Contingency	175.4	0.0	0.0	175.4
Other	0.0	0.0	0.0	0.0
Subtotal	**1,566.8**	**0.0**	**0.0**	**1,566.8**

Indirect Capital Costs	Year 1	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	946.9	0.0	0.0	946.9
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal	**946.9**	**0.0**	**0.0**	**946.9**
Total Capital Costs (Gross)	**2,513.7**	**0.0**	**0.0**	**2,513.7**
Less Total Customer Contribution	**2,513.7**	**0.0**	**0.0**	**2,513.7**
Project Costs (Net of Reimbursement)	**0.0**	**0.0**	**0.0**	**0.0**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The state has asked Eversource to relocate our cables from the bridge as they will be refurbishing the bridge. The bridge cables will be relocated to an underground system and this work will be 100% reimbursable.

Cable limits:

Limit	Sum Norm	Sum Max
Paralleled 250 KCMIL Cu Aerial Cables	948	1216
1,000 KCMIL Cu EPR in Riser Conduit	683	924
750 KCMIL Cu EPR in Riser Conduit	601	804

b. Project Need

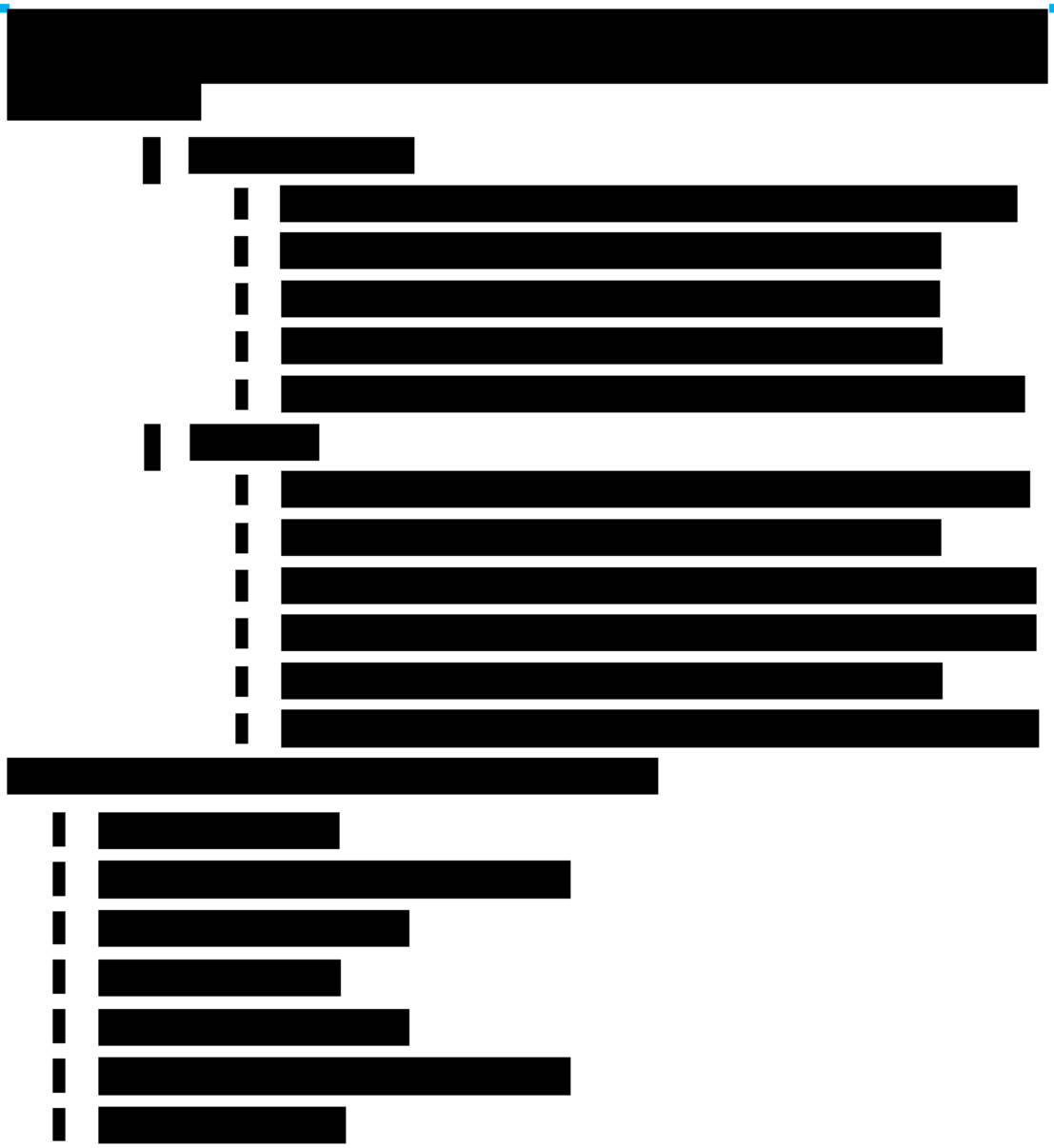
The State is refurbishing the three bridges that cross I-691 and I-91 on Bee Street in Meriden. When refurbishing the bridges, the State asked Eversource to remove any aerial cables that are attached to the bridge and to not reattach them. [redacted]

c. Project Scope

Install the following underground structures on Bee Street.

- [redacted]
- [redacted]
- [redacted]

[redacted]



Major Material:

Four 6' X 14' manholes.

9,960 feet of six inch conduit.

Three GOAB switches.

Two 600A disconnects.

Two Cutouts & Disconnects in Parallel

1,810 feet of 1,000 KCMIL Cu EPR.

640 feet of 750 Cu EPR.

4. Alternatives Considered

No other design options as the state requested Eversource to relocate their overhead cables from the bridge to underground.

Project Option Comparison

[redacted]	
Authorization Type	Full
Capital Cost	$2.5M
Expense Cost	$0.1M
Total Cost	$2.6M
Preferred option	X

5. Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	January, 2023
100% Detailed Engineering Completion	April, 2023
Fully Funded	August, 2023
Construction Complete	July, 2023

6. Regulatory Decisions

CDOT request

7. Codes and Standards

N/A

8. Risk and Contingencies

Contingencies: 24% for discrepancies in mapping

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Customer Permission / Siting Council / Municipal approvals	2023	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2023	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

Technological risks involving integration of new technology	2023	Medium	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2023	Medium	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1.
2.
3.
4.
5.

10. Attachments (One Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES*
D. System and Station One-Lines	*N/A*
E. Other Load Sheet	*YES*
F. State Agreement Letter	*YES*
G. Reimbursement Requirements	*YES*

Attachment A. Cost Estimate.

Segment One, install the underground structures under limit access overpasses.

Segment CD01790-01

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	30.00%
SubTotal:	$1,007,138
Contingency Amount:	$302,141
Estimate:	$1,309,279
Reimbursement:	$1,309,279
Net Amount:	**$0**
Description:	

Item Description	CU	Amount
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$164,000.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	16-UG137	$469,200.00
ENCLOSURE UG - MANHOLE - Precast	16-UG139	$251,945.60
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved Road Crossings to Riser poles	16-UG137	$121,992.00

[redacted]

Segment Two, install 1,000 kcmil Cu EPR in new UG structures under overpasses.

Segment CD01790-02

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	30.00%
SubTotal:	$282,991
Contingency Amount:	$84,897
Estimate:	$367,889
Reimbursement:	$367,889
Net Amount:	$0
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$43,000.00
SECTIONALIZE OH - GOAB Switch	16-OH44		$41,132.80
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B		$173,760.00
POLE DB/UG - Riser - 3ph	16-UG146		$21,588.80

Segment Two, install 4/0 Al EPR in new UG structures under overpasses to supply 336 kcmil overhead primary between the overpasses.

Segment CD01790-03

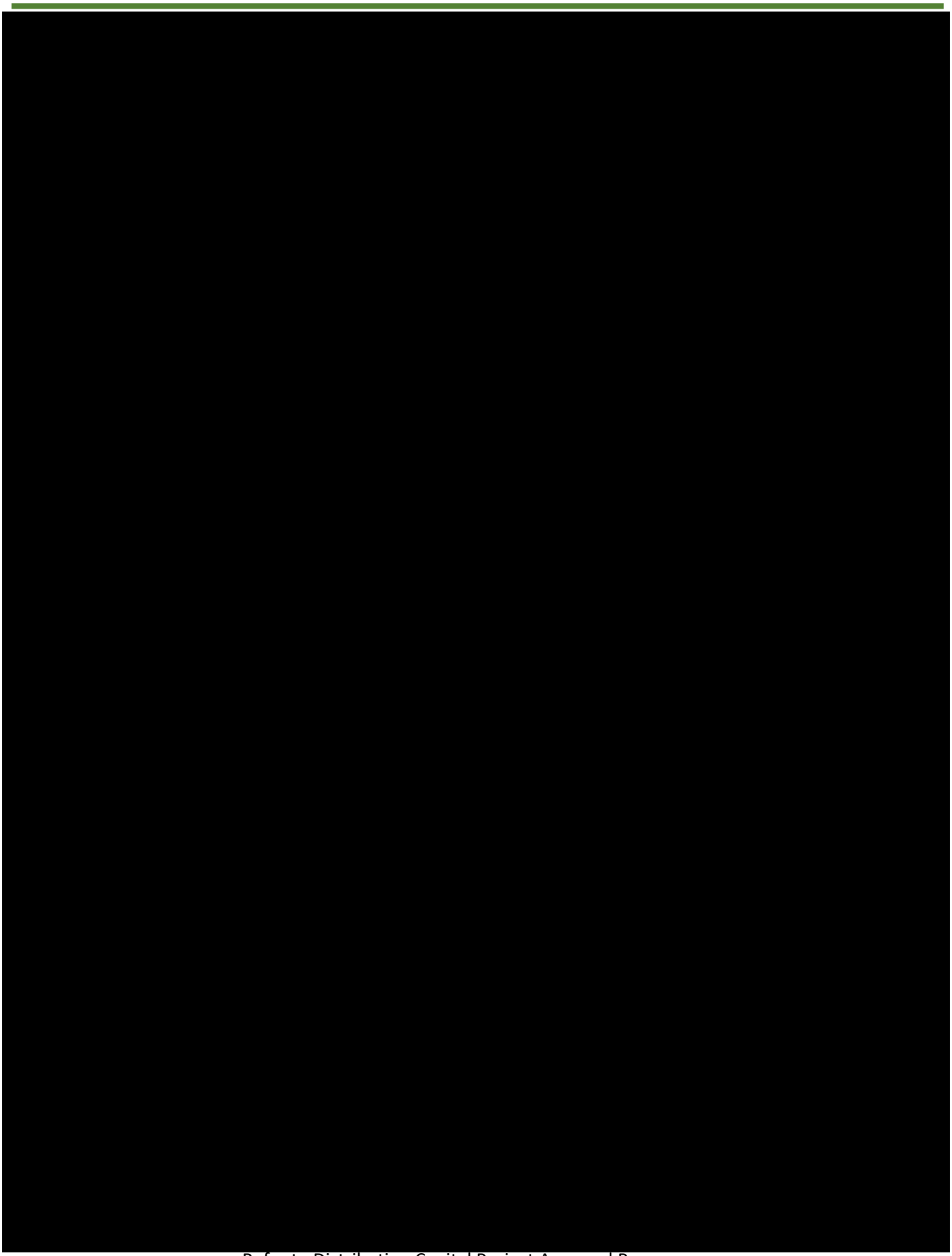
Estimate

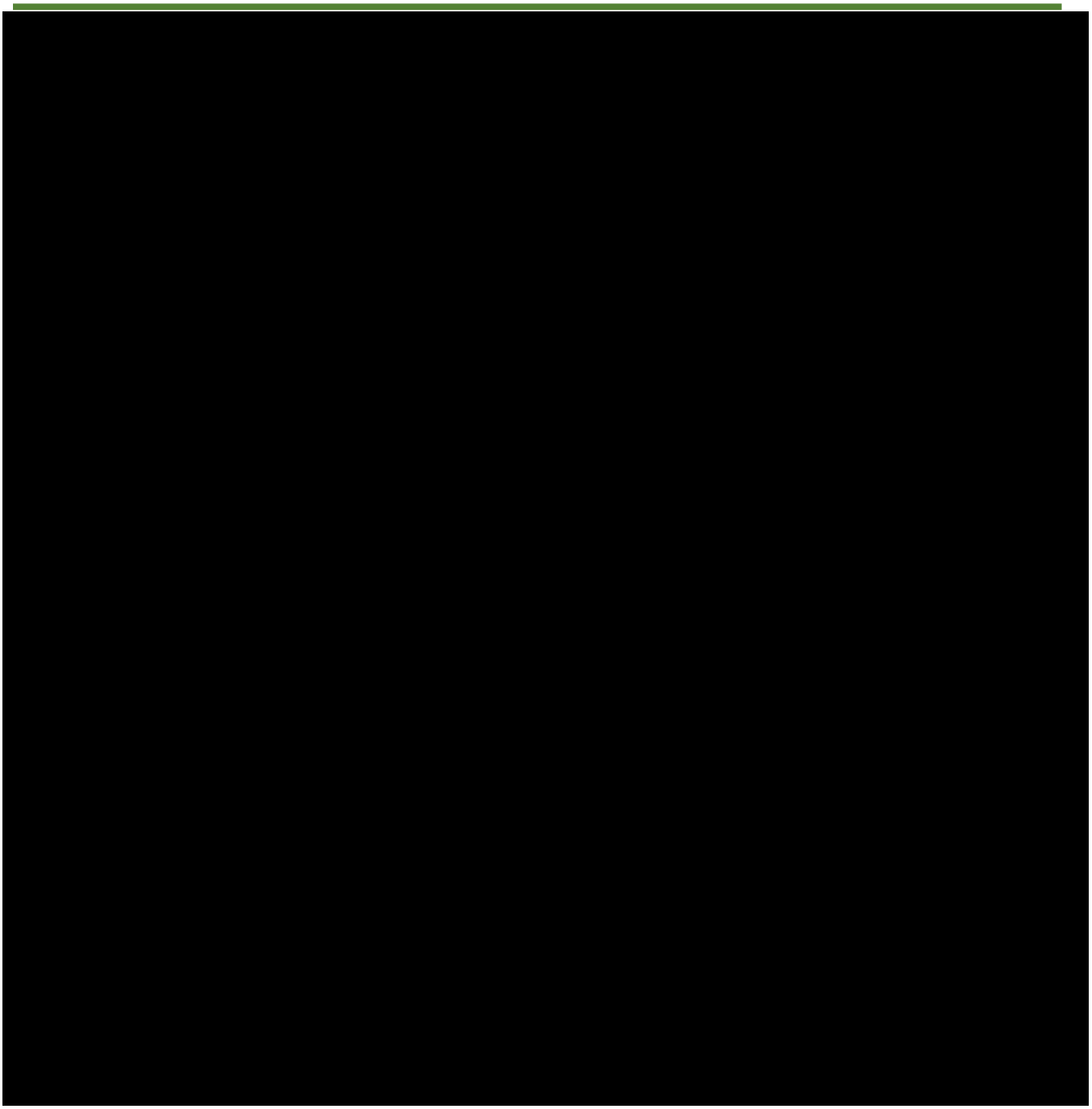
Preliminary Estimate Summary

Revision Number:	0
Contingency:	30.00%
SubTotal:	$113,065
Contingency Amount:	$33,919
Estimate:	$146,984
Reimbursement:	$146,984
Net Amount:	**$0**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$17,000.00
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14	$9,352.00
DB CABLE DB/UG - 4/0 - 3-1/C (3ph) Al	16-UG113	$21,504.00
SECTIONALIZE OH - GOAB Switch New Pole between poles 5646 and 6201. Normally Open	16-OH44	$20,566.40
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph Poles 2192 and 2193. (CUTOUTS & DISCONNECTS IN PARALLEL)	16-OH43	$41,132.80

[redacted]





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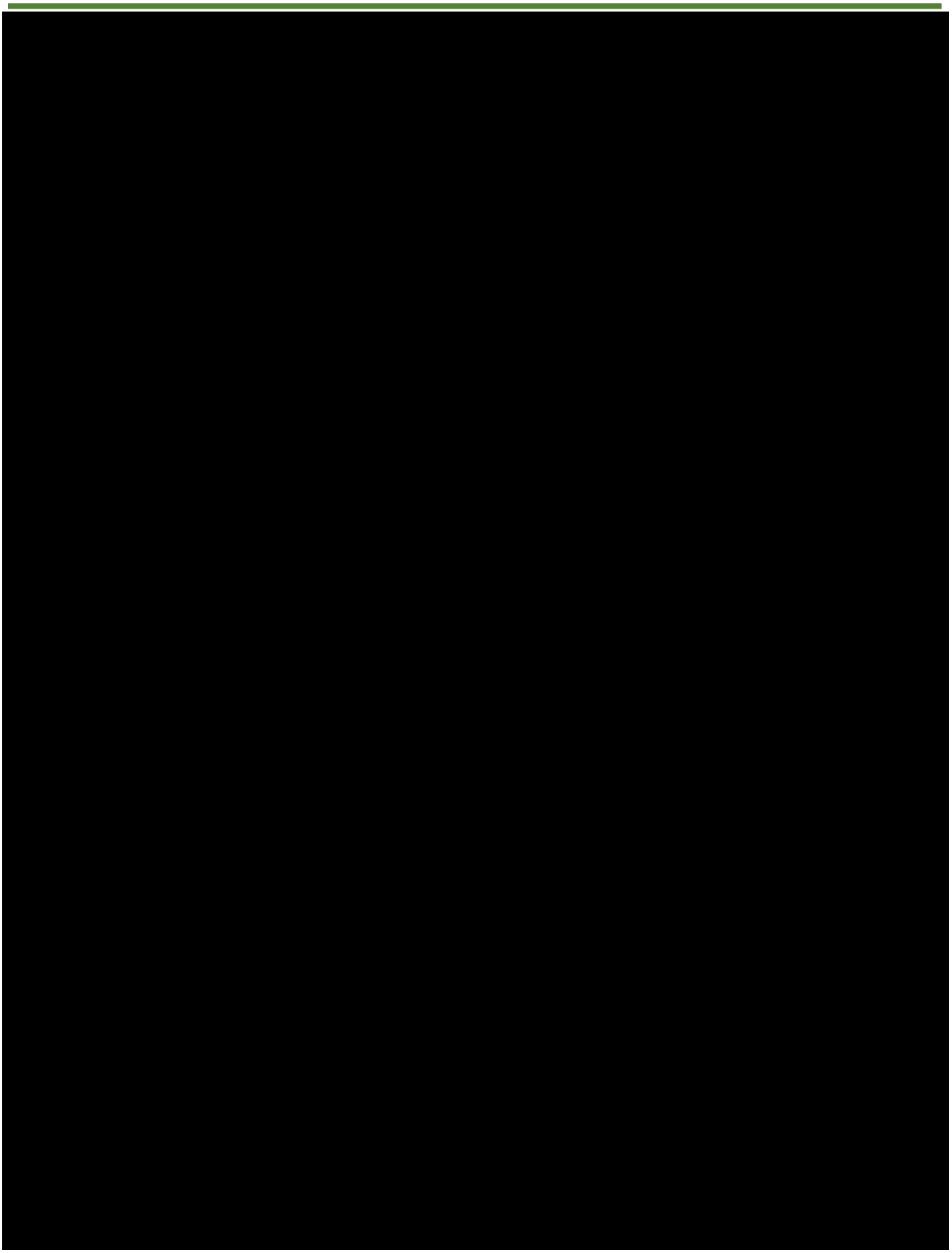

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Refer to Distribution Capital Project Approval Process
JA-AM-2001-B, Rev.1