EVERSOURCE

Project Approval Form

Project Title: SSRK564.21[redacted]->1249.RWO.4	Project Number: CD01843
Date Prepared: 08/31/2023	**Company:** Eversource CT
Organization: Electric System Operations	**Project Category:** SMART SWITCHES PROGRAM
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: 8/31/23	
Total Capital Request: $327K	**Authorization Type:** Full Funding

1. Executive Summary

[redacted]

- [redacted]
- [redacted]
- [redacted].
- Project Location
  - Division: Central
  - District: Tolland AWC
  - City/Town: Windsor Locks

The partial estimate for this project was $321K and was approved at the 11/10/21 CTPAC. The full funding estimate is $327K. The difference in cost equates to $6K, an increase of 2%.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2022	Year 2023	Year 2024+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	0.0	3.9	0.0	3.9
Outside Services	0.0	72.4	0.0	72.4
Materials	51.1	118.7	0.0	169.8
Removals	1.2	4.7	0.0	5.9
Risk and Contingency	0.0	6.4	0.0	6.4
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	**52.3**	**206.1**	**0.0**	**258.4**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	4.8	60.0	0.0	64.8
Capitalized interest or AFUDC, if any	0.1	3.6	0.0	3.8
Subtotal – Indirect Costs	**4.9**	**63.7**	**0.0**	**68.6**
Total Gross Capital Costs	**57.3**	**269.8**	**0.0**	**327.0**
Customer Contribution	0.0	0.0	0.0	0.0
Total Net Capital Project Costs	**57.3**	**269.8**	**0.0**	**327.0**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The project was created as part of an initiative to improve circuit reliability by adding automatic sectionalizing devices on overhead distribution circuits.

b. Project Need

[redacted].

This project installs sectionalizing devices to break-up these zones to 500 customers or less. With these changes, it will greatly increase reliability and reduce the number of customers that will experience an outage in this area.

c. Project Scope

The scope of this project is as follows:

[redacted]

Major Material:

- 4 Reclosers
- 4 Disconnect Switches

4. Alternatives Considered

An alternative to install additional reclosers only was decided against due to the multiple dead-zones (zones de-energized for a fault in an adjacent zone) that would be created on the circuit. Additionally, a separate project is being developed to reconfigure the 14K6 circuit and will address the large customer zone that is not addressed with the preferred alternative.

Project Option Comparison

Design Criteria	Option [redacted]	
Estimate Type:	Full	Partial
Capital Cost	$327K	$490.9K
Expense Cost	$7.7K	$21.5K
Total Cost	$334.7K	$512.4K
Preferred option	X	

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	November 2021
100% Detailed Engineering Completion	November 2021
Fully Funded	August 2023
Construction Start	April 2023

Milestone/Phase Name	Estimated Date
In Service Date	August 2023

6. Regulatory Decisions

No

7. Codes and Standards

N/A

8. Risk and Contingencies

9. References

References
1. N/A

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	*YES*
E. Other: Load Summary Sheet	*YES*
F. Partial Funding PAF	*YES*

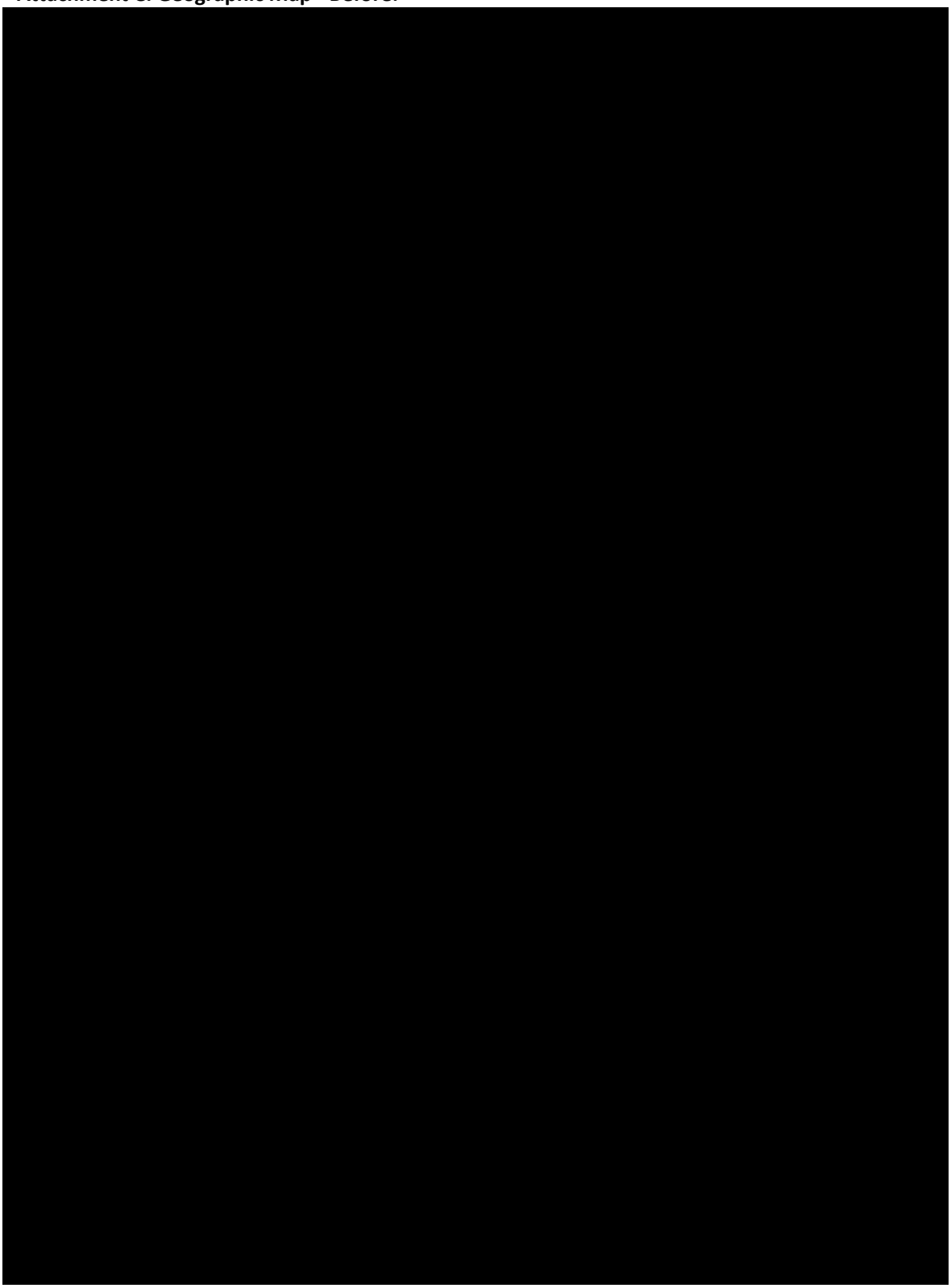
Attachment A - Partial Cost Estimate:

Estimate

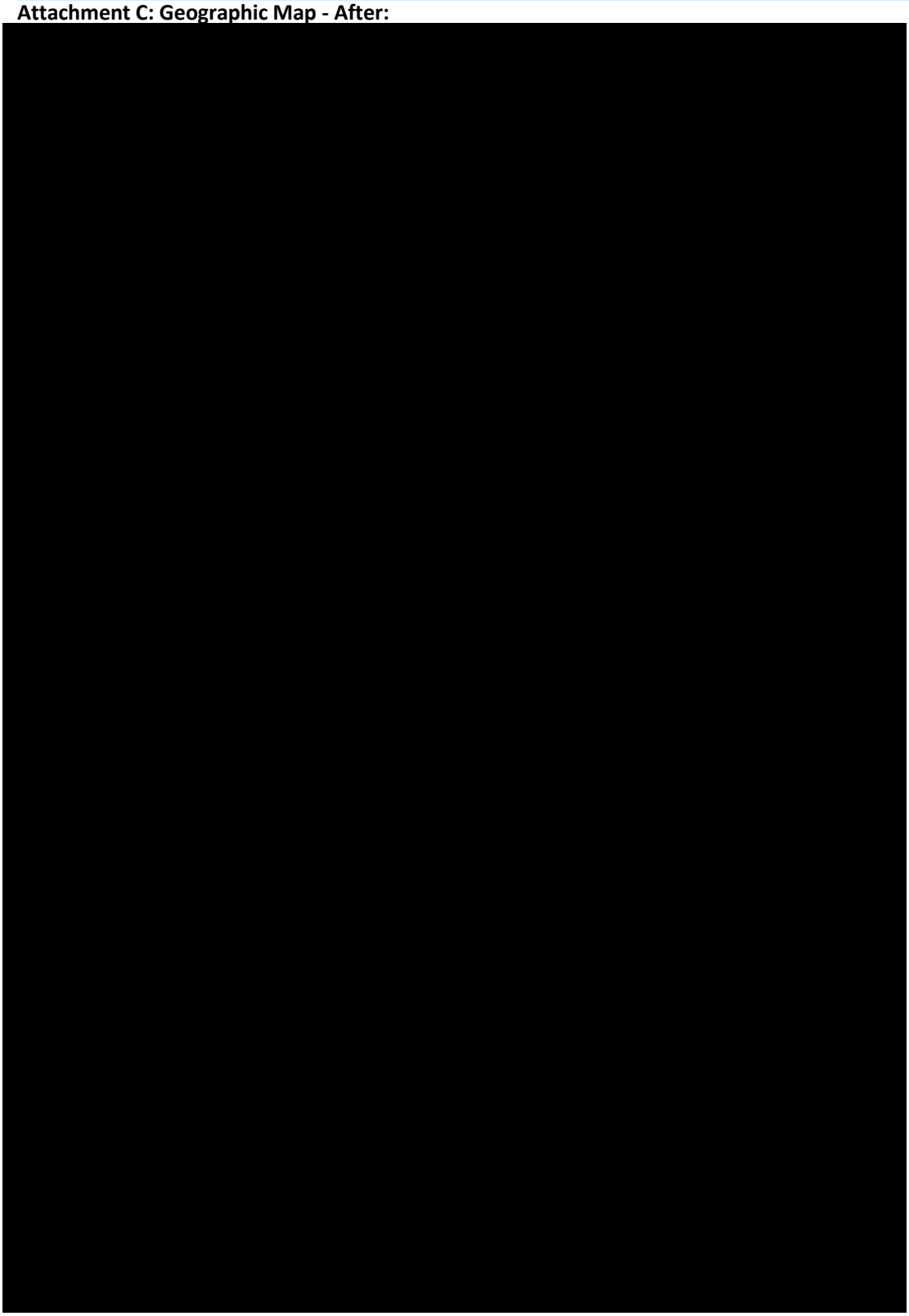
	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$250,372
Contingency Amount:	$70,104
Estimate:	$320,476
Reimbursement:	$0
Net Amount:	**$320,476**
Description:	

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19			$4,000.00
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A			$9,771.20
SECTIONALIZE OH - Recloser - 3ph Install 4 Smart switches on poles: 244, 859, 186, and 45.	16-OH38			$191,958.40
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph Install additional disconeects for each SS (poles: 244, 859, 186, and 45.)	16-OH43			$41,132.80

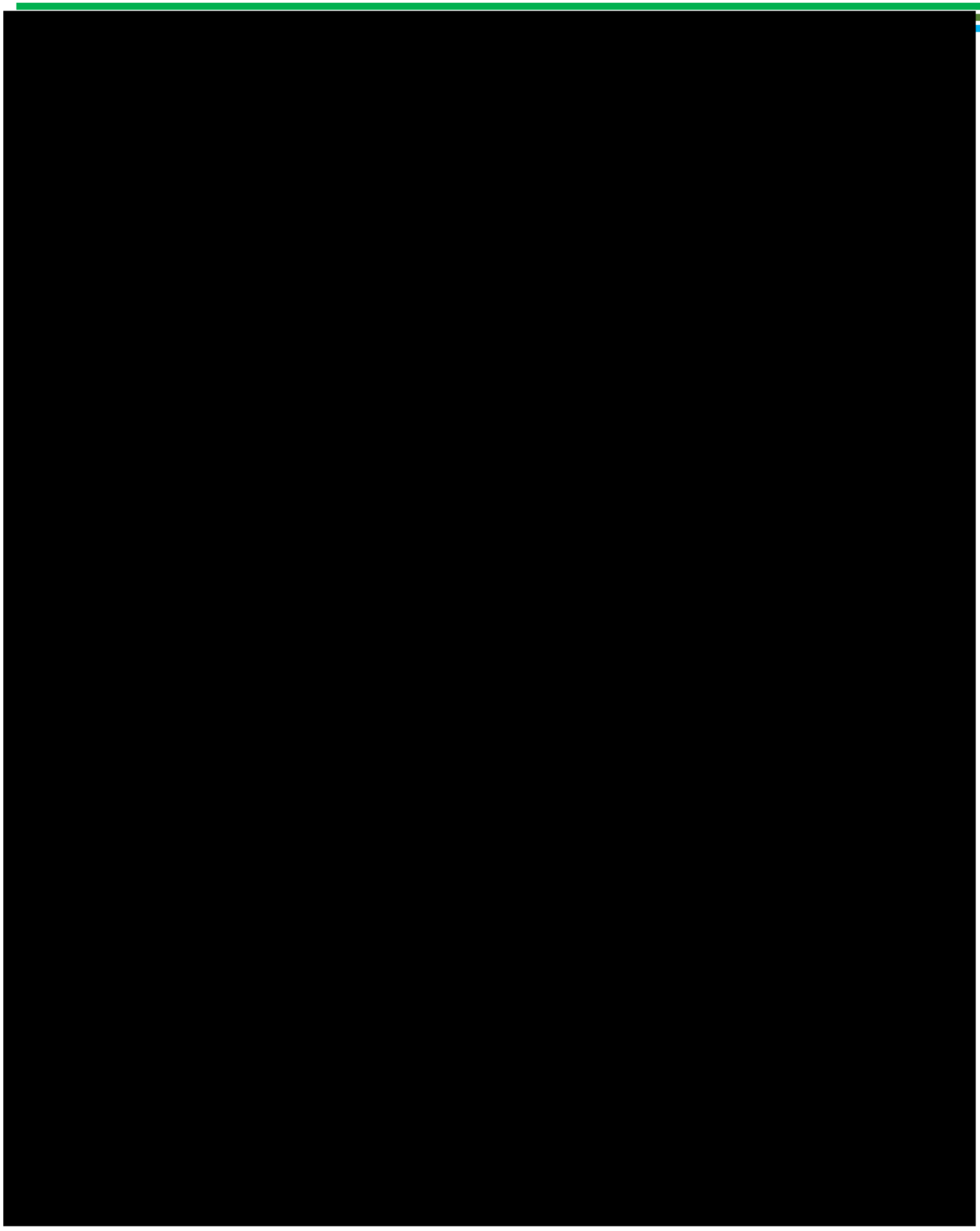
Attachment C: Geographic Map - Before:



Attachment C: Geographic Map - After:

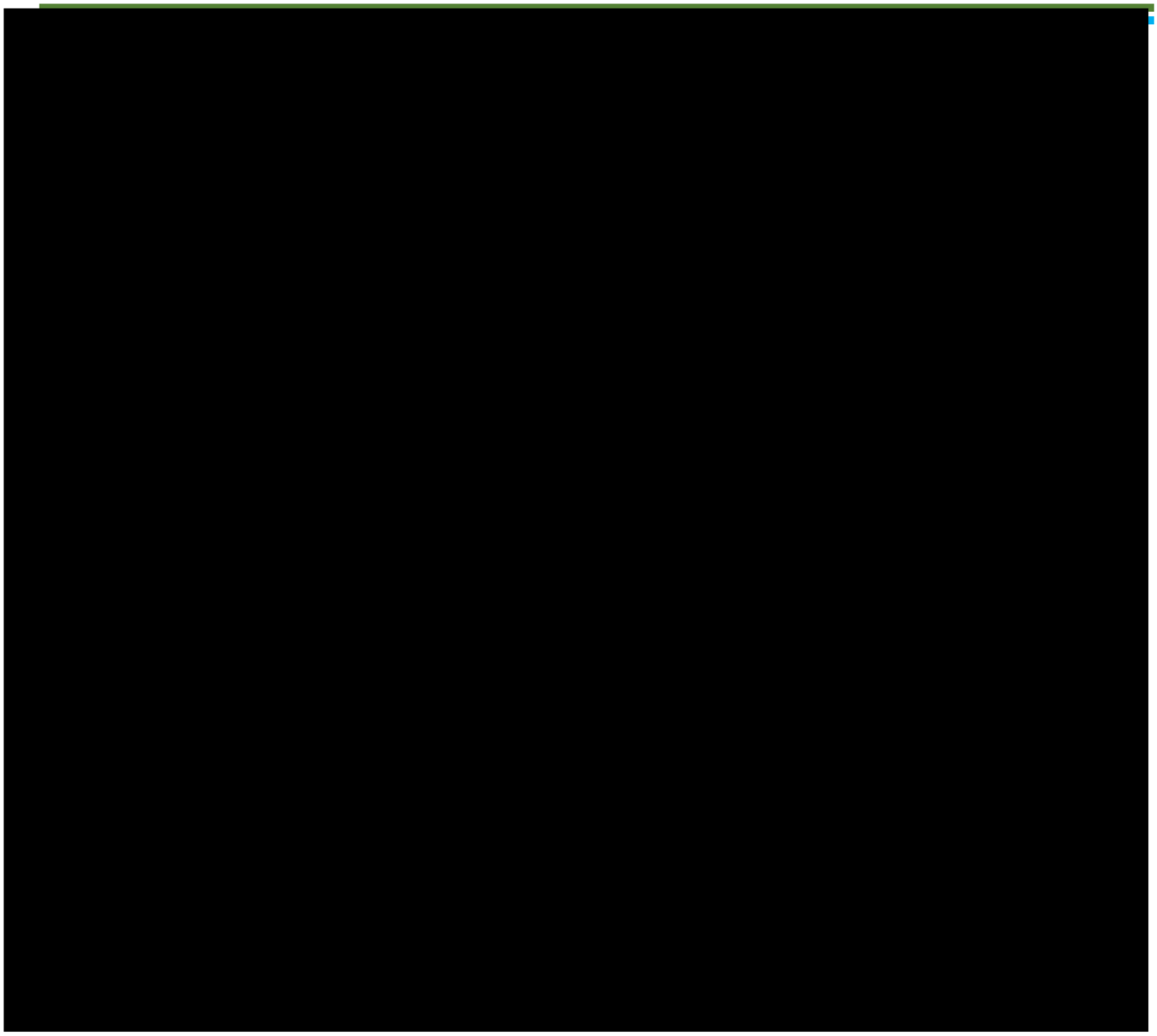


Attachment D: One-Line - Before:



Attachment E: Load Summary Sheets





Attachment F: Partial PAF:

Operations Project Authorization Form

Date Prepared: November 11, 2021	**Project Title: SSRK564.21-[redacted]->1249RWO.2**
Company/ies: Eversource CT	**Project ID Number: CD01843**
Organization: Distribution Electric	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: Smart Switches Program**
Project Sponsor: [redacted]	**Project Purpose: Break-up Large Customer Zone**
Estimated in service date: 12/31/2023	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? Yes	**Capital Investment Part of Original Operating Plan? Yes**
Authorization Type: Preliminary Funding	**O&M Expenses Part of the Original Operating Plan? Yes**
Total Request: $321K	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

Project CD01431 is being established to install four smart switches on the [redacted].

In the past four years, there have been 2 outages effecting these zones.

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	2021	2022	2023+	Totals
Capital Additions - Direct	$0	$0	$0	$180	$180
Less Customer Contribution	$0	$0	$0	$0	$7
Removals net of Salvage ____%	$0	$0	$0	$7	$0
Total - Direct Spending	$0	$0	$0	$187	$187
Capital Additions - Indirect	$0	$0	$0	$116	$116
Subtotal Request	$0	$0	$0	$304	$304
AFUDC	$0	$0	$0	$4	$4
Total Capital Request	$0	$0	$0	$307	$307
O&M	$0	$0	$0	$14	$14
Total Request	$0	$0	$0	$321	$321

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	2021	2022	2023+	Total
Straight Time Labor	$0	$0	$24	$24
Overtime Labor	$0	$0	$5	$5
Outside Services	$0	$0	$44	$44
Materials	$0	$0	$112	$112
Other, including contingency amounts (describe)	$0	$0	$1	$1
Total Direct Costs	**$0**	**$0**	**$187**	**$187**

Indirect Capital Costs	2021	2022	2023+	Total
Indirect/Overheads (including benefits)	$0	$0	$116	$116
Capitalized interest or AFUDC, if any	$0	$0	$3	$3
Total Indirect Costs	**$0**	**$0**	**$120**	**$120**

Total Capital Costs	**$0**	**$0**	**$307**	**$307**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$0**	**$0**	**$307**	**$307**
Total O&M Project Costs	**$0**	**$0**	**$14**	**$14**
Total Project Cost	**$0**	**$0**	**$ 321**	**$ 321**

Technical Justification:

Project Need Statement

[redacted].

Project Objectives

This project's goal is to reduce the number of customers exposed to an outage event past each recloser on the [redacted]. This project breaks up this large customer zone by adding multiple devices to improve reliability and reduce the customers affected during future outages.

Project Scope

The scope of this project is as follows:

[redacted]

Major Material:

- 4 Smart Switches
- 4 600A disconnects.

Background / Justification

The project was created as part of an initiative to improve circuit reliability by adding automatic sectionalizing devices on overhead distribution circuits.

Business Process and / or Technical Improvements:

- Decrease customer zone on device.

Alternatives Considered with Cost Estimates

Option 1 – To [redacted]

Option 2 – [redacted]

Design Criteria	[redacted]	[redacted]
Cost	$321k	$475k
CM Accumulated (1-4 yrs.)	330	3427
Cost / CM Saved	8.55	0.24
Cost / CI Saved	2822	269
Preferred option	X	

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary Approval	October 2021
Detailed Design	November 2022
Construction Start Date	January 2023
Construction End Date	December 2023

Regulatory Approvals

None

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	Low	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	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach
Internal construction resources not available to perform the work.	2023	Low	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.	2022	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2023	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	Low	Schedule work to minimize system abnormal time. Most of this work will require system to be abnormal for any extended period of time.