EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number: CD02146**
Date Prepared: 01/16/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** OVERLOADS-SPECIFIC PROJECTS
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** No
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: 12/31/2024	
Total Capital Request: $910,792	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$910.8K** which is 341% of the partial funding capital estimate of $267K. Project CD02146 was established to [redacted]

[redacted]

[redacted]

[redacted]

Therefore, both projects are needed.

- Project Location
  - Division: Central
  - District: Hartford AWC
  - Town: Hartford

The initial capital estimate was $267K while the full funding amount came in at $910.8K, a 341% increase from the partial. Additionally, the legacy estimating units used to produce the partial funding estimate are about 30% lower than the estimates used today, which contributed to the variance in cost. This increase can be attributed to the follow factors:

1. Internal Labor
    - Partial Funding Estimate was $8000 vs Full Funding Estimate of $40K increase of $32K or 500%
        - Increase is due to [redacted]
        - Increase labor to VLF the feeders before returning and to test and commission the reclosers.
2. Outside Services
    - Partial Funding Estimate was $72K vs Full Funding Estimate of $326K increase of $254k or 352%
        - $50k for tree trimming to clear out the access road to the manholes behind the old [redacted]. The road was severely overgrown and needed trees to be removed and cut back to allow vehicles to drive up the road.
        - $49K for cleaning manholes over the Partial Funding Estimate. This is driven by the number of manholes needed to enter to re-tag [redacted]
        - Contractor bid was for $179,025 for the underground work, which is $137,549 increase of the work order labor.
3. Material
    - Partial Funding Estimate was $27K vs Full Funding Estimate of $80k increase of $53K increase or 159%
        - The work orders called for 1480 ft of cable vs 950 ft in the needs statement. That comes out to about $69K increase.
4. Scope Change
    - [redacted] Cost of this work is about $13K.
    - The Partial Funding Estimate did not include trenching and duct work (~100 ft) for the [redacted] That would equate to an additional $7,500 in contractor costs.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	47.9	0.0	0.0	47.9
Outside Services	326.3	0.0	0.0	326.3
Materials	80.0	0.0	0.0	80.0
Removals	32.5	0.0	0.0	32.5
Risk and Contingency	63.5	0.0	0.0	63.5
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	**550.2**	**0.0**	**0.0**	**550.2**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	360.5	0.0	0.0	360.5
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal – Indirect Costs	**360.5**	**0.0**	**0.0**	**360.5**
Total Gross Capital Costs	**910.8**	**0.0**	**0.0**	**910.8**
Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**910.8**	**0.0**	**0.0**	**910.8**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The overload being addressed by this project is shown below.

[redacted]

b. Project Need

CD02146 will relieve a [redacted]

c. Project Scope

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

4. Alternatives Considered

Option 2: [redacted] Current costs for an energy storage battery are $2.2M/MWh or $44M for this application. As this non-wires alternative option is 168X the expense of the wires alternative, it was not chosen.

	Option	
[redacted]		
Authorization Type	Full	Partial
Capital Cost	$910.8K	N/A
Expense Cost		N/A
Total Cost		$44M
Preferred option	X	

5. Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	4/13/2023
100% Engineering Completion	12/31/2023
Construction Start	2/1/2024
Testing/Commissioning	4/1/2024
In Service Date	6/1/2024

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	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	2024	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2024	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.	2024	High	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

9. References

References
1. N/A

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

Attachment	Included in Submittal?
A. Project Needs Statement	*YES*
B. Oneline	*YES*
C. Geographic Map	*YES*
D. Loadsheet	*YES*
E. Outages	*YES*
F. Partial PAF	*YES*

A. Project Needs Statement

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02146 [redacted]

Work Classification

Category: Line
Type: BLG1
Type Desc: OVERLOADS-SPECIFIC PROJECTS
Work Type:

Ownership / Management

AWC: Hartford
Statewide: No
Owner: [redacted]
Manager:

Project Information

Status: Draft
SPS #:
AIS Score:
Associated Projects:
Assignment ID:
Patrol Find ID:

Budget Summary - Preferred Option

2N05 Overload Correction

2024 ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
1	[redacted]	Draft	0	28%	$285,613	$285,613
				2024 Total:	$285,613	$285,613
				Total Project:	$285,613	$285,613

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02146 [redacted]

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	[redacted]	1	$285,613	$0	100%	$0.00	$0.00	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	[redacted]	$285,613			$0.00	$0.00

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Specific Project Proposal - Project #: CD02146 [redacted]

Background / Scope

Issue:

[redacted]

Project Description:

[redacted]

Other Considerations:

[redacted]

Revision / ACT Comments:

If we don't do this project, what will happen?

[redacted]

Environmental

Water Pollution: No Change Soil Contamination: No Change Natural Habitats: No Change

Alternatives considered based on Environmental Impact or Description of Aspects Oil Spill Risks Considered? ☐

Safety Concerns With This Project? ☐

Explain:

External Stakeholders

Customer Impact / Involvement

Cust. Impacted: Approx. Pole Count (NU):

Crit. Cust. Impacted: Approx. Pole Count (Other):

Adjoining Property Owner Consent Required: ☐ Town Hearing Required: ☐

Other Utility Pole Custodian Area: ☐ Easement Required: ☐

State Highway Permit Required: ☐

Relocation / New Service

New Srvc. Contact: Requestor Type:

Customer Type: State Highway Project #:

Request Number: Route #:

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02146 [redacted]

Design Alternative CD02146-01

General Information

Segment: [redacted] Status: Draft

Segment Type: OTHER Town: HARTFORD Budget Year: 2024

Work Type: Other Trimming Required: ☐ In Service Date: 12/31/2024

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed
1	[redacted]		
4			
5			
6			
7			
8			

Connecticut Light & Power
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Specific Project Proposal - Project #: CD02146 [redacted]

Design Alternative CD02146-01

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	28.00%
SubTotal:	$223,135
Contingency Amount:	$62,478
Estimate:	$285,613
Reimbursement:	$0
Net Amount:	$285,613
Description:	[redacted]

Item Description	CU	Amount
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14	$9,352.00
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A	$9,771.20
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu	16-UG114	$48,720.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B	$24,000.00
UG CABLE UG - Cable Removal - all cables	16-UG117	$46,000.00
UG CABLE UG - Transition Splice	16-UG120	$2,636.80
POLE DB/UG - Riser - 3ph	16-UG146	$10,794.40
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 15% of Subtotal	16-ALL18	$39,155.00
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average [redacted]econfiguration	16-ALL17	$14,038.40

Asset & Investment Management System 2/10/2023 Page 5 of 8

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Specific Proj[redacted]: CD02146

Design Alternative		[redacted]	CD02146-01
OTHER OTHER Mandrall Conduit	16-ALL14		$10,000.00
OTHER OTHER Manhole cleaning	16-ALL14		$7,000.00
OTHER OTHER Mechanical H-splice	16-ALL14		$1,667.00

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Specific Project Proposal - Project #: CD02146
2N05 Contingent Overload

Design Alternative CD02146-01

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]						
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							

Connecticut Light & Power
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Specific Project Proposal - Project #: CD02146 [redacted]

Design Alternative CD02146-01

Reliability Projection

Title:

Outage Start Date: 1/1/2007 Outage End Date: 11/22/2022 Years History: 15.90

[redacted]

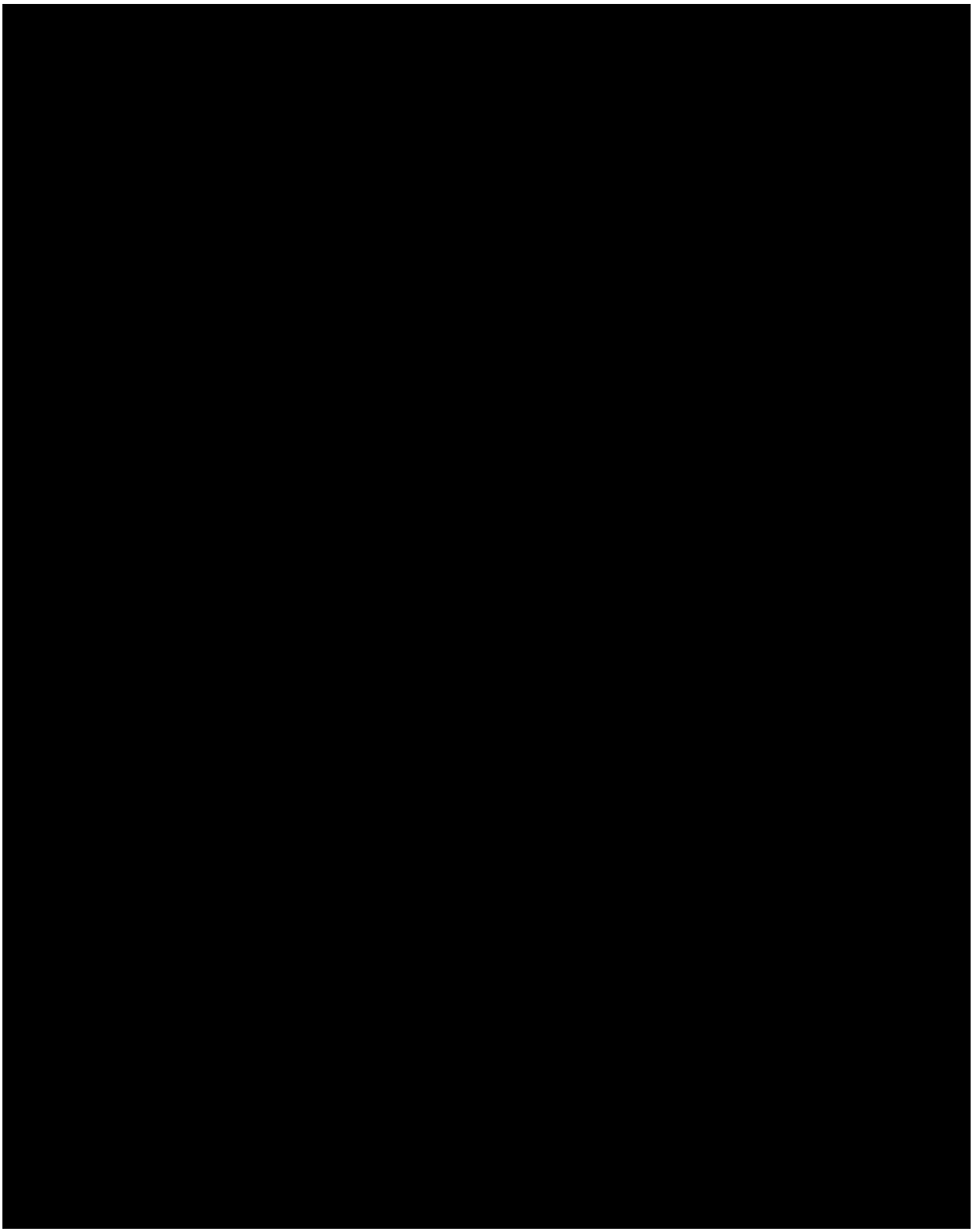
B. One-line (Before)



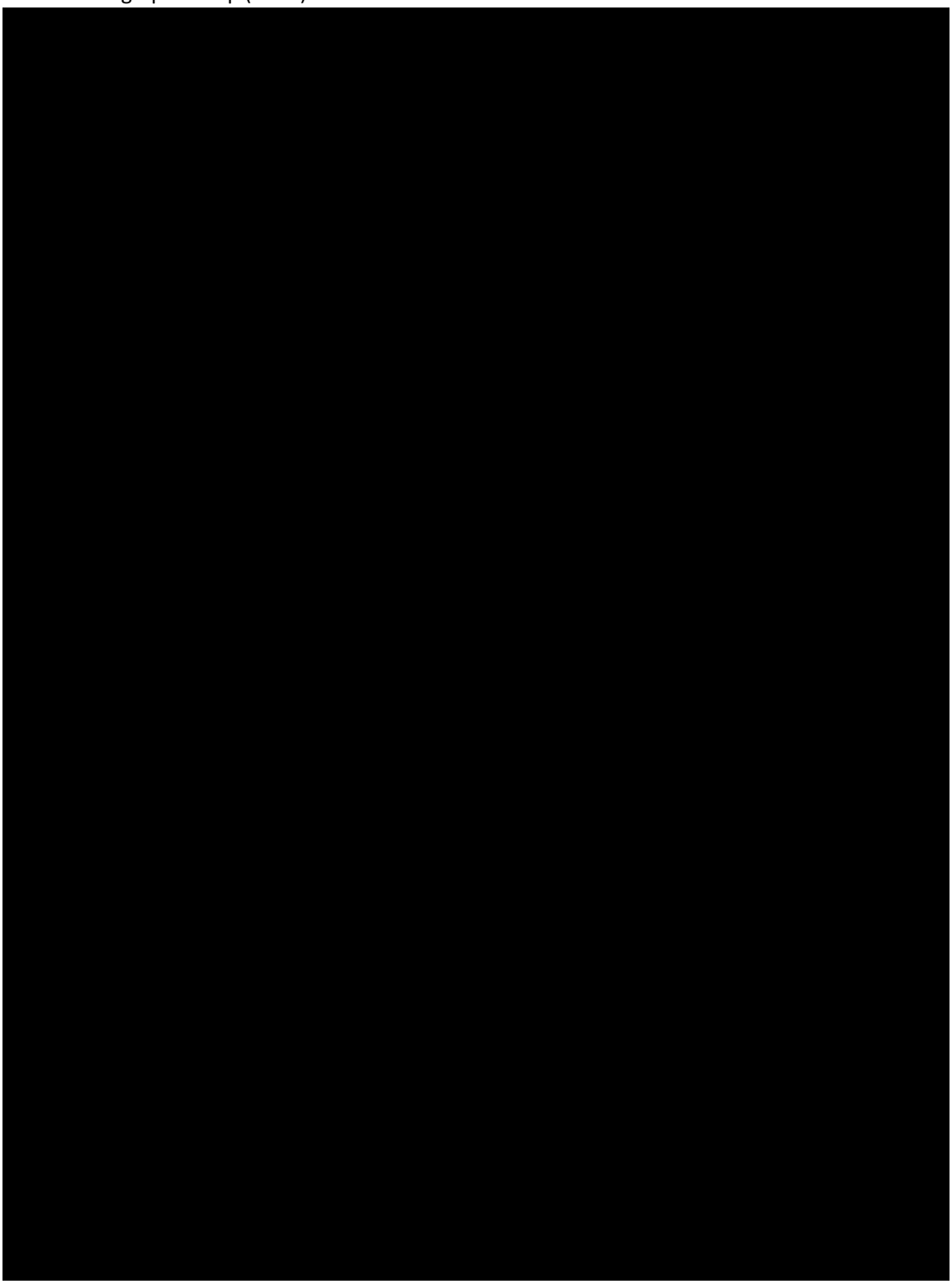
One-line (After)



C. Geographic Map (Before)

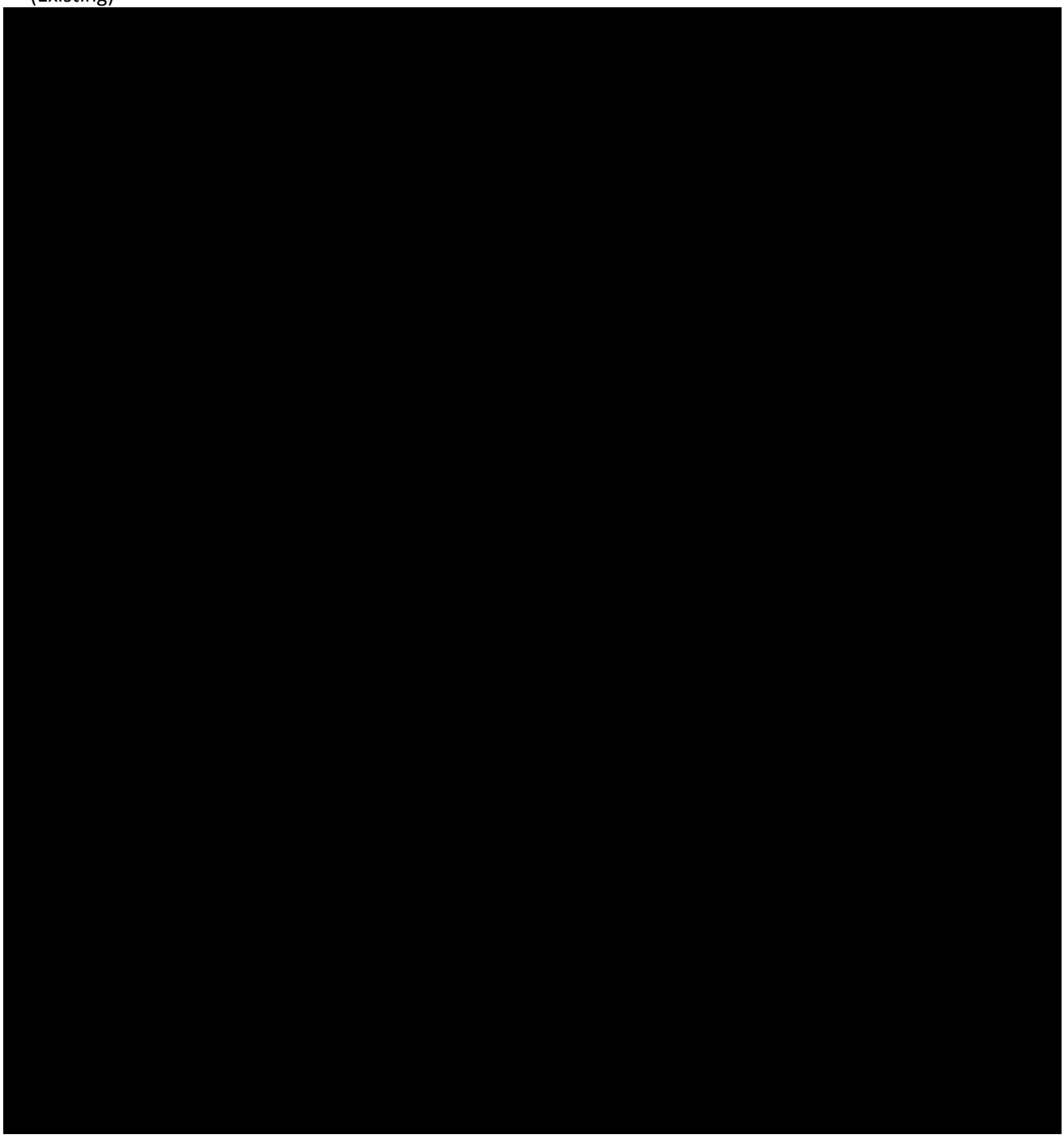


Geographic Map (After)



D. Loadsheet

(Existing)



E. Outages



F. Partial PAF

Operations Project Authorization Form

Project Title: [redacted]	**Project Number: CD02146**
Date Prepared: 02/10/2023	**Company: Eversource CT**
Organization: Distribution Engineering	**Class(es) of Plant: D Line**
Project Initiator: [redacted]	**Project Category: OVERLOADS-SPECIFIC PROJECTS**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan: No**
Estimated in service date: 12/31/2024	**Emergency Related Request? No**
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $267K	**Authorization Type: Partial Funding**

Executive Summary

[redacted]

[redacted]

[redacted] Therefore, both projects are needed.

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	Year 2024	Year 2025	Year 2026+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$8			$8
Outside Services	$72			$72
Materials	$27			$27
Removals	$56			$56
Risk and Contingency	$1			$1
Other	$0			$0
Subtotal – Direct Costs	**$164**			**$164**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$102			$102
Capitalized interest or AFUDC, if any	$1			$1
Subtotal – Indirect Costs	**$103**			**$103**
Total Gross Capital Costs	**$267**			**$267**
Customer Contribution	**$0**			**$0**
Total Net Capital Project Costs	**$267**			**$267**

Technical Justification:

Project Need, Objective and Justification:

[redacted]

Project Scope:

[redacted]

[redacted]

Major Material:

- (1) 3 Phase Utility Pole
- (1) 3 Phase Riser
- (750 ft) 500 MCM Cu EPR
- (1) Transition splice
- (1) Mechanical H-Splice

Background:

[redacted]

Alternatives Considered:

Were alternative solutions considered/applicable? Include any cost/benefit analysis.

[redacted] are $2.2M/MWh or $44M for this

application. As this non-wires alternative option is 168X the expense of the wires alternative, it was not chosen.

Regulatory Approvals: *Are Regulatory body approvals needed for the project?*

No

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	4/13/2023
100% Engineering Completion	12/31/2023
Construction Start	2/1/2024
Testing/Commissioning	4/1/2024
In Service Date	6/1/2024

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
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Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

References

[redacted]_Outages.xlsx [redacted]7_outages.xlsx

Appendices (One-Line Diagrams, Images, etc.)

CD02146_project_needs_statement.pdf Oneline_20230209.pdf Map_Oneline_20230123.pdf CD02146_Loadsheet_20230123.xlsx