EVERSOURCE

Project Approval Form

Project Title: [redacted] **Brook St Recovery Plan**	**Project Number: CD01878**
Date Prepared: 09/14/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** ISLANDED SUBSTATION 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: 12/31/2023	
Total Capital Request: $266K	**Authorization Type:** Full Funding

• Executive Summary

[redacted]

[redacted]

Full Funding.

There were three changes in scope.

One. [redacted]

Two. [redacted]

Three. [redacted]

On January 13, 2022, the project was Partial Funding approved for $409K capital costs. The actual capital costs end up being $266K. If the Sonstrom Road, proposed step bank of transformer's cost ($107K) is subtracted from the $409K partial funding cost, the project actuals would be 12% under (=$266K/($409K-$107K) the revised Partial Funding cost of $302K.

• Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2022	2023	Year 3+	Total
Internal Labor and Construction Equipment	0.0	67.1	0.0	67.1
Outside Services	0.2	7.4	0.0	7.6
Materials	0.0	50.9	0.0	50.9
Removals	0.0	12.9	0.0	13.0
Risk and Contingency	0.0	5.2	0.0	5.2
Other	0.0	0.3	0.0	0.3
Subtotal	**0.2**	**143.9**	**0.0**	**144.1**

Indirect Capital Costs	2022	2023	Year 3+	Total
Indirect/Overheads (including benefits)	0.2	120.5	0.0	120.7
Capitalized interest or AFUDC, if any	0.0	1.2	0.0	1.2
Subtotal	**0.2**	**121.7**	**0.0**	**121.9**
Total Capital Costs (Gross)	**0.4**	**265.6**	**0.0**	**266.0**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**0.4**	**265.6**	**0.0**	**266.0**

Explain unique payment provisions, if applicable:

• Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

[redacted]

c. Project Scope

The scope of this project is as follows:

[redacted]

Major Materials:

- 15 - 333KVA 13.8kV to 4.8kV Step-downs
- 6 GOAB
- 300 ft. of new primary of 3-phase 1/0 TW

• Alternatives Considered

Project Option Comparison

[redacted]		
Capital Cost	$266K	$K
Expense Cost	$6K	$K
Total Cost	$272K	$K
Total Cost / MVA added	$/MVA	$/MVA
Total Cost / CM Saved	$/CM	$/CM
Total Cost / CI Saved	$/CI	$/CI
Preferred option	X	

Doing nothing would mean all customers supplied from the [redacted]

• Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	January 2022
100% Detailed Engineering Completion	October 2022
Fully Funded	September 2023
Construction Start	January 2023
In Service Date	December 2023

• Regulatory Decisions

• Codes and Standards

• Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost is 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 the system to be abnormal for any extended period of time.

References

References
1.
2.
3.
4.
5.

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES / NO / N/A*
D. System and Station One-Lines	*YES*
E. Loads	*YES*
F. Partial Funding PAF	*YES*

A. Cost Estimate.

Partial Funding is Segment 1, 3, 4, & 5.

Budget Summary - Preferred Option						Recovery Plan
2023					Expenditure	Net
ID	Title	Status	Rev	Contingency	Amount	Estimate
1	[redacted]	Prelim	0	28%	$54,723	$54,723
3	[redacted]	Revisi	1	28%	$52,577	$52,577
4	[redacted]	Prelim	0	28%	$85,180	$85,180
5	[redacted]	Prelim	0	28%	$128,025	$128,025
				2023 Total:	$320,505	$320,505
				Total Project:	$320,505	$320,505

Segment 1.

CD01878-01

General Information

Segment: 1 - [redacted]
Status: Prelim Design Approved
Segment Type: ISLANDED SUBSTATION
Town: BRISTOL
Budget Year: 2023
Work Type: BB-Sctnlzng-Switches
Trimming ☐
In Service Date: 12/31/2022
Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	28.00%
SubTotal:	$42,752
Contingency Amount:	$11,971
Estimate:	$54,723
Reimbursement:	$0
Net Amount:	**$54,723**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14	$4,676.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19	$3,000.00
XF OH - Stepdowns, 3-1ph - on one POLE 3-333 KVA on new pole between poles 5591 and 5592.	16-OH50	$10,000.00
SECTIONALIZE OH - GOAB Switch Install open GOAB on new pole between poles 5590 and 5591 on St	16-OH44	$20,566.40
OTHER OTHER Removal of 100k fuse on pole 5601 Stafford Ave.	16-ALL14	$1,000.00

[redacted]

Segment 3.

CD01878-03

General Information

Segment: 3 - [redacted]
Status: Revision Prelim Design
Segment Type: ISLANDED SUBSTATION
Town: BRISTOL
Budget Year: 2023
Work Type: BB-Sctnlzng-Switches
Trimming ☐
In Service Date: 12/31/2023
Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Estimate

Preliminary Estimate Summary

Revision Number:	1
Contingency:	28.00%
SubTotal:	$41,076
Contingency Amount:	$11,501
Estimate:	$52,577
Reimbursement:	$0
Net Amount:	**$52,577**

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	$5,000.00
XF OH - Stepdowns, 3-1ph - on one POLE Install 3-333KVA step-downs on new pole between 2293 and 2292.	16-OH50	$10,000.00
SECTIONALIZE OH - GOAB Switch Install a normally open GOAB on pole 2290.	16-OH44	$20,566.40
OTHER OTHER Install tap wire on poles 2291 and 2292 to re-energize dead section.	16-ALL14	$2,000.00

[redacted]

Segment 4.

CD01878-04

General Information

Segment: 4 - [redacted]
Status: Prelim Design Approved
Segment Type: ISLANDED SUBSTATION
Town: BRISTOL
Budget Year: 2023
Work Type: BB-Sctnlzng-Switches
Trimming ☐
In Service Date: 12/31/2023
Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	28.00%
SubTotal:	$66,547
Contingency Amount:	$18,633
Estimate:	$85,180
Reimbursement:	$0
Net Amount:	**$85,180**

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	$5,000.00
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14	$4,676.00
SECTIONALIZE OH - Cutouts or Arresters - 3ph Install 140k fuse at new pole between poles 9491 and 9492.	16-OH20	$2,315.20
XF OH - Stepdowns, 3-1ph - on one POLE Install 3-333 KVA bank on Pole 9492 on Vance Rd.	16-OH50	$10,000.00
OH WIRE OH - Reconductor w/ 175 Mil Tree Wire - 3ph -1/0 Install new primary between poles 9492 and 12141.	16-OH26a	$18,480.00
SECTIONALIZE OH - GOAB Switch Install normally open GOAB on pole 9493 on Vnace Dr.	16-OH44	$20,566.40
OTHER OTHER Removal of 65k and 100 fuses.	16-ALL14	$2,000.00

Segment 5.

CD01878-05

General Information

Segment: 5 - [redacted] Status: Prelim Design Approved

Segment Type: ISLANDED SUBSTATION Town: BRISTOL Budget Year: 2023

Work Type: BB-Sctnlzng-Switches Trimming ☐ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	28.00%
SubTotal:	$100,019
Contingency Amount:	$28,005
Estimate:	$128,025
Reimbursement:	$0
Net Amount:	**$128,025**

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	$15,000.00
EQUIPMENT OH - Conversion - CUTOVER	16-OH58	$3,211.20
XF OH - Stepdowns, 3-1ph - on one POLE Install 3-333 KVA step-downs on pole 2259	16-OH50	$10,000.00
POLE OH - POLE - 3ph (CL&P custodian) Install new pole between 2259 and 2258 for 140K fuse.	16-OH14	$4,676.00
SECTIONALIZE OH - GOAB Switch Install normally open GOAB on pole 16011.	16-OH44	$20,566.40
OH WIRE OH - Remove circuit wire (3 phase) Remove 4/0 Cu on Farmington Ave. from pole 2258 to 2254.	16-OH37A	$1,920.00
XF DB/UG - Padmount XF - 1ph Replace 1 padmount transformers: 973.	16-UG130	$3,147.20
XF OH - OH XF - 1ph Replace OH transformers on poles 2257, 2027, and 2254.	16-OH45	$6,328.80
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu Replace UG cable on one riser in conversion zone.	16-UG114	$13,920.00
SECTIONALIZE OH - Cutouts or Arresters - 3ph To replace the 3 OH transformer's cutouts on poles 2257, 2027, and	16-OH20	$6,945.60
POLE DB/UG - Riser - 3ph To replace the riser on Farmington Ave.	16-UG146	$10,794.40

EVERSOURCE

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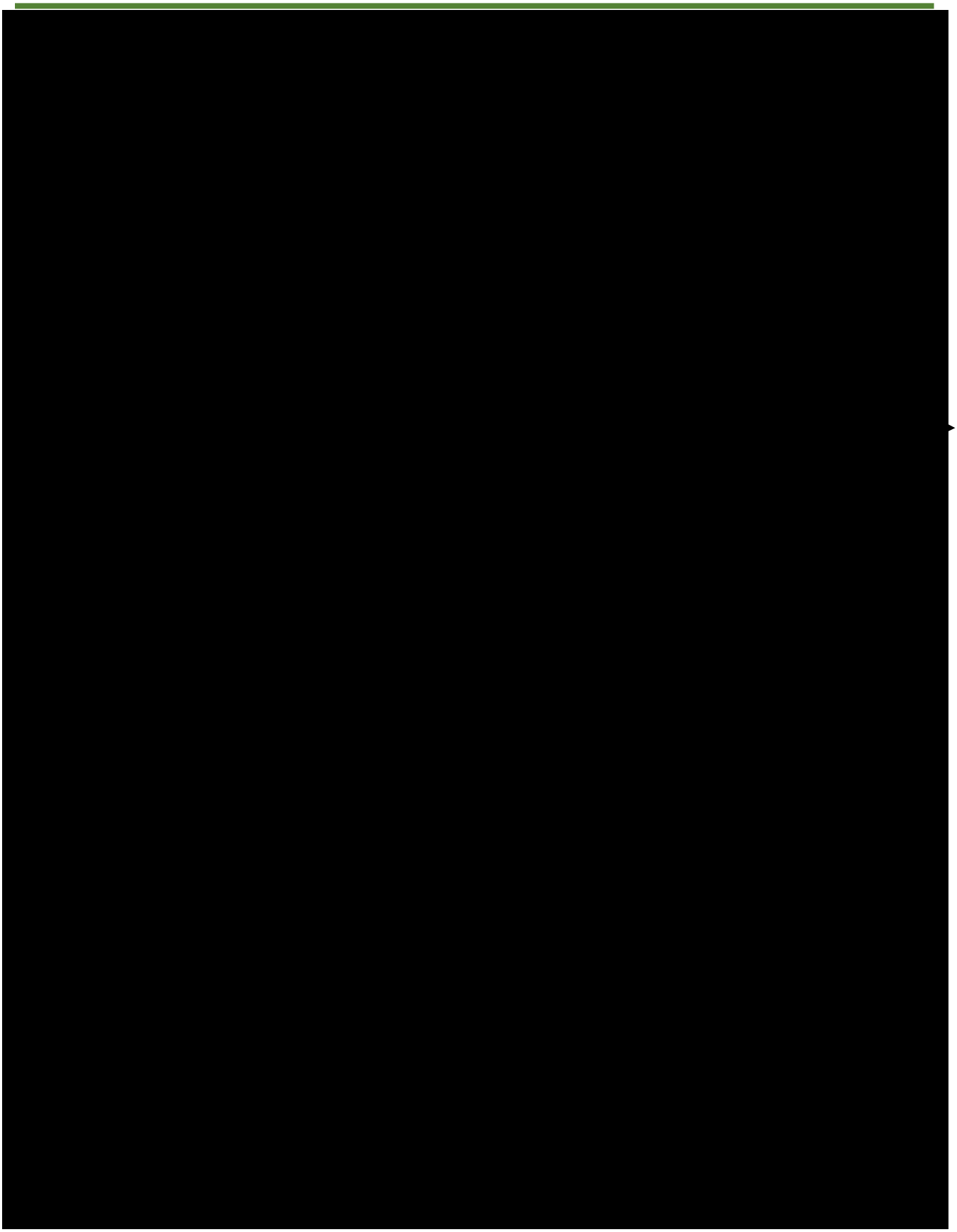
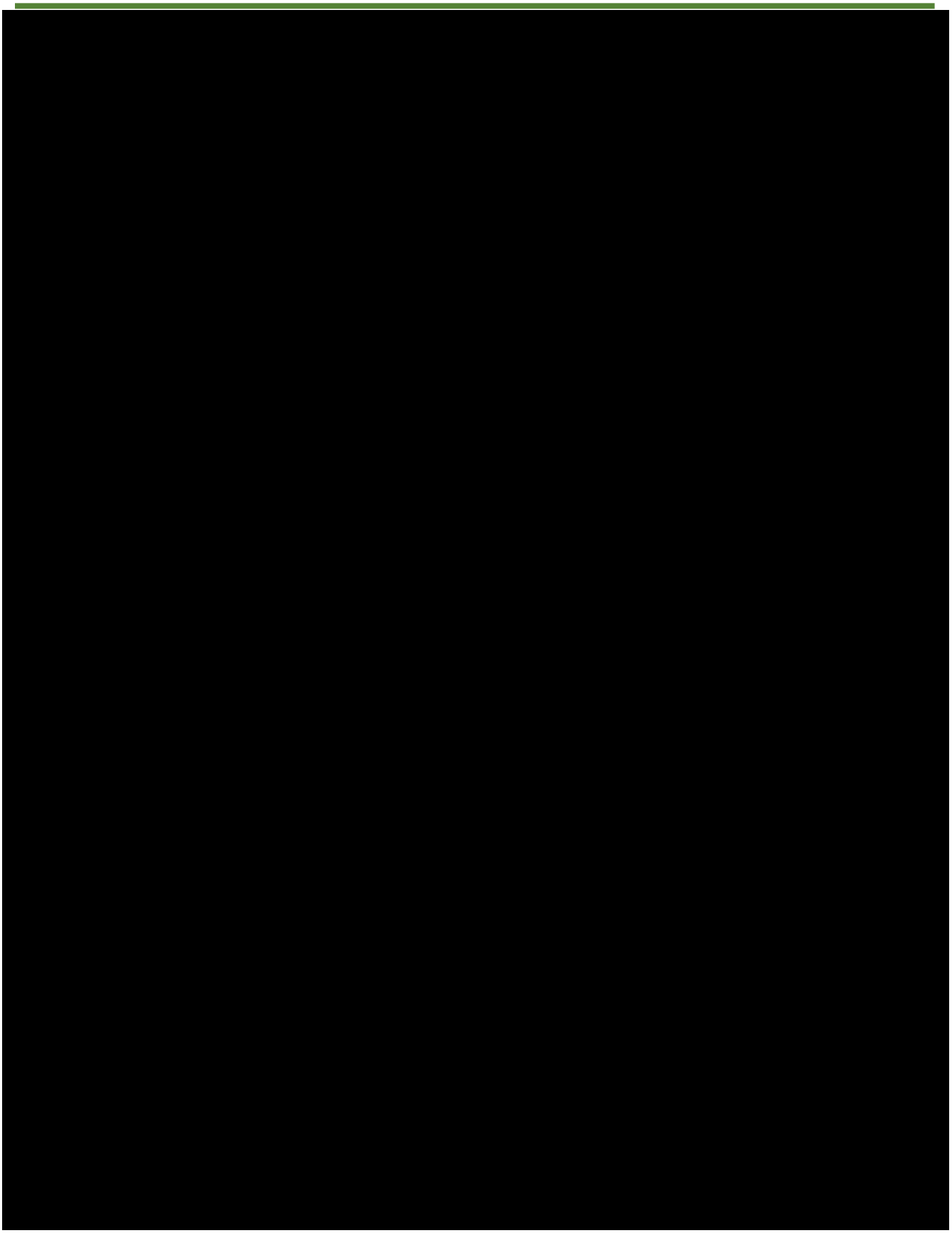


Project Approval Form



[redacted]

12A14-73S/17F2		17F2	37	18%	39%	46%	4/0 ACSR Bare AL	440	4/0 ACSR Bare AL

F. Partial Funding PAF.

Operations Project Authorization Form

Date Prepared: January 6, 2022	**Project Title: [redacted]Brook St Recovery Plan**
Company/ies: Eversource CT	**Project ID Number: CD01878**
Organization: Distribution Electric	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: Islanded Substation**
Project Sponsor: [redacted]	**Project Purpose: Recovery Plan for Substation**
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: $430k	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is being established to develop a [redacted]

[redacted]

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	2021	2022	2023+	Totals
Capital Additions - Direct	$0	$0	$0	$234	$234
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$0	$0	$32	$32
Total - Direct Spending	$0	$0	$0	$266	$266
Capital Additions - Indirect	$0	$0	$0	$137	$137
Subtotal Request	$0	$0	$0	$403	$403
AFUDC	$0	$0	$0	$6	$6
Total Capital Request	$0	$0	$0	$409	$409
O&M	$0	$0	$0	$21	$21
Total Request	**$0**	**$0**	**$0**	**$430**	**$430**

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	2021	2022	2023+	Total
Straight Time Labor	$0	$0	$30	$30
Overtime Labor	$0	$0	$5	$5
Outside Services	$0	$0	$187	$187
Materials	$0	$0	$41	$41
Other, including contingency amounts (describe)	$0	$0	$2	$2
Total Direct Costs	**$0**	**$0**	**$266**	**$266**

Indirect Capital Costs	2021	2022	2023+	Total
Indirects/Overheads (including benefits)	$0	$0	$137	$137
Capitalized interest or AFUDC, if any	$0	$0	$6	$6
Total Indirect Costs	**$0**	**$0**	**$143**	**$143**
Total Capital Costs	**$0**	**$0**	**$409**	**$409**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$0**	**$0**	**$409**	**$409**
Total O&M Project Costs	**$0**	**$0**	**$21**	**$21**
Total Project Cost	**$ 0**	**$ 0**	**$ 430**	**$ 430**

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

[redacted]

Project Scope

The scope of this project is as follows:

[redacted]

Major Materials:

- 15 - 333KVA 13.8kV to 4.8kV Step-downs
- 6 GOAB
- 300 ft. of new primary of 3-phase 1/0 TW

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

Provide backup without generation for the failure of a single transformer substation.

Alternatives Considered with Cost Estimates

Option 1 – 17F Recovery Plan.

Option 2 – Do nothing.

[redacted]		
Cost	$430k	$0
CM Accumulated (1-4 yrs.)	0	0
Cost / CM Saved	N/A	N/A
Cost / CI Saved	N/A	N/A
Preferred option	X	

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary Approval	January 2022
Detailed Design	October 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 is 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
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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.
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System abnormal configuration	2023	Low	Schedule work to minimize system abnormal time. Most of this work will require the system to be abnormal for any extended period.

