EVERSOURCE

Project Approval Form

Project Title: CDOT 95-97 Route 44 Norfolk	Project Number: CD02150
Date Prepared: 06/03/2024	**Company:** Eversource CT
Organization: Electric System Operations	**Project Category:** Line Relocations/Act of Public Authority
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: 12/31/24	
Total Capital Request: $690.8K (50% Reimbursable)	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$690.8K** which is 128% of the partial funding capital estimate of $548K. There is no scope change on the project. The variance between the full funding and partial funding estimate is due to an increased amount of rock drilling to set poles.

Project CD02150 seeks to address concerns regarding CDOT Project 95-97. This project affects Eversource facilities along Route 44 in Norfolk. The CDOT scope for this project is to replace existing retaining walls and perform slope stabilization which requires the [redacted]. Since this project is a state roadway project it is 50% reimbursable.

[redacted]

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	54.7	0.0	0.0	54.7
Outside Services	195.9	0.0	0.0	195.9
Materials	67.5	0.0	0.0	67.5
Removals	30.1	0.0	0.0	30.1
Risk and Contingency	48.2	0.0	0.0	48.2
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	**396.5**	**0.0**	**0.0**	**396.5**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	294.3	0.0	0.0	294.3
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal – Indirect Costs	**294.3**	**0.0**	**0.0**	**294.3**
Total Gross Capital Costs	**690.8**	**0.0**	**0.0**	**690.8**
Customer Contribution	**-345.4**	**0.0**	**0.0**	**-345.4**
Total Net Capital Project Costs	**345.4**	**0.0**	**0.0**	**345.4**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

CT State DOT is requesting Eversource to relocate facilities along Route 44 that conflict with CDOT 95-97. Presented below is the state DOT facilities conflict map for reference.

Overhead Utility Conflict Plans (11-16

The state will be assisting with required tree trimming and tree removal along Old Colony Rd and Route 44 where required for the relevant work.

b. Project Need

The State of CT has contacted Eversource concerning CDOT Project 95-97. This project affects Eversource facilities on Route 44 in Norfolk. The CDOT scope for this project is to replace existing retaining walls and perform slope stabilization which requires the [redacted]

c. Project Scope

The scope of the project is as follows:

[redacted]

[redacted]

4. Alternatives Considered

Option 1 was selected due to being easier to construct, along with being the lower cost option.

Option 2 suggests the [redacted]. The cost for this option is $1032k (50% Reimbursable)

Option 2 is not preferred because it is more expensive than Option 1 and does not provide any significant reliability improvements for this segment of the [redacted]

Project Option Comparison

	Option
[redacted]	

[redacted]

Capital Cost	$690.8K	$1032K
Capital Cost / CM Saved	$303.12/CMS	$458.28/CMS
Preferred option	X	

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	1/13/23
100% Detailed Engineering Completion	4/30/23
Construction Start	10/1/23
In Service Date	12/31/24

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.	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	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023	High	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	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
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. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Technological risks involving integration of new technology	2023	Low	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.

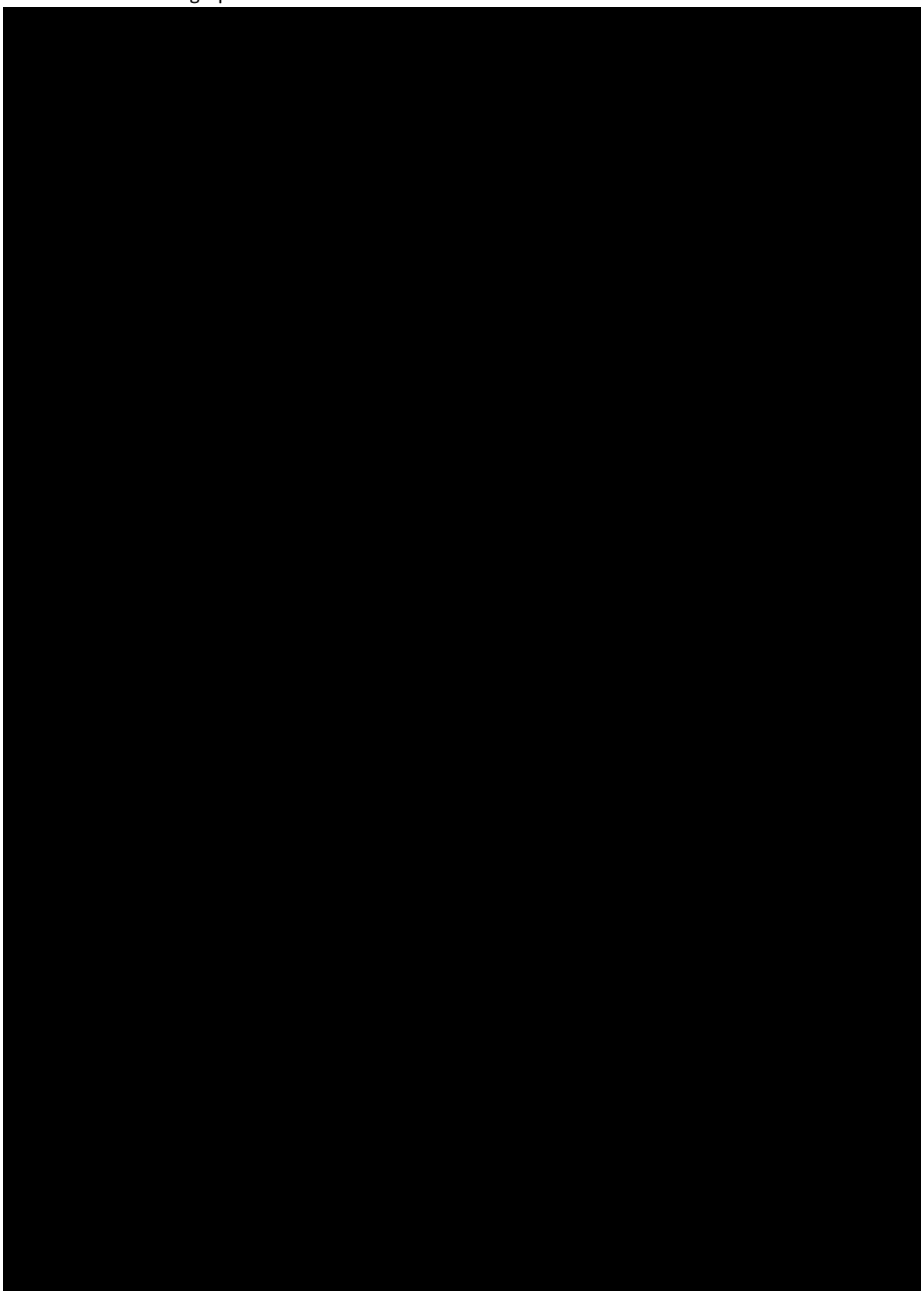
9. References

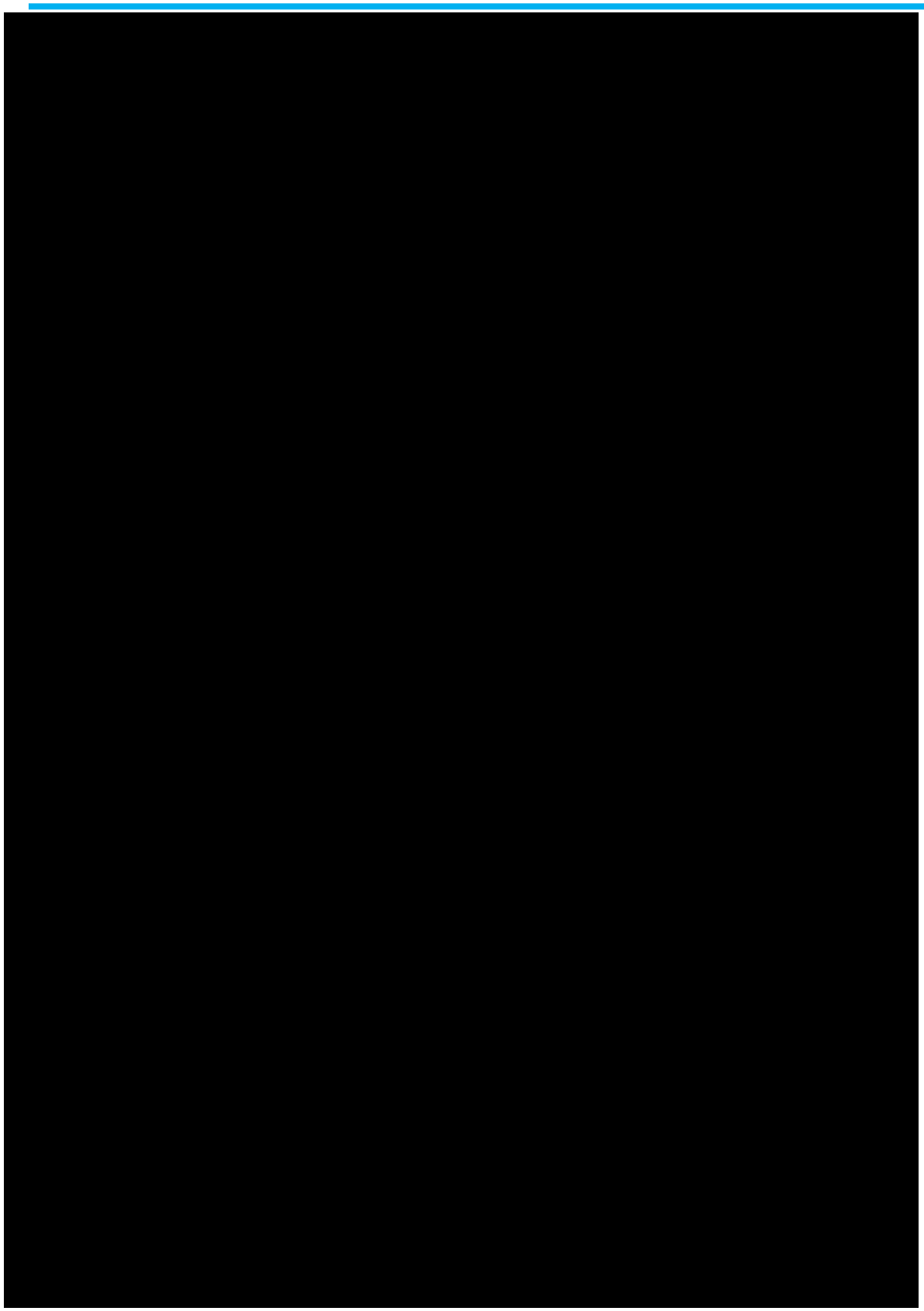
N/A

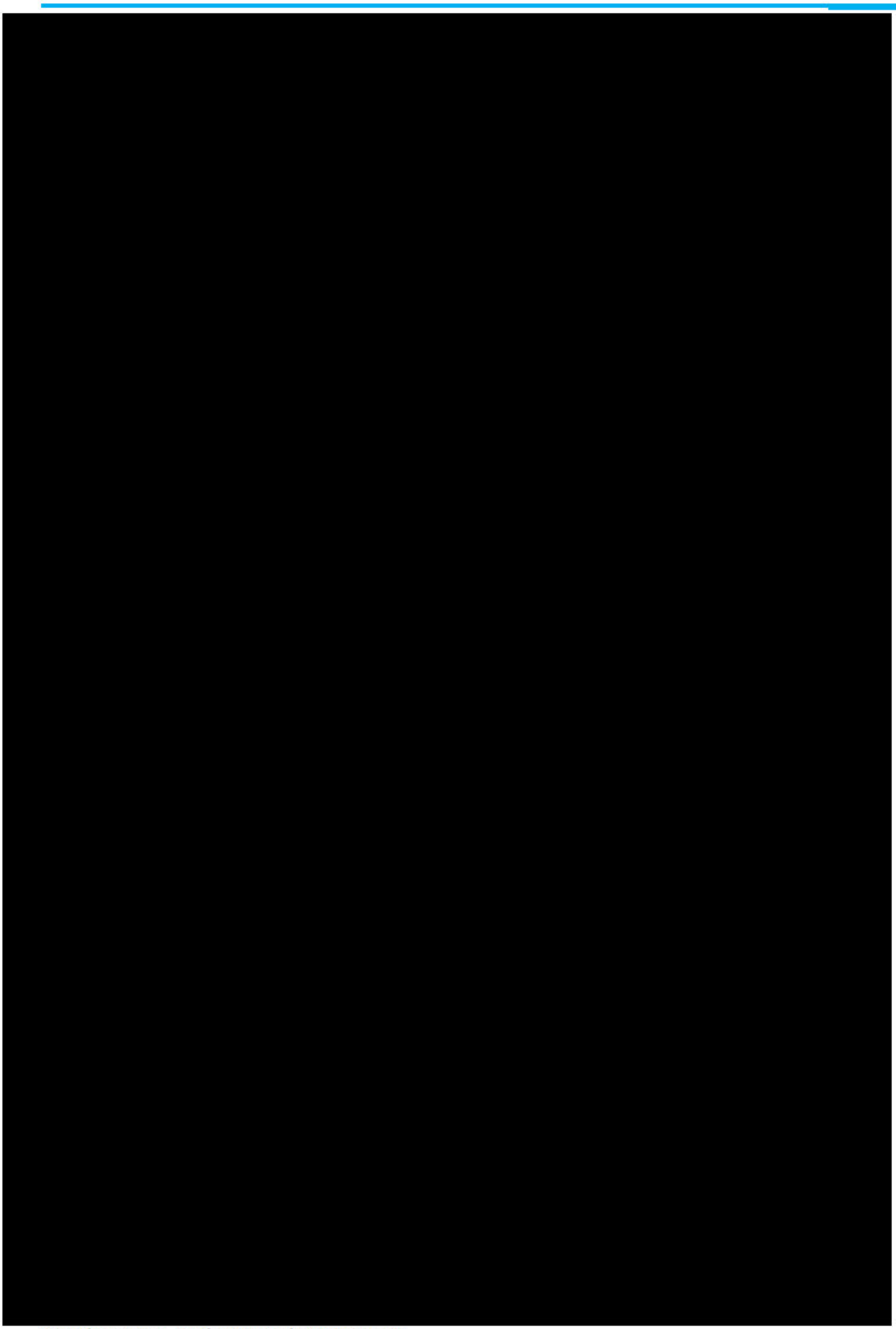
10. Attachments (One Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. Geographic One-line	*YES*
B. Project Needs Statement / Cost Estimate	*YES*
C. Load Sheet	*YES*
D. Partial PAF File	*YES*

Attachment 1. Geographic One-line







Attachment 2. Project Needs Statement

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Work Classification

Category: Line
Type: RBPR
Type Desc: LINE RELOCATIONS/ACT OF PUBLIC
Work Type:

Ownership / Management

AWC: Falls Village
Statewide: No
Owner: [redacted]
Manager:

Project Information

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

Budget Summary - Preferred Option

Option 1 - OH Relocation Old Colony Rd

2023

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
2	Old Colony Rd Backbone Relocation	Draft	0	20%	$478,021	$478,021
1	Route 44 Equipment Shifts	Draft	0	20%	$95,589	$95,589
				2023 Total:	$573,611	$573,611
				Total Project:	$573,611	$573,611

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Option 1 - OH Relocation Old Colony Rd	1,2	$573,611	$0	100%	$243.13	$240.61	☑
O2	Option 2 - Underground Extension Route 44	1,3	$827,806	$0	100%	$350.88	$347.24	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Route 44 Equipment Shifts	$95,589			$43.18	$42.73
2	Old Colony Rd Backbone Relocation	$478,021			$215.92	$213.68
3	UG Backbone Relocation Route 44	$732,217			$313.40	$310.15

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Background / Scope

Issue:

Project Description:

Other Considerations:

Revision / ACT Comments:

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

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 #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-01

General Information

Segment: 1 - Route 44 Equipment Shifts
Status: Draft
Segment Type: RELOCATION - OH SPECIFIC
Town: NORFOLK
Budget Year: 2023
Work Type: BB-Rehab
Trimming Required: ☑
In Service Date: 2/29/2024
Description: Work to shift 15 poles and associated devices

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$79,658
Contingency Amount:	$15,932
Estimate:	$95,589
Reimbursement:	$0
Net Amount:	**$95,589**

Description:

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$14,038.40
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 1 officer, 5 days	16-ALL18		$5,000.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger 2 flaggers, 5 days	16-ALL19		$3,000.00
POLE OH - POLE - 3ph (Telephone custodian) Relocate 15 poles along Route 44.	16-OH12		$53,400.00
XF OH - OH XF - 1ph Shift two OH XFMRs	16-OH45		$4,219.20

Associated / Impacted Devices

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

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-01

Reliability Projection

Title:

Outage Start Date: 12/13/2018 Outage End Date: 12/13/2022 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-02

General Information

Segment: 2 - Old Colony Rd Backbone Relocation Status: Draft

Segment Type: OTHER Town: NORFOLK Budget Year: 2023

Work Type: BB-Reconductoring Trimming Required: ☑ In Service Date: 2/29/2024

Description: Includes work for relocating BB from Route 44 to Old Colony Rd

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$398,351
Contingency Amount:	$79,670
Estimate:	$478,021
Reimbursement:	$0
Net Amount:	**$478,021**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$7,019.20
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14	$28,056.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian)	16-OH14A	$23,380.80
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A	$3,040.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger 2 flaggers, 3 days	16-ALL19	$1,800.00
OH WIRE OH - Line Extension - 3ph (556 kcmil) Extend backbone down Old Colony Rd.	16-OH34	$216,000.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph install OH disconnect at [redacted]	16-OH43	$20,566.40
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil Reconductor 900' of existing backbone along North St.	16-OH29	$92,160.00
XF OH - OH XF - 1ph Shift 3 OH XFMRs on old colony rd.	16-OH45	$6,328.80

[redacted]

Asset & Investment Management System 1/11/2023 Page 8 of 12

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-02

Associated / Impacted Devices

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

Reliability Projection

Title:

Outage Start Date: 12/13/2018 Outage End Date: 12/13/2022 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-03

General Information

Segment: 3 - UG Backbone Relocation Route 44 Status: Draft

Segment Type: RELOCATION - UG Town: NORFOLK Budget Year: 2023

Work Type: BB-Reconductoring Trimming Required: ☐ In Service Date: 2/29/2024

Description: Work to run existing backbone underground along route 44.

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$610,181
Contingency Amount:	$122,036
Estimate:	$732,217
Reimbursement:	$0
Net Amount:	**$732,217**

Description:

Item Description	CU	[redacted]	Amount
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil	16-OH29		$40,960.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A		$3,360.00
POLE DB/UG - Riser - 3ph 2 Risers	16-UG146		$21,588.80
ACT ACT Estimate for Contractor Crews 25% ACT Contracotr Adder	16-ALL12		$145,872.00
OTHER OTHER Cost for civil work, $320/ft	16-ALL14		$336,000.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu Install 950' 1,000 CU 3-PH	16-UG114B		$62,400.00

Associated / Impacted Devices

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

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02150

CDOT 95-97 Route 44 Norfolk

Design Alternative CD02150-03

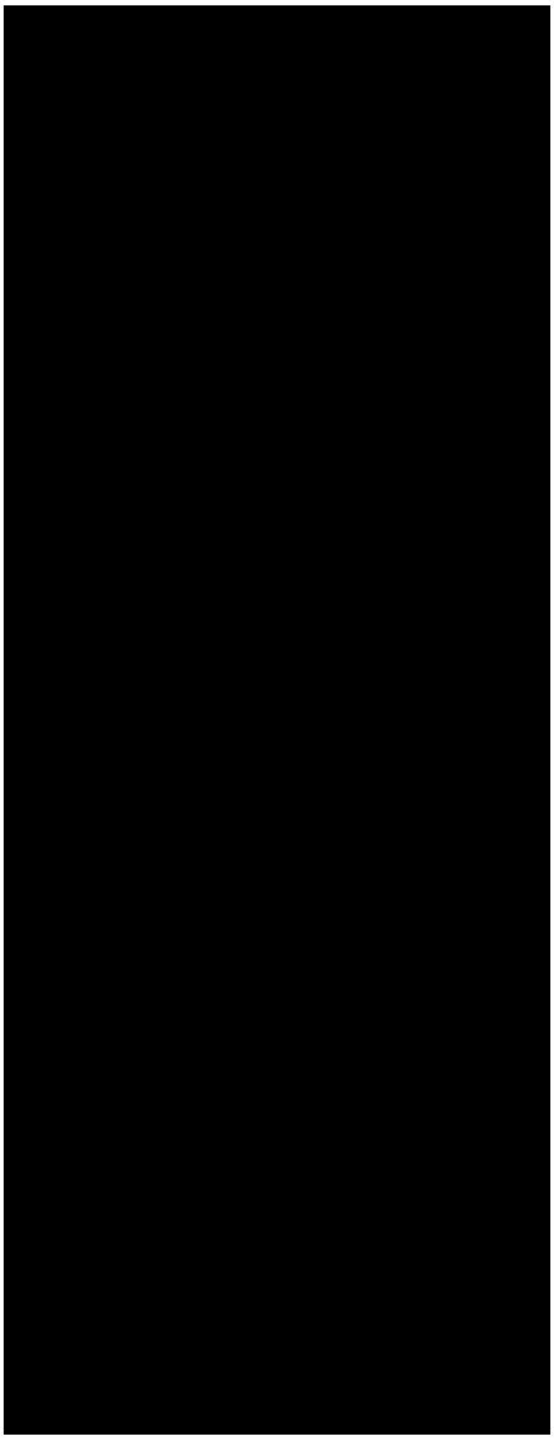
Reliability Projection

Title:

Outage Start Date: 12/13/2018 Outage End Date: 12/13/2022 Years History: 4.00

[redacted]

Attachment 3. Load Sheet



Attachment 4. PAF File

Operations Project Authorization Form

Project Title: CDOT 95-97 Route 44 Norfolk	Project Number: CD02150
Date Prepared: 01/12/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** Line Relocations/Act of Public Authority
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 2/29/2024	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $548k (50% Reimbursable)	**Authorization Type:** Initial Funding

Executive Summary

Project CD02150 seeks to address concerns regarding CDOT Project 95-97. This project affects Eversource facilities along Route 44 in Norfolk. The CDOT scope for this project is to replace existing retaining walls and perform slope stabilization which requires the relocation of existing Eversource OH facilities due to limited space for pole setting. [redacted]. Since this project is a state roadway project it is 50% reimbursable. Attached below is the guideline for Eversource facility relocations as determined by the legal departments.

Utility relocation cost memo.pdf

[redacted]

[redacted]

[redacted] The cost for the suggested work is $548k (50% Reimbursable).

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2023	2024	2025+	Total
Internal Labor and Construction Equipment	$34.78	$0	$0	$34.78
Outside Services	$233.06	$0	$0	$233.06
Materials	$76.57	$0	$0	$76.57
Removals	$38.81	$0	$0	$38.81
Risk and Contingency	($94.02)	$0	$0	($94.02)
Other	$0	$0	$0	$0.00
Subtotal	**$289.18**	**$0**	**$0**	**$289.18**
Indirect Capital Costs	**2023**	**2024**	**2025+**	**Total**
Indirects/Overheads (including benefits)	$247.03	$0	$0	$247.03
Capitalized interest or AFUDC, if any	$11.55	$0	$0	$11.55
Subtotal	**$258.59**	**$0**	**$0**	**$258.59**
Total Capital Costs (Gross)	**$547.77**	**$0**	**$0**	**$547.77**
Less Total Customer Contribution	**($286.81)**	**$0**	**$0**	**($286.81)**
Project Costs (Net)	**$260.96**	**$0**	**$0**	**$260.96**

Technical Justification:

Project Need, Objective and Justification:

The State of CT has contacted Eversource concerning CDOT Project 95-97. This project affects Eversource facilities on Route 44 in Norfolk. The CDOT scope for this project is to replace existing retaining walls and perform slope stabilization which requires the relocation of existing Eversource OH facilities due to limited space for pole setting.

Project Scope:

The scope of the project is as follows:



[redacted]

Major Material:

- 10 Joint Utility Poles
- 7 Eversource Pole
- 2 OH GOAB
- 2700’ 556 Spacer Cable

Background:

CT State DOT is requesting Eversource to relocate facilities along Route 44 that conflict with CDOT 95-97.

Presented below is the state DOT facilities conflict map for reference.

Overhead Utility Conflict Plans (11-16

The state will be assisting with required tree trimming and tree removal along Old Colony Rd and Route 44 where required for the relevant work.

Business Process and / or Technical Improvements:

All permanent construction will be in accordance with the latest Eversource standards.

Alternatives Considered:

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

There was one alternative considered:

Option 2: UG Relocation

Option 2 suggests the [redacted]. The cost for this option is $804k (50% Reimbursable)

This option is not preferred because it is more expensive than Option 1 and does not provide any significant reliability improvements for this segment of the [redacted]

PROJECT OPTION COMPARISON

DESIGN CRITERIA	Options	
[redacted]		
TOTAL COST	**$538k**	**$804k**
COST / CM SAVED	$236.07/CMS	$356.91/CMS
PREFERRED OPTION	X	

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	1/13/23
Detailed Design	4/30/23
Settings Requested	6/1/23
Construction Start	10/1/23
Construction End	2/29/24

Risks and Risk Mitigation Plans

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	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023	High	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. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Technological risks involving integration of new technology	2023	Low	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.