EVERSOURCE

Project Approval Form

Project Title: [redacted] PILC Cable Replacement	Project Number: CD02012
Date Prepared: 08/29/2023	Company: Eversource CT
Organization: Electric System Operations	Project Category: UG CABLE & EQUIPMNT REPLACEMNT
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: 4,214K	Authorization Type: Full Funding

1. Executive Summary

- Project CD02012 was established to [redacted]
  - Project Location:
    - Division: Central
    - District: Hartford AWC
    - Town: Hartford
- Approved Partial Funding Request Amount = $4.44M.
- Full Funding Request Amount = $4.214M or 5% decrease.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2022 Prior Actuals	Est Future Spend	Total Request
Direct Capital Costs			
Internal Labor and Construction Equipment	64.9	626.3	691.1
Outside Services	32.9	317.3	350.1
Materials	74.2	716.8	791.0
Removals	38.3	455.3	493.7
Risk and Contingency	0.0	383.1	383.1
Other	0.3	3.0	3.3
Subtotal – Direct Costs	**210.6**	**2,501.9**	**2,712.5**
Indirect Capital Costs			
Indirect/Overheads (including benefits)	140.5	1,354.6	1,495.1
Capitalized interest or AFUDC, if any	6.9	0.0	6.9
Subtotal – Indirect Costs	**147.4**	**1,354.6**	**1,502.0**
Total Gross Capital Costs	**358.0**	**3,856.4**	**4,214.4**
Customer Contribution	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**358.0**	**3,856.4**	**4,214.4**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

[redacted]

c. Project Scope

- [redacted]

4. Alternatives Considered

Project Option Comparison

	Option	
[redacted]		
Authorization Type	Partial	Full
Capital Cost	$4,139K	$4,214K
Expense Cost	$176K	
Total Cost	$4,315K	
Preferred option		X

- [redacted]
- [redacted]

5. Project Schedule

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

6. Regulatory Decisions

7. Codes and Standards

8. Risk and Contingencies

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.
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.
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.

9. References

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

Attachment	Included in Submittal?
A. Partial (originally called Initial) Funding Cost Estimate	*YES*
B. Geographic Map	*YES*
C. Circuit conductor size & length worksheet	*YES*
D. Partial (originally called Initial) Funding PAF	*YES*

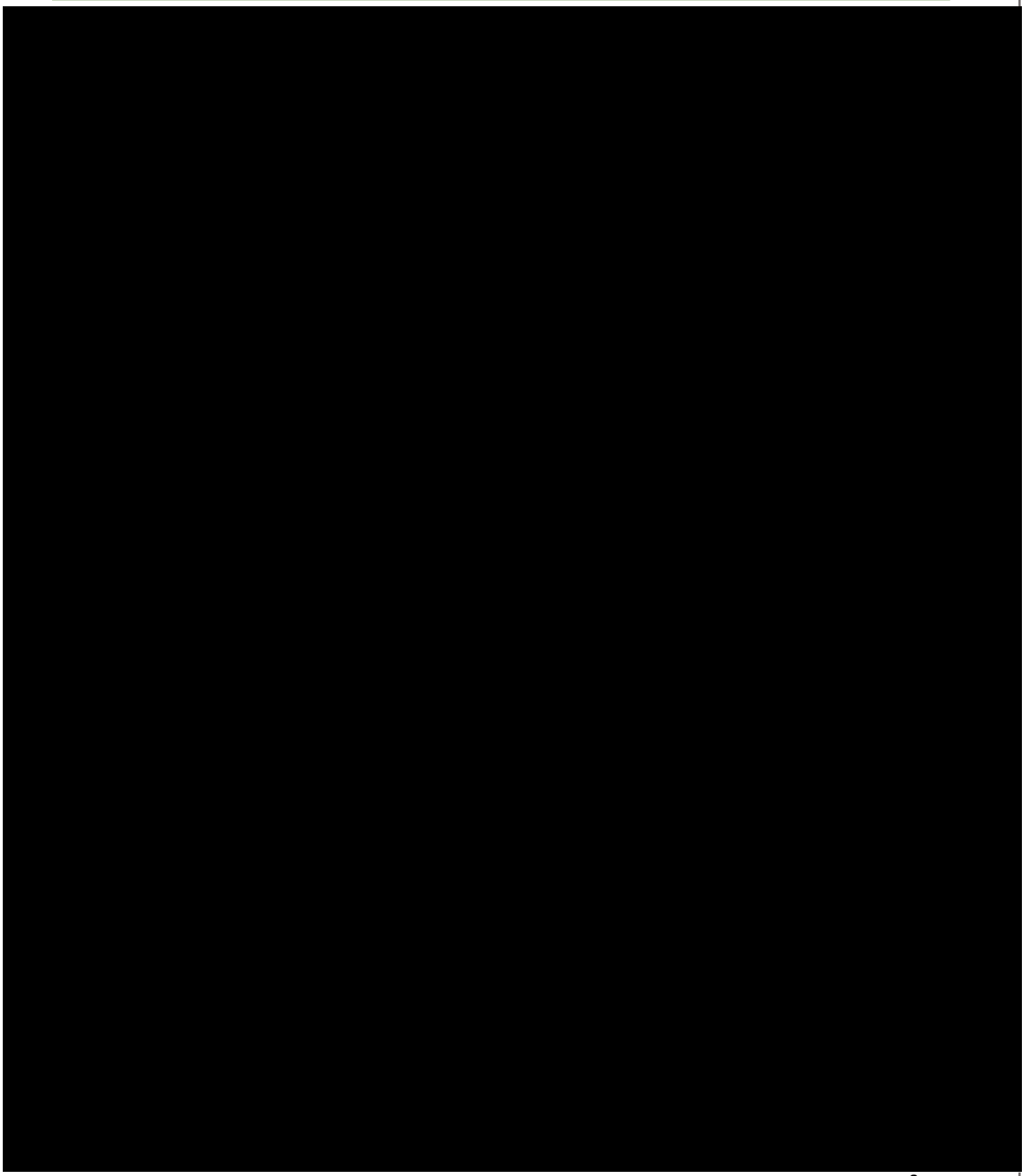
Attachment A – Partial Cost Estimate

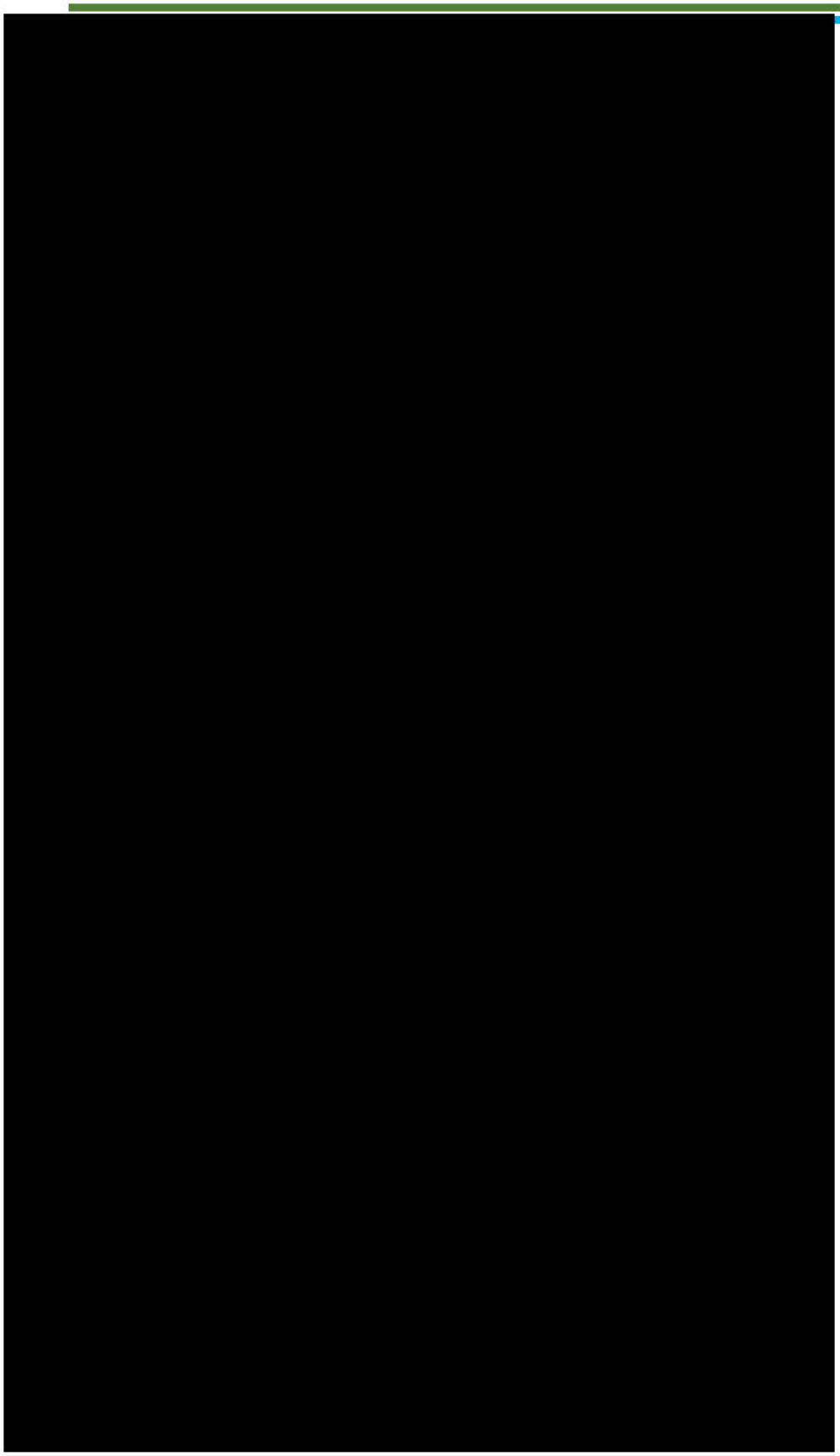
Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$3,508,119
Contingency Amount:	$982,273
Estimate:	$4,490,392
Reimbursement:	$0
Net Amount:	**$4,490,392**
Description:	Replace all PILC with 500 MCM EPR

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average 1 switching order for each instance of switchgear	16-ALL17		$24,567.20
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 2 officers / day for 30 weeks (150 days)	16-ALL18		$300,000.00
OTHER OTHER 20% adder for contract labor to remove and replace	16-ALL14		$514,217.00
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu 20370 +10% 500 kcmil EPR	16-UG114		$1,559,527.20
UG CABLE DB/UG - 4/0 - 3-1/C (3ph) Cu [redacted] Switchgear Entrances	16-UG113B		$43,296.00

OTHER OTHER Manhole Cleaning (90 MH X $1K/MH)	16-ALL14	[redacted]	$90,000.00
OTHER OTHER Mechanical Y Splices (8 loc. X $5K/loc.)	16-ALL14		$40,000.00
UG CABLE UG - Copper Secondary in Conduit MH 5000 - MH 1302 Sigourney St	16-UG153		$6,912.00
SWITCHING OH/DB/UG - SWITCHING Network N51 and N59	16-ALL15		$14,048.80
OTHER OTHER Power Wash Ducts (20 days X $2K/day)	16-ALL14	[redacted]	$40,000.00
UG CABLE DB/UG - 1/0 - 3-1/C (3ph) Cu To Network Unit 137	16-UG113A		$5,790.40
UG CABLE UG - Cable Removal - all cables total cable footage doubled	16-UG117		$869,760.00





D. Partial (originally called Initial) Funding PAF

Operations Project Authorization Form

Project Title: [redacted] PILC Cable Replacement	**Project Number: CD02012**
Date Prepared: 05/11/2022	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** UG CABLE & EQUIPMNT REPLACEMNT
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? No	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $4,440K	**Authorization Type:** Initial Funding

Executive Summary

Project CD02012 has been established to [redacted]

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2023	2024	2025+	Total
Internal Labor and Construction Equipment	$0	$336,383	$0	$336,383
Outside Services	$0	$1,007,941	$0	$1,007,941
Materials	$0	$1,056,234	$0	$1,056,234
Removals	$0	$282,689	$0	$282,689
Risk and Contingency	$0	$34,337	$0	$34,337
Other	$0	$0	$0	$0
Subtotal	**$0**	**$2,717,584**	**$0**	**$2,717,584**

Indirect Capital Costs	2023	2024	2025+	Total
Indirects/Overheads (including benefits)	$0	$1,630,330	$0	$1,630,330
Capitalized interest or AFUDC, if any	$0	$91,675	$0	$91,675
Subtotal	**$0**	**$1,722,005**	**$0**	**$1,722,005**
Total Capital Costs (Gross)	**$0**	**$4,439,590**	**$0**	**$4,439,590**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Project Costs (Net)	**$0**	**$4,439,590**	**$0**	**$4,439,590**

Technical Justification:

Project Need, Objective and Justification:

[redacted]

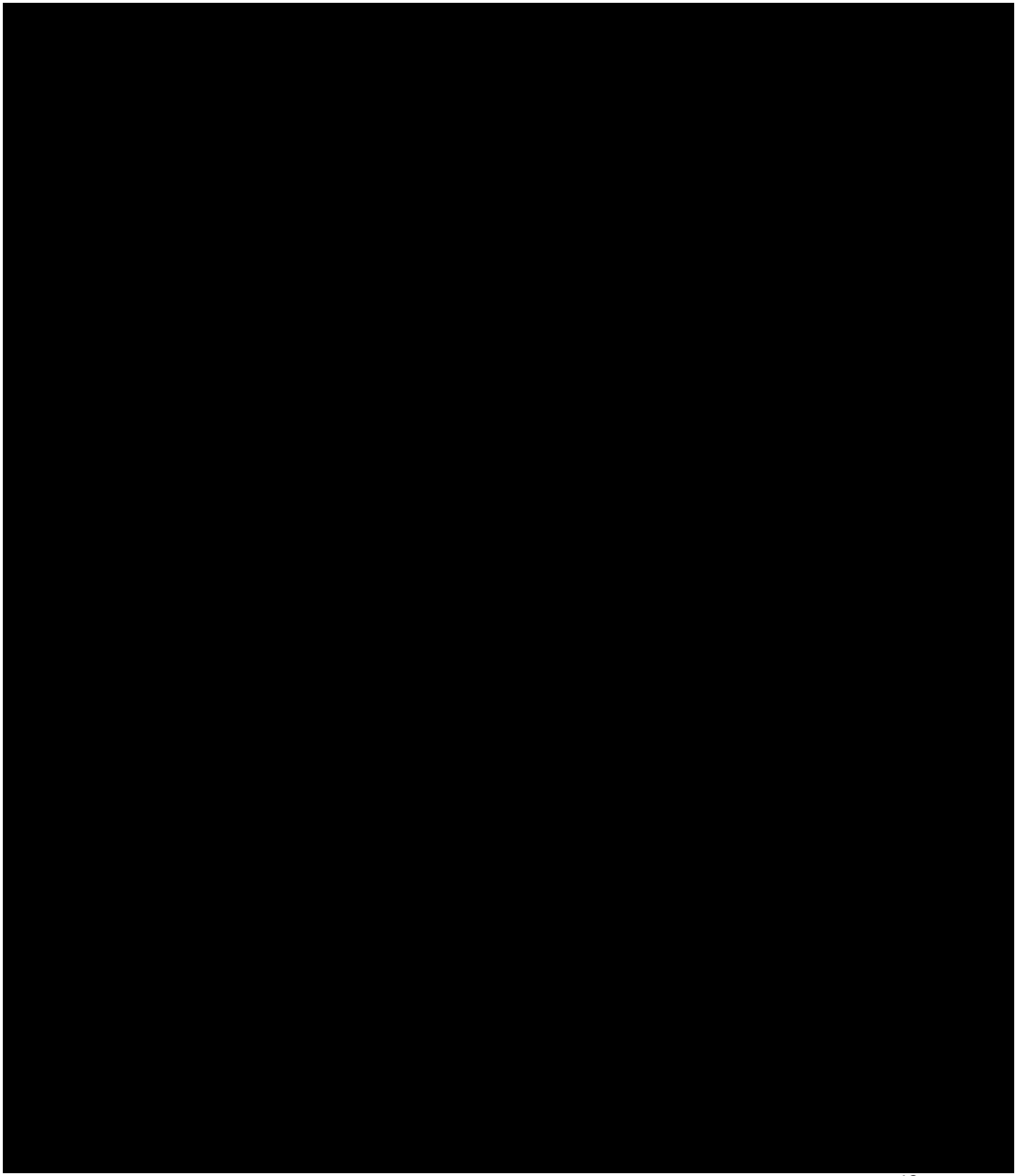
Project Scope:

[redacted]

Major Material:
23,463' of 500 CU EPR 3-1/C 25kV cable

Background:

[redacted]



[redacted]	[redacted]	[redacted]	[redacted]

Alternatives Considered:

Alternatives were considered (please describe below)

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

Project Option Comparison

	Option		
[redacted]			
Cost	$4,315M	$4,490M	$0
Preferred option		X	

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	May 2022
Detailed Design	July 2023
Construction Start	January 2024
Construction End Date	December 2024

Risks and Risk Mitigation Plan

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.	2023	Medium	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	Low	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.
Technological risks involving integration of new technology	2024	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	2024	Low	Use of mats and specialty equipment, only work during certain times of the year.

References

None

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