



SRRTEP - Western Committee ComEd Supplemental Projects

April 19, 2024

Needs

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Need Number: ComEd-2024-011

Process Stage:

Need Meeting 4/19/2024

Project Driver:

Operational Flexibility and Efficiency

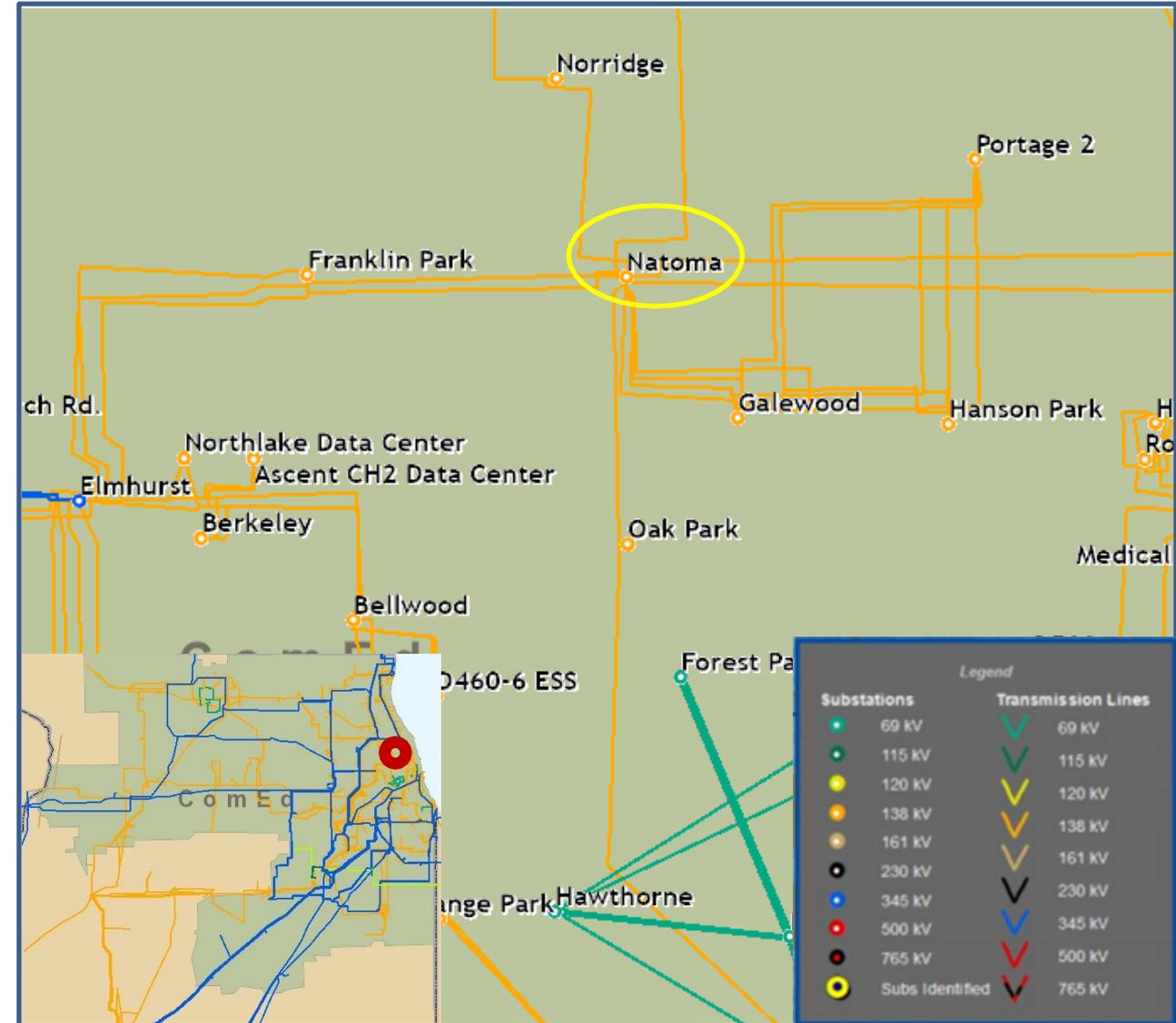
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Enhancing system functionality, flexibility, visibility, or operability
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- Natoma substation is currently a double ring bus with two 138-12 kV distribution transformers and eleven 138 kV lines. The distribution transformers each share a bus position with a line.
- 138 kV oil circuit breakers BT1-2, BT1-212, BT1-9, BT4-5, BT8-9 at Natoma substation were installed in 1970. They are in deteriorating condition, lack replacement parts, and have elevated maintenance costs.



Need Number: ComEd-2024-012

Process Stage:

Need Meeting 4/19/2024

Project Driver:

Operational Flexibility and Efficiency

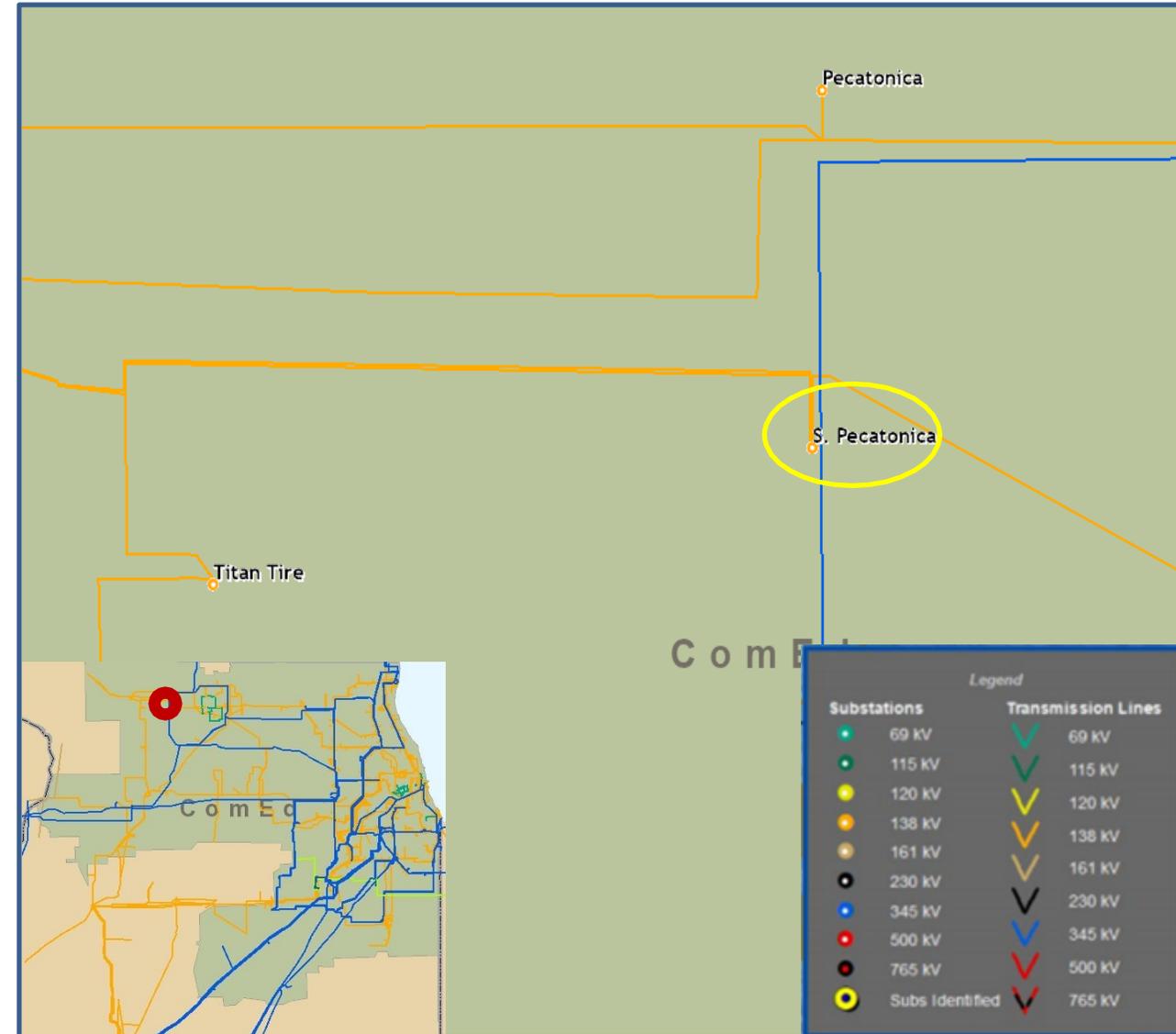
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Enhancing system functionality, flexibility, visibility, or operability
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- TDC390 S Pecatonica is a single radial tap off of 138kV L19414 to a fused 138/12 kV transformer feeding 13 MW.
- 138kV L19414 is 41.3 miles long and currently has 5 tapped stations: TSS121 Freeport, ESSB-427, TSS162 Pierpont, TDC390 S. Pecatonica and TSS165 Fordham.
- 138kV L19414 has had 14 transmission outages in the last 10 years, 5 of those outages in the last 2 years.



Need Number: ComEd-2024-013

Process Stage: Need Meeting 4/19/2024

Project Driver:

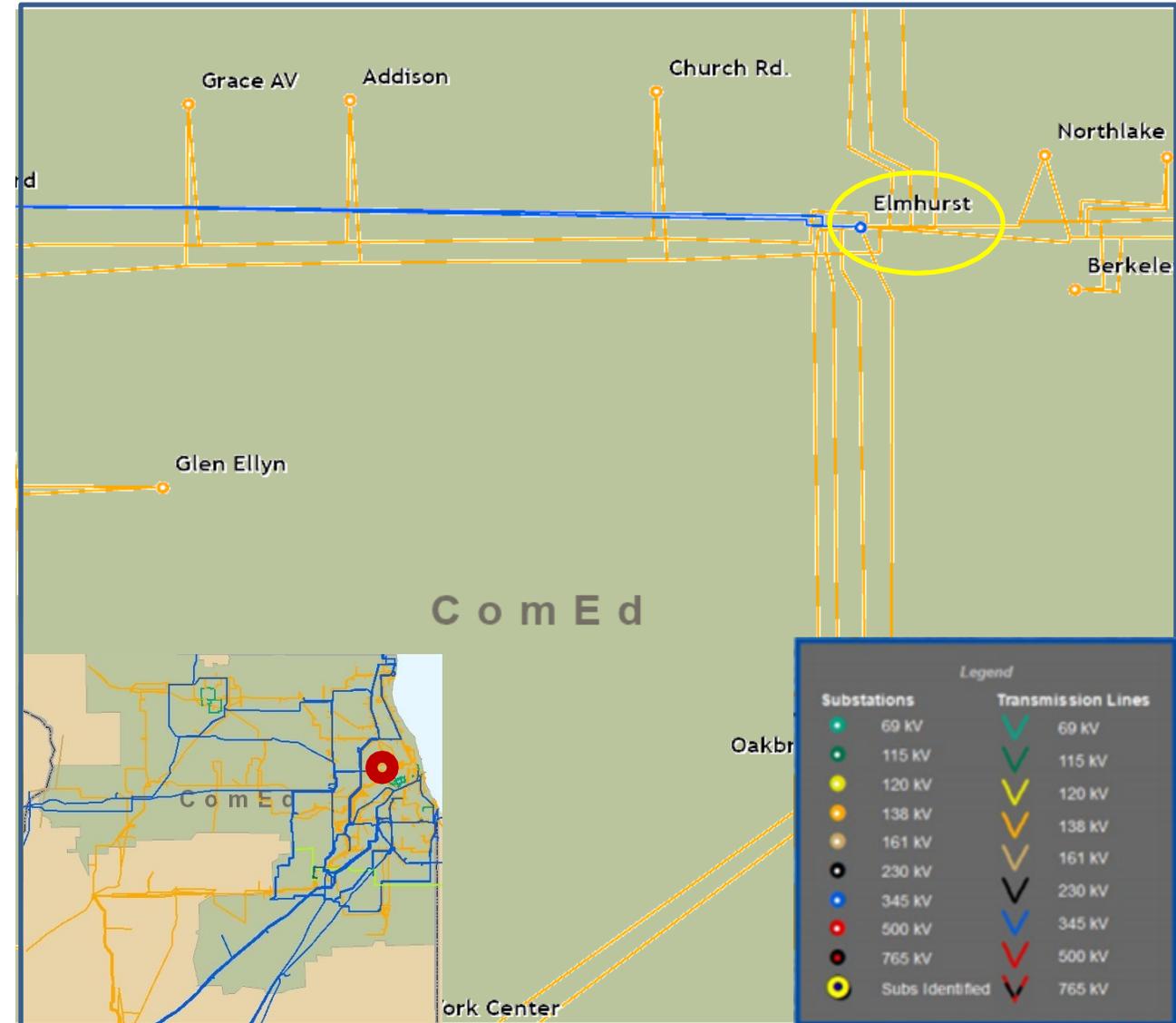
Customer Service

Specific Assumption Reference:

- Transmission System configuration changes due to new or expansion of existing distribution substations

Problem Statement:

ComEd Distribution has a customer requesting service in the Elmhurst area. Initial loading is expected to be 53 MW in January 2025, 103 MW in 2028, with an ultimate load of 103 MW.



Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Need Number: ComEd-2023-012

Process Stage:

Solution Meeting 4/19/2024

Previously Presented:

Need Meeting 11/17/2023

Project Driver:

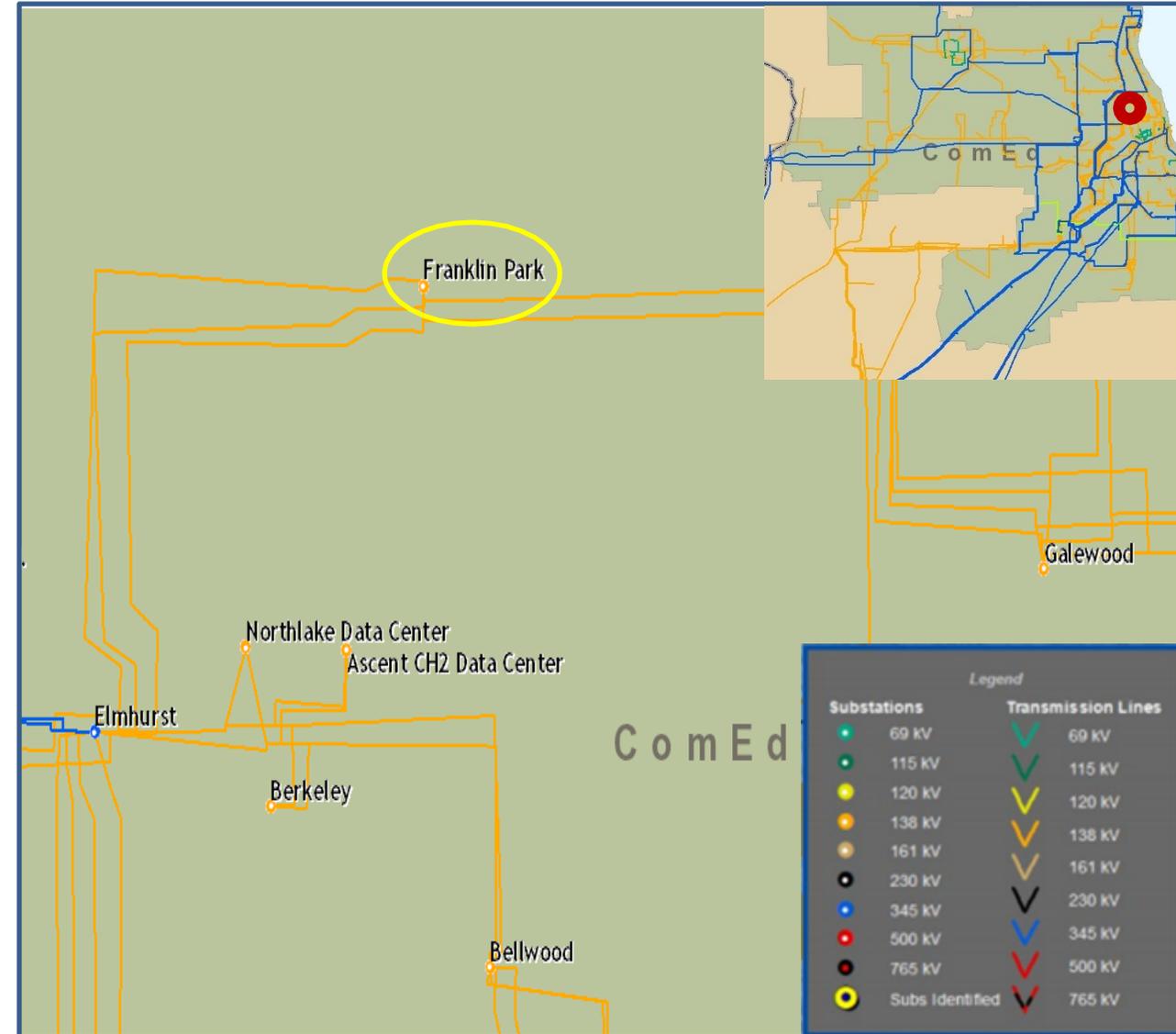
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- The L3705 Franklin Park – Natoma 138 kV phase shifting transformer is 48 years old and is in deteriorating condition with lack of replacement parts.
- L3705 shares Bus 1 at Franklin Park with distribution transformer 76.
- The unit was rewound in 1987 due to a through-fault failure.
- The unit has also had cooling failure issues and is an FOA cooling unit which requires de-energization after one hour upon loss of all cooling or loss of aux power if cooling is not restored.



Need Number: ComEd-2023-012

Process Stage:

Solution Meeting 4/19/2024

Proposed Solution:

- Replace the L3705 138 kV phase shifting transformer.
- Install a new 138 kV BT1-8 CB

Estimated transmission cost: \$11.8M

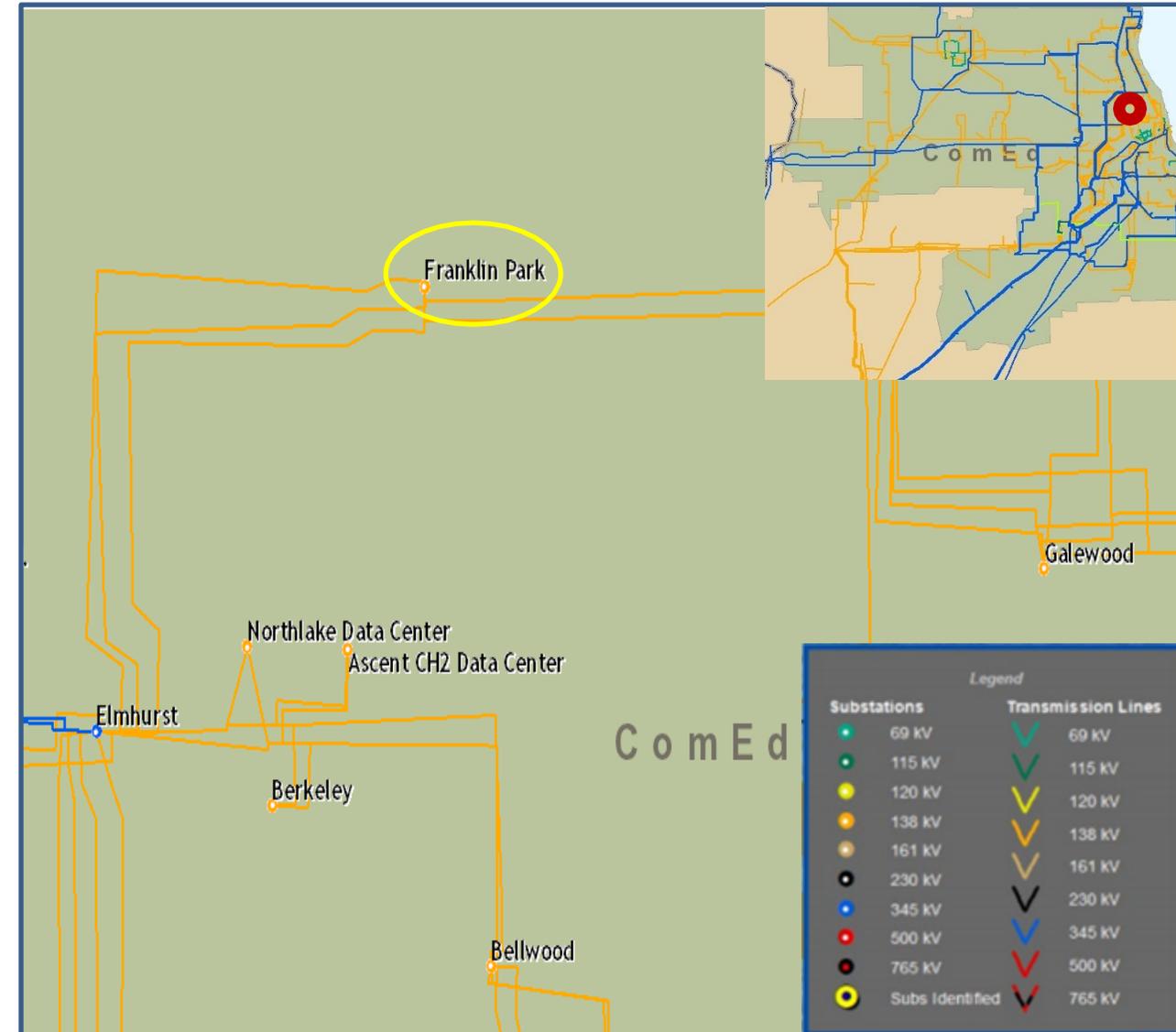
Alternatives Considered:

No feasible alternatives available.

Projected In-Service: 12/31/25

Project Status: Conceptual

Model: 2028 RTEP



Need Number: ComEd-2024-008

Process Stage:

Solution Meeting 4/19/2024

Previously Presented:

Need Meeting 3/15/2024

Project Driver:

Operational Flexibility and Efficiency

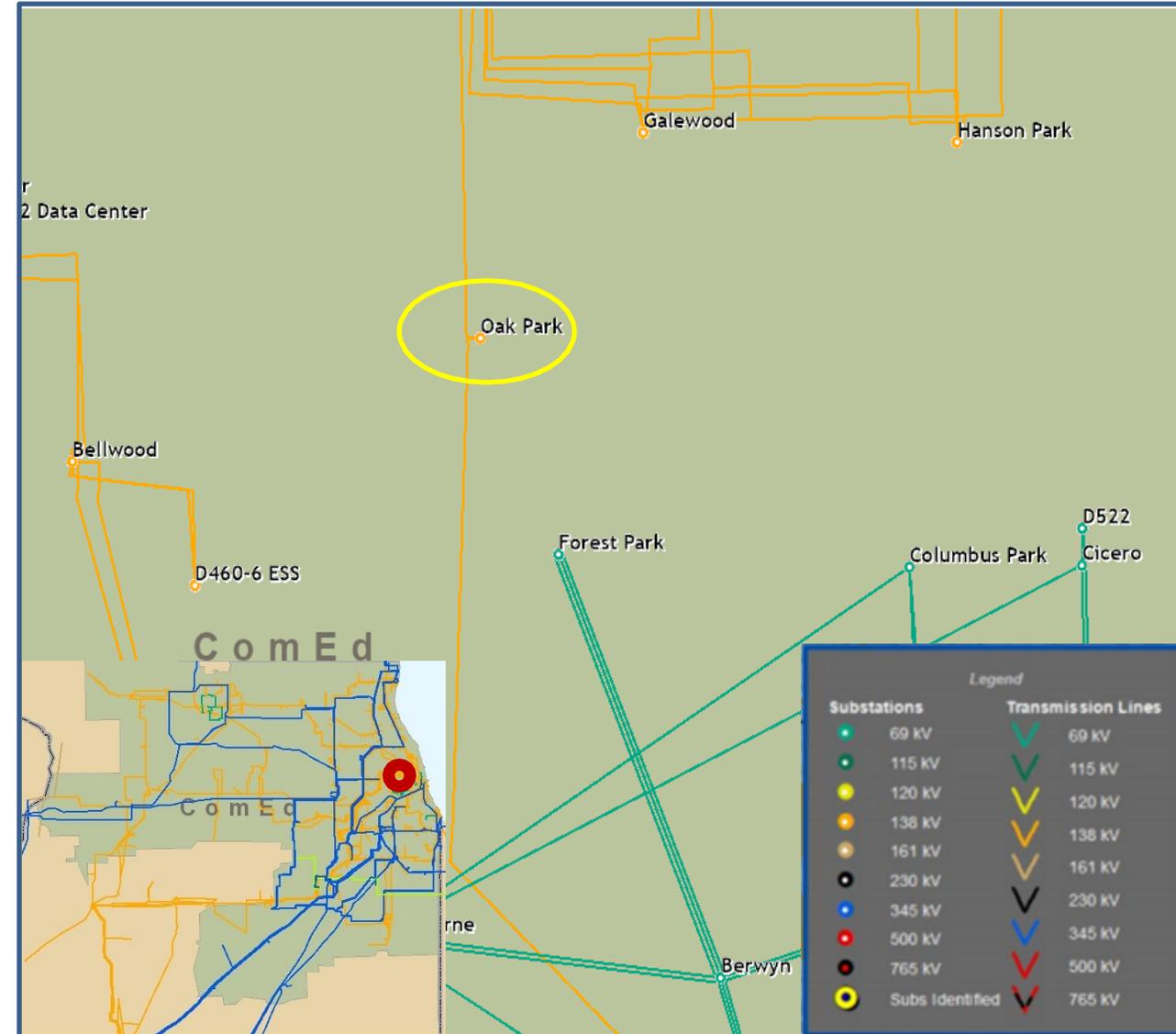
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Enhancing system functionality, flexibility, visibility, or operability
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

Oak Park substation is currently a ring bus with three 138-12 kV distribution transformers, fed by two – 138 kV lines. There is one oil BT CB, three BT circuit switchers, and two BT disconnect switches on the 138 kV bus. Failure of BT 5-6 CB drops the entire station.



Need Number: ComEd-2024-008

Process Stage:

Solution Meeting 4/19/2024

Proposed Solution:

- Replace the existing oil BT CB.
- Install 3 new SF6 BT CBs to create a ring bus.
- Swap bus position of L19209 and distribution TR72

Estimated transmission cost: \$24M

Alternatives Considered:

Replace existing oil breaker with SF6 CB

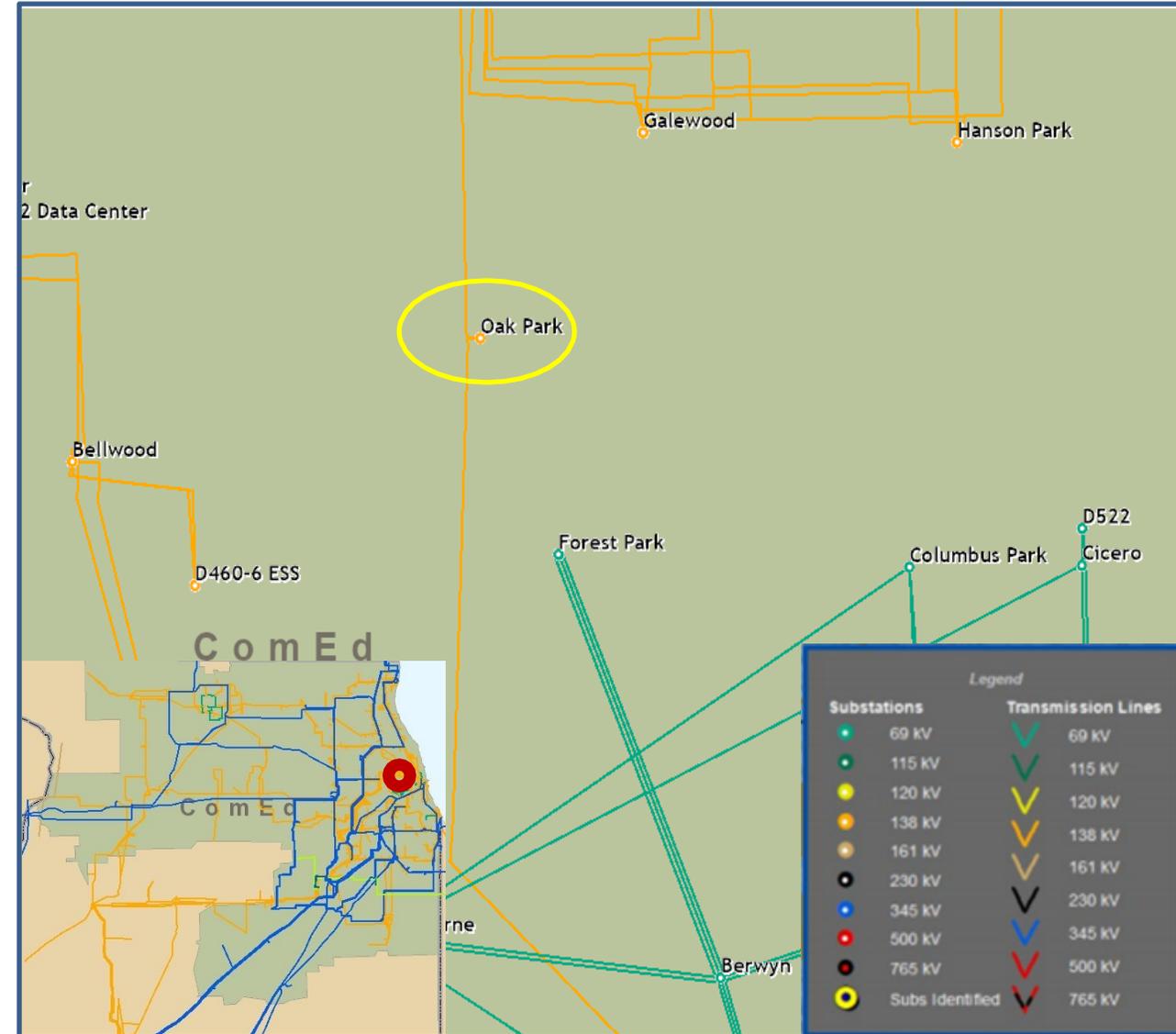
- This does not solve the scenario of a CB failure dropping the entire station

Estimated transmission cost: \$5M

Projected In-Service: 12/31/26

Project Status: Conceptual

Model: 2028 RTEP



Need Number: ComEd-2024-009

Process Stage:

Solution Meeting 4/19/2024

Previously Presented:

Need Meeting 3/15/2024

Project Driver:

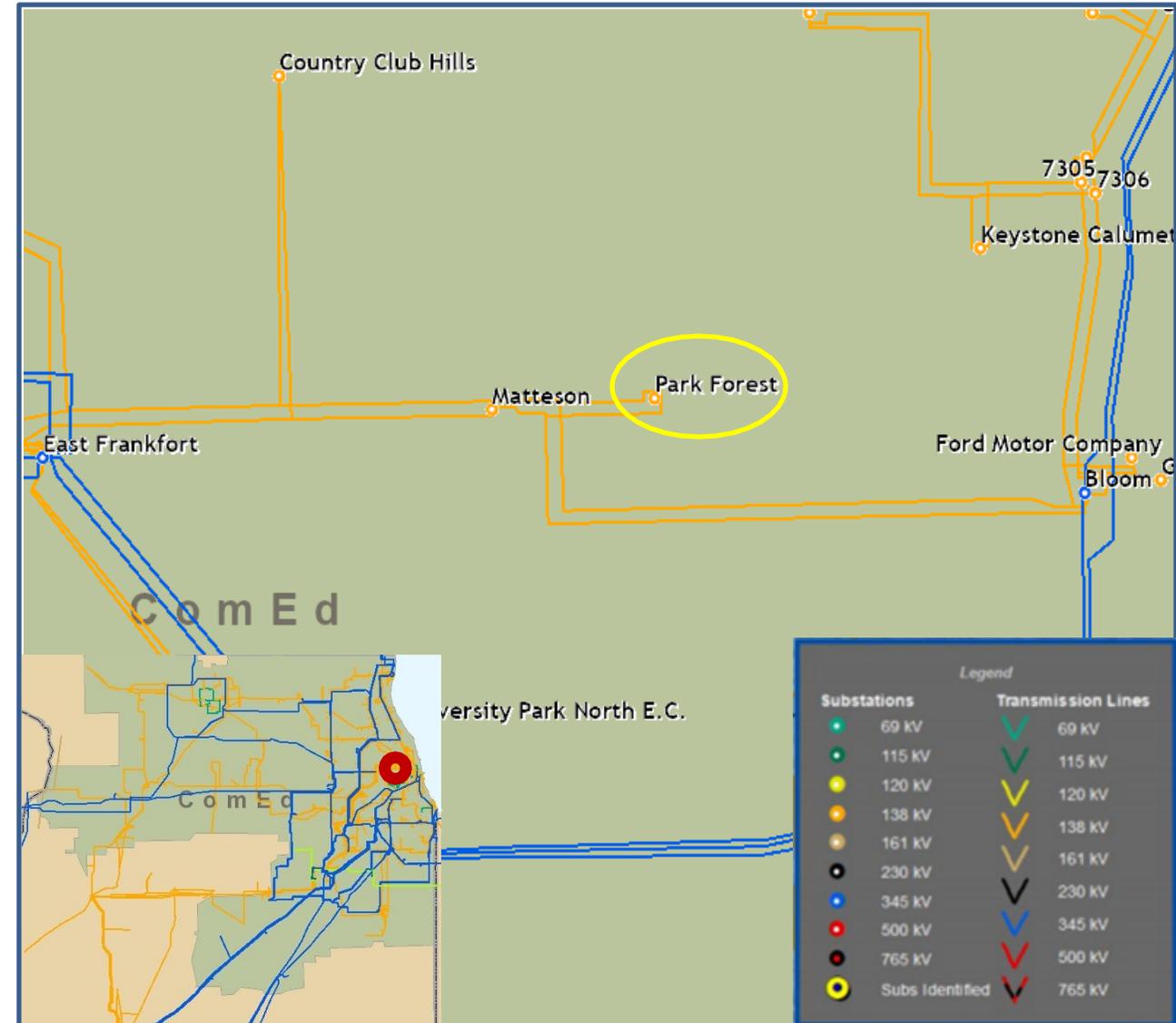
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

- 138 kV line 17904 disconnect at TDC 457 Park Forest is 54 years old and is in deteriorating condition with lack of replacement parts.
- This switch has had a history of hot spots, and repairs are no longer possible.



Need Number: ComEd-2024-009

Process Stage:

Solution Meeting 4/19/2024

Proposed Solution:

- Replace 138 kV line 17904 disconnect at TDC 457 Park Forest

Existing Disconnect Ratings: 1200 A

New Disconnect Ratings: 3000 A

138 kV Matteson-Park Forest Line	SN/SE (MVA)	WN/WE (MVA)
Old Rating	324/374	384/423
New Rating	351/449	421/500

Estimated transmission cost: \$0.5M

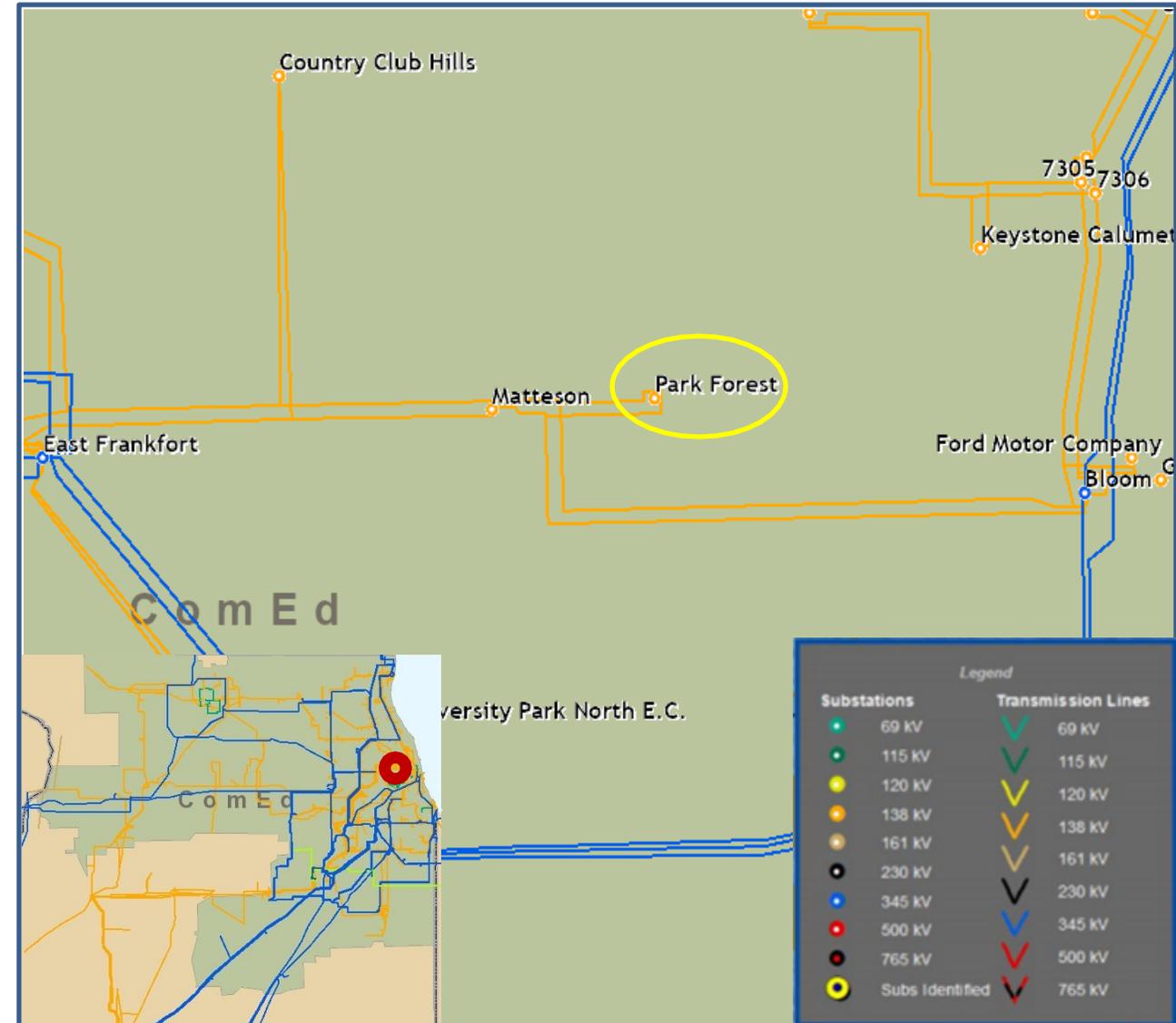
Alternatives Considered:

No feasible alternatives available

Projected In-Service: 12/31/25

Project Status: Conceptual

Model: 2028 RTEP



Appendix

High Level M-3 Meeting Schedule

Assumptions	Activity	Timing
	Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
	Stakeholder comments	10 days after Assumptions Meeting
Needs	Activity	Timing
	TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
	Stakeholder comments	10 days after Needs Meeting
Solutions	Activity	Timing
	TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
	Stakeholder comments	10 days after Solutions Meeting
Submission of Supplemental Projects & Local Plan	Activity	Timing
	Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
	Post selected solution(s)	Following completion of DNH analysis
	Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
	Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

4/9/2023 – V1 – Original version posted to pjm.com