



Submission of Supplemental Projects for Inclusion in the Local Plan

ComEd Local Plan - 2022

Need Number: ComEd-2021-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan March 2, 2022

Previously Presented:

Need Meeting September 17, 2021

Solutions Meeting October 15, 2021

Project Driver:

- Operational Flexibility and Efficiency
- Equipment Material Condition, Performance and Risk

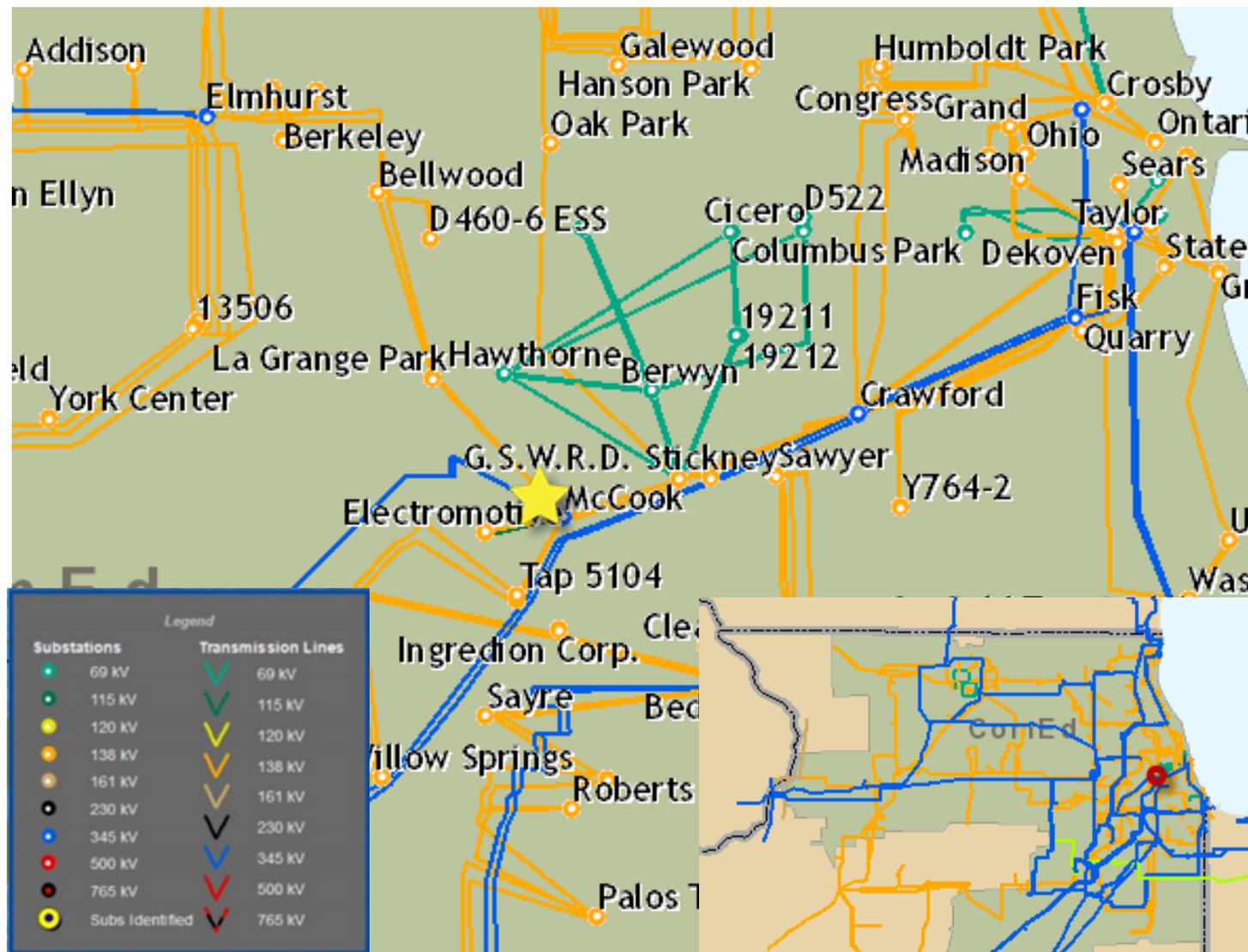
Specific Assumption References:

- Internal and/or regulatory recommended design guidelines or standards
- Enhancing system functionality, flexibility, visibility, or operability
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

McCook 138 kV bus does not comply with internal design guidelines. It is a straight bus design with eight lines, two autotransformers and seven distribution transformers

- 5 distribution transformers are directly connected to the bus without a circuit breaker
- 13 -138 kV oil breakers are 50 years old.
- 31 manual operated disconnects are 50 years old.
- 27 CCVTs have reached expected design life



Need Number: ComEd-2021-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan March 2, 2022

Selected Solution:

- Rebuild McCook 138kV with Breaker and a half GIS

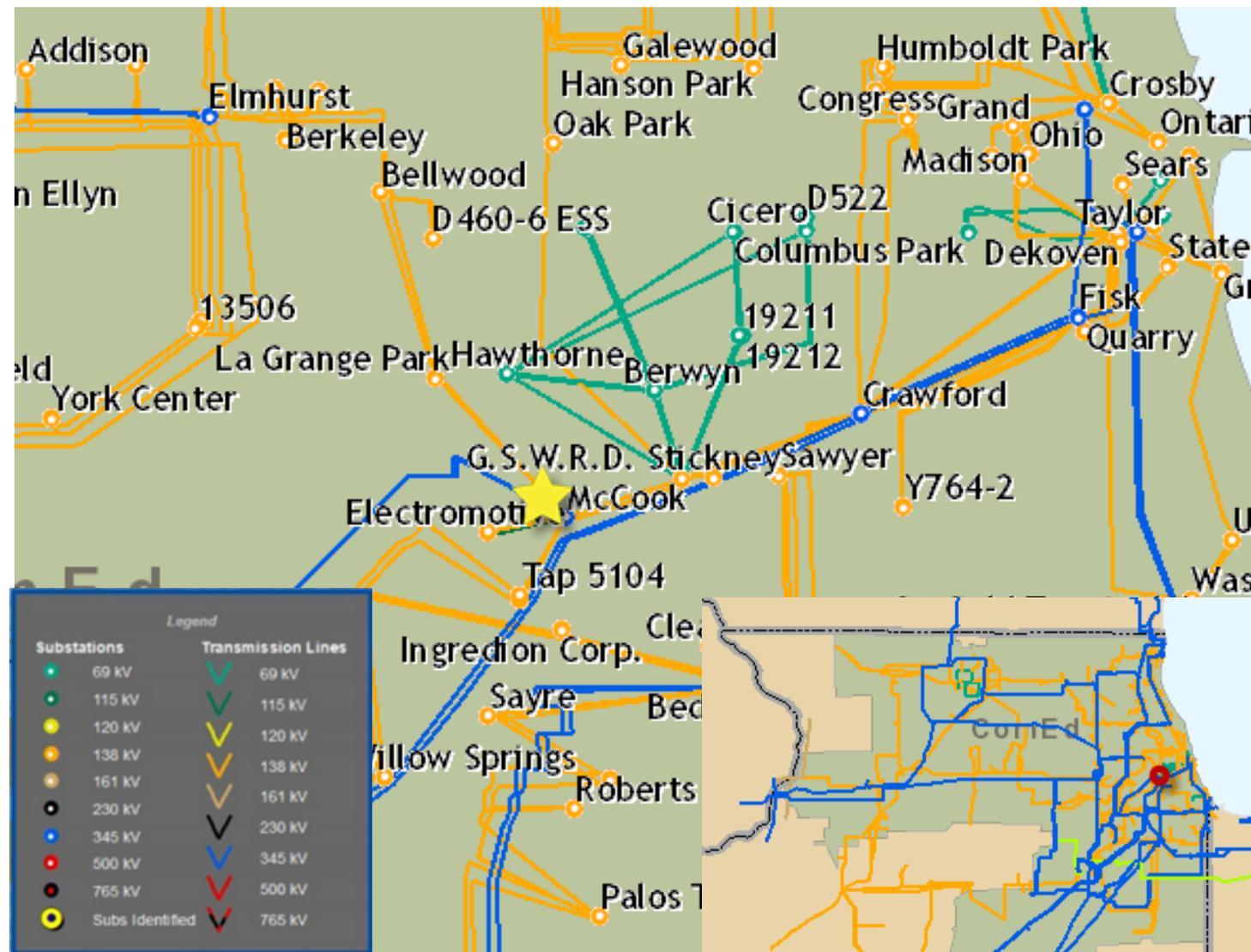
Estimated transmission cost: \$68M

Projected In-Service: 12/31/25

Supplemental Project ID: s2668

Project Status: Conceptual

Model: 2026 RTEP



Need Number: ComEd-2021-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan March 2, 2022

Previously Presented:

Need Meeting October 5, 2021

Solution Meeting November 2, 2021

Project Driver:

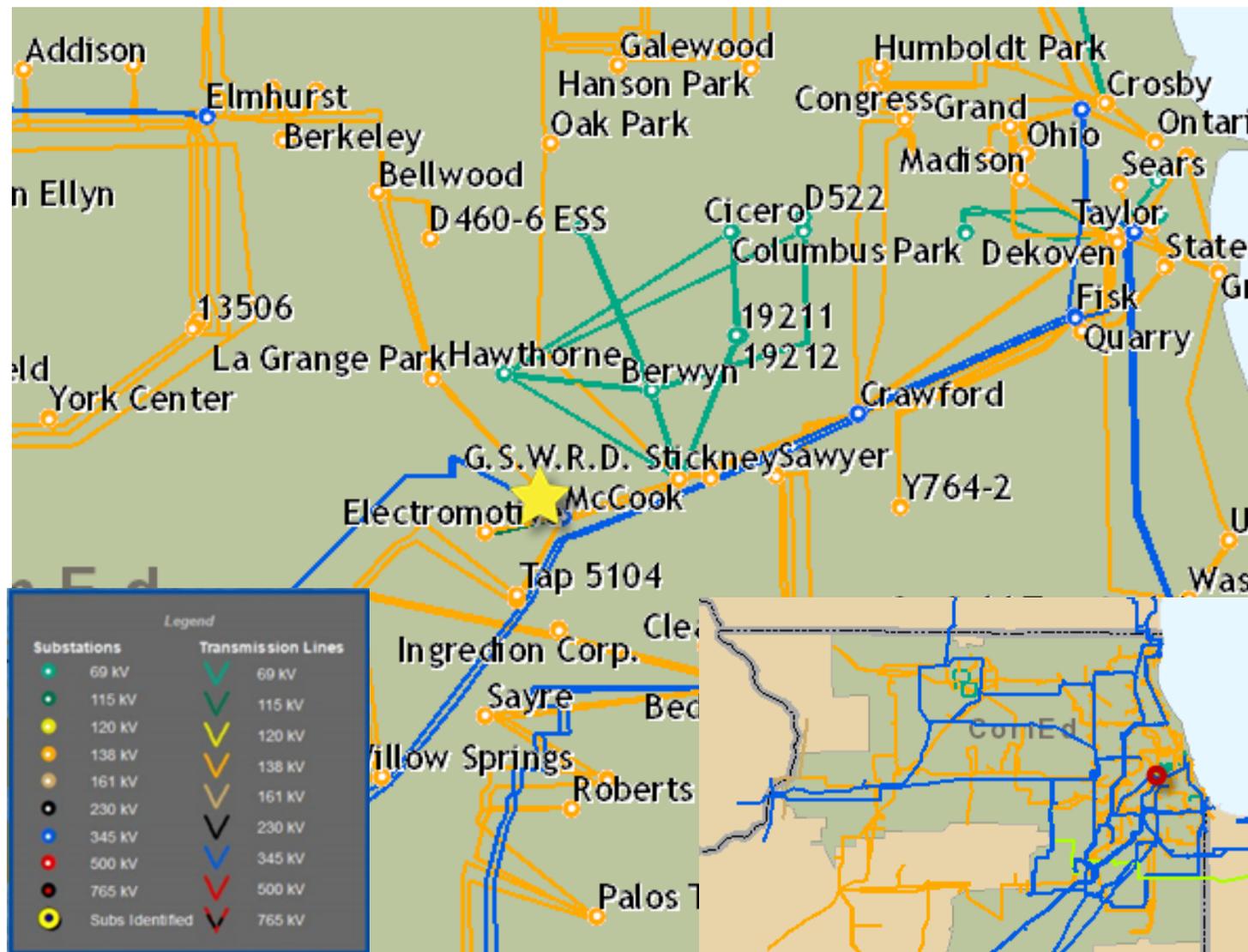
- Operational Flexibility and Efficiency
- Equipment Material Condition, Performance and Risk
- Customer Service

Specific Assumption References:

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

Problem Statement:

- The two existing autotransformers at McCook are among the most heavily loaded on the ComEd system and have been loaded above the load cycling threshold 28 times in the last 6 years which reduces the overall life expectancy of these units
- TR 84 autotransformer is 55 years old with insulation at end of expected design life. The transformer internal blocking was found loose and retightened in 2005. After reblocking, the transformer is only capable of achieving pressures of 60% of original factory requirements.
- Data Center loading has increased in the area in recent years and is expected to continue.



Need Number: ComEd-2021-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan March 2, 2022

Selected Solution:

- Install 2 new autotransformers
- Replace reblocked TR 84
- Reconductor 2 miles out of 2.5 miles on 138 kV McCook - Ridgeland to obtain a minimum rating of 351/449/459/498 MVA (SN/SLTE/SSTE/SLD)

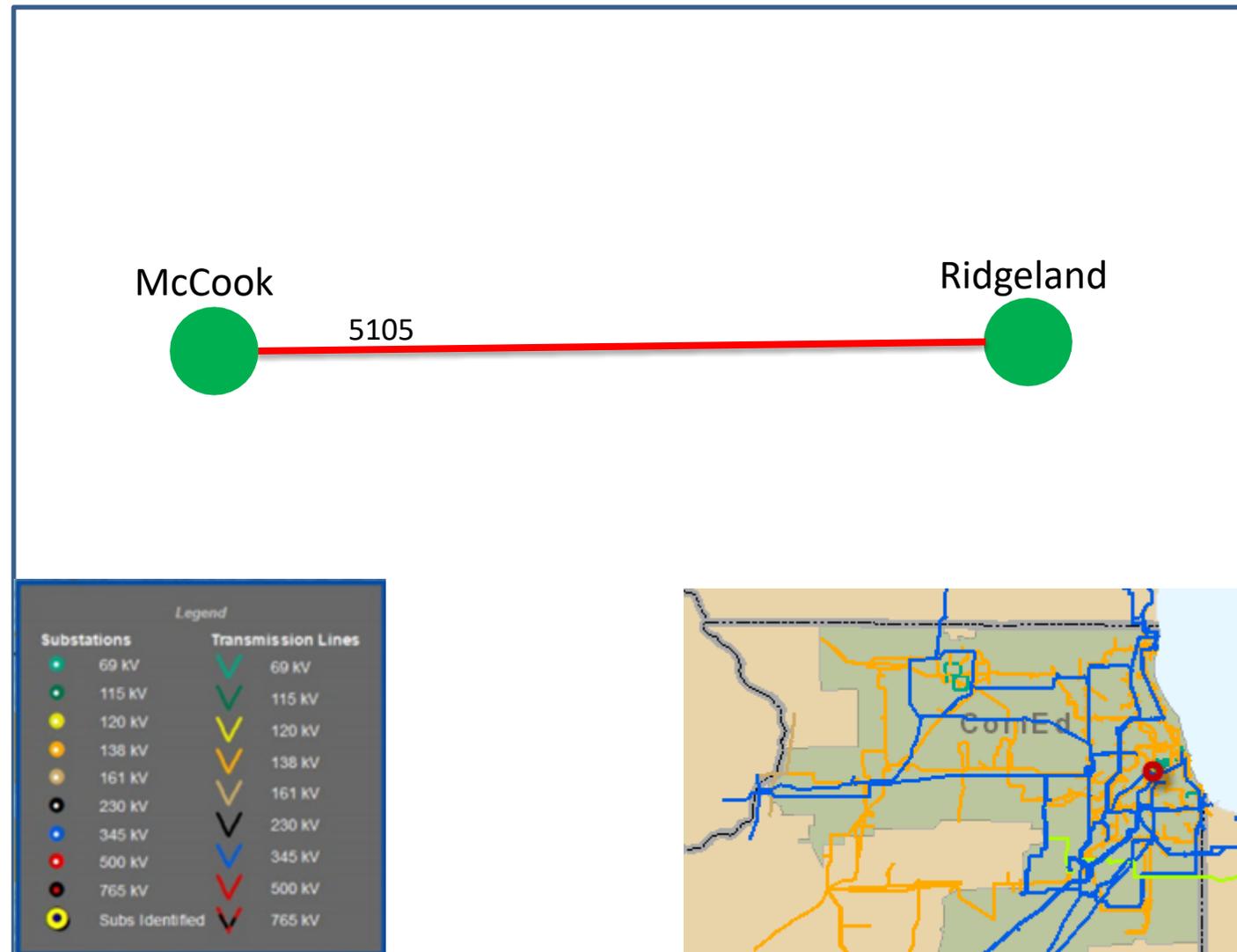
Estimated transmission cost: \$36M

Projected In-Service: 12/31/25

Supplemental Project ID: s2669

Project Status: Conceptual

Model: 2026 RTEP



Need Number: ComEd-2022-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan July 12, 2022

Previously Presented:

Need Meeting March 18, 2022

Solution Meeting April 22, 2022

Project Driver:

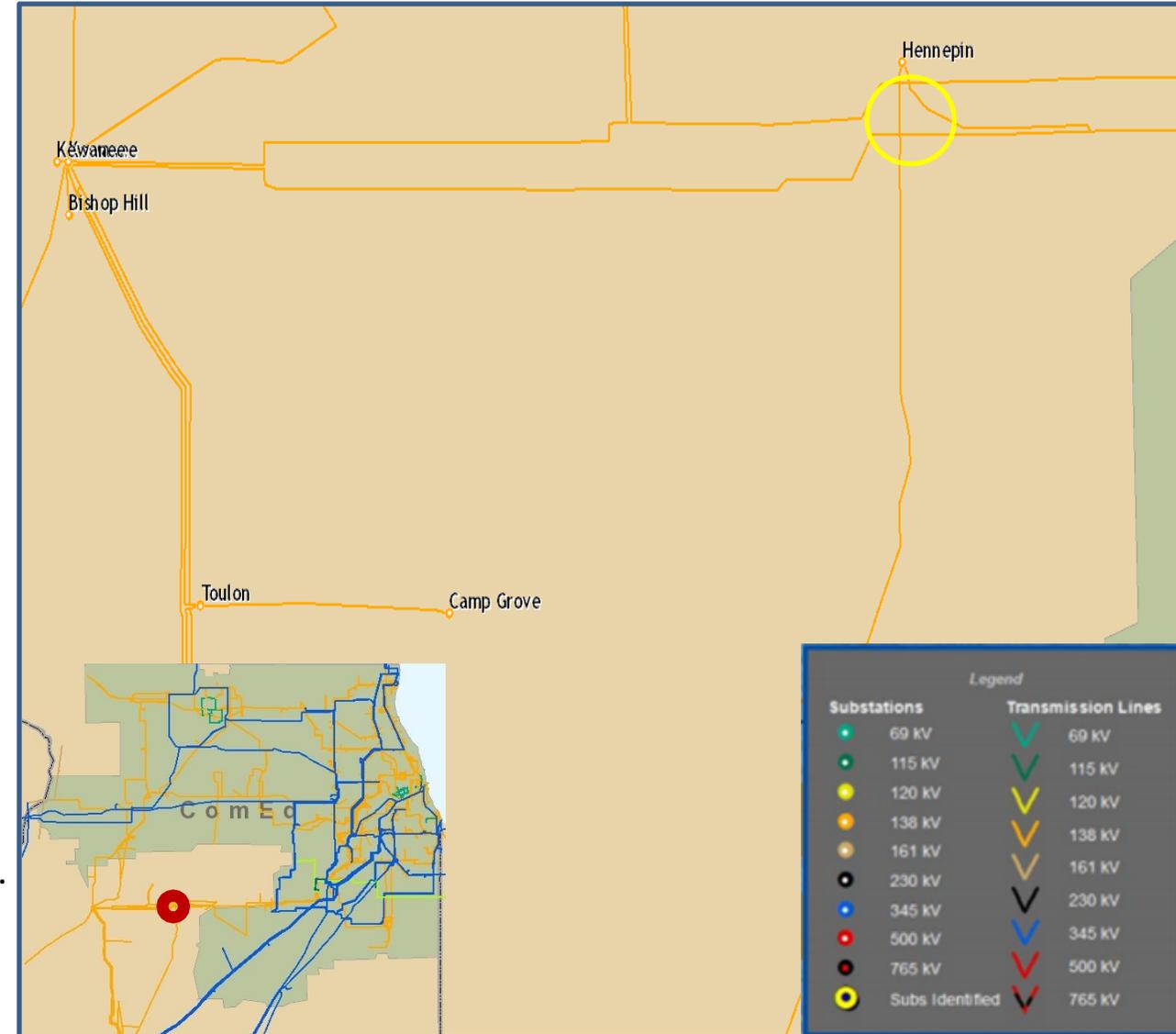
Operational Flexibility and Efficiency

Specific Assumption Reference:

- Enhancing system functionality, flexibility, visibility, or operability

Problem Statement:

Ameren is replacing its Hennepin substation with a new station named Putnam in 2023. Hennepin is currently tied to ComEd stations Kewanee and Streator with a three-terminal 138 kV line.



Need Number: ComEd-2022-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan July 12, 2022

Selected Solution:

New Ameren station Putnam will be a 138 kV breaker and a half design. The station will be cut into the ComEd Kewanee to Streator line. The existing ComEd connection to Ameren's Hennepin station will be removed, eliminating the three-terminal line.

Estimated Cost: \$ 5.2 M

Alternatives Considered:

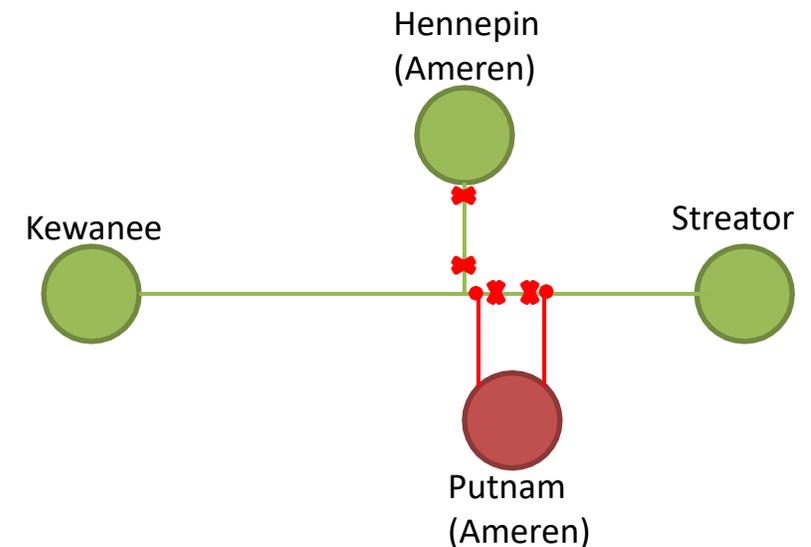
1. Single line tap was considered but does not address three-terminal line.

Projected In-Service: 12/1/2023

Supplemental Project ID: s2725

Project Status: Conceptual

Model: RTEP 2026



Need Number: ComEd-2022-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan September 29, 2022

Previously Presented:

Need Meeting 4/22/2022

Solutions Meeting 5/19/2022

Project Driver:

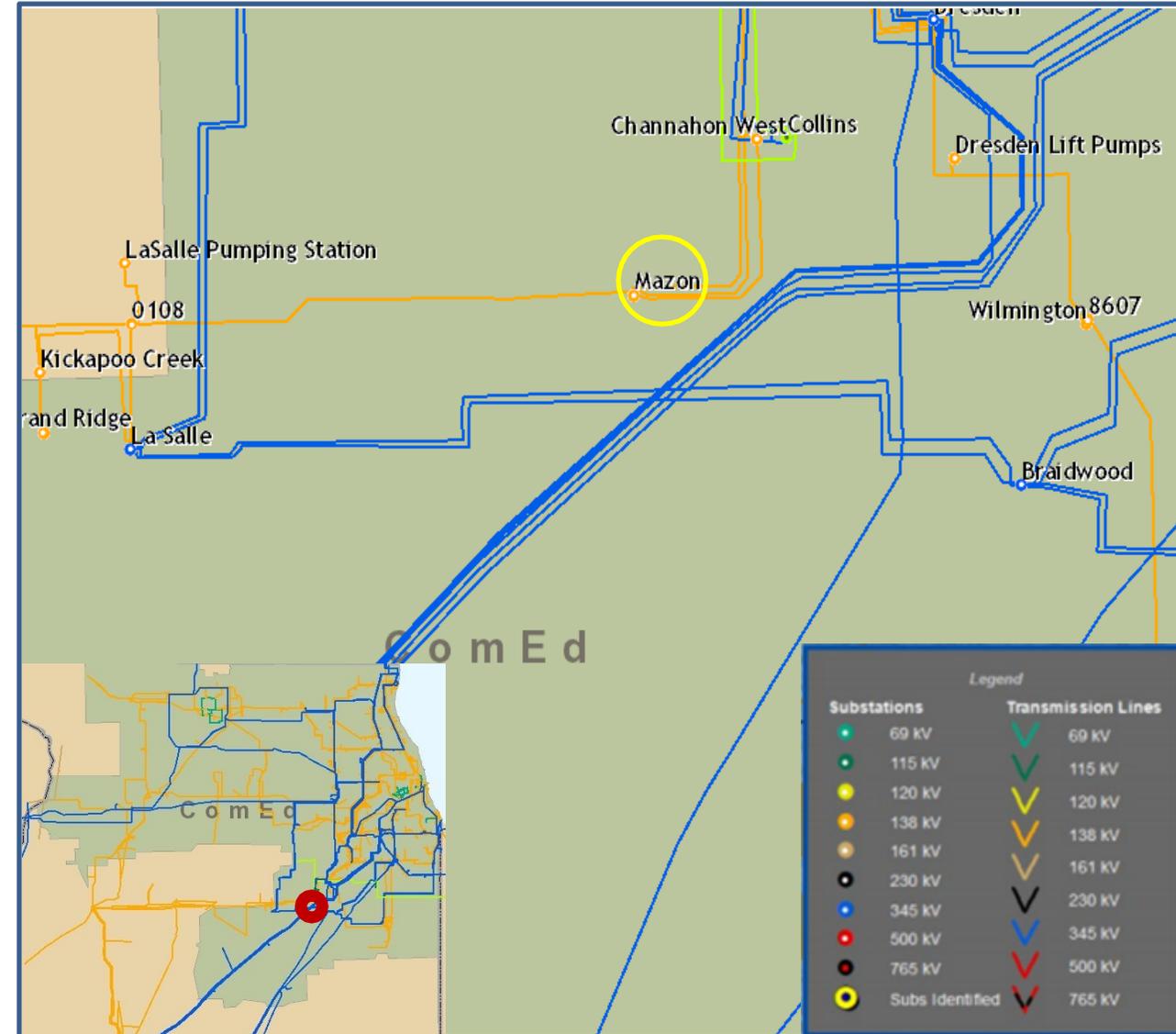
Equipment Material Condition, Performance and Risk

Specific Assumption Reference:

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

Problem Statement:

Circuit breaker 7713/7719 at Mazon substation was manufactured in 1951 and is 71 years old. It is in deteriorating condition, has lack of replacement parts, and elevated maintenance cost.



Need Number: ComEd-2022-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan September 29, 2022

Selected Solution:

Replace 138 kV circuit breaker 7713/7719 and associated equipment

Fault interrupting capability:

Old: 17 kA New: 63 kA

Estimated Cost: \$ 2.5 M

Alternatives Considered:

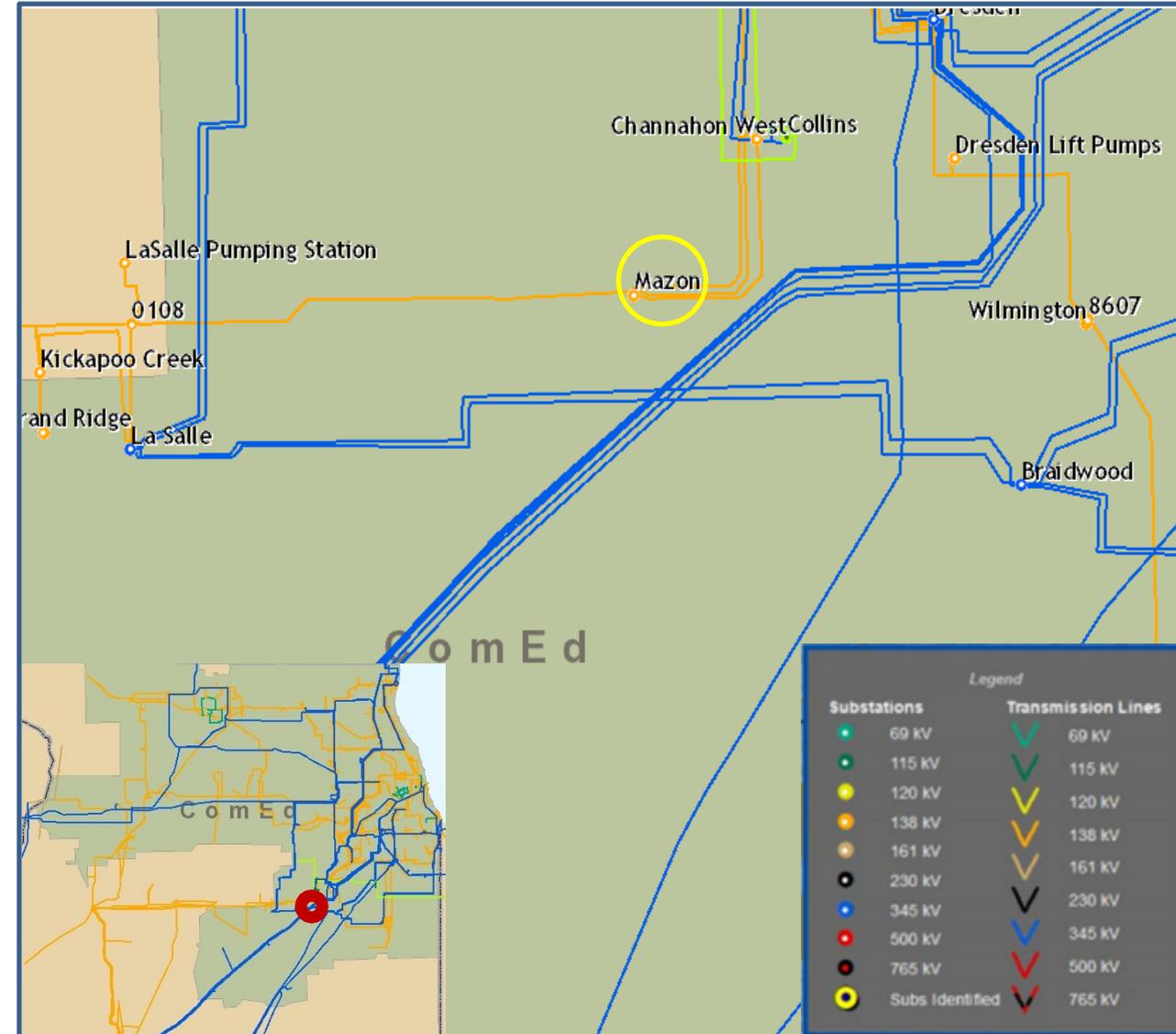
None

Projected In-Service: 12/31/2023

Supplemental Project ID: s2768

Project Status: Conceptual

Model: RTEP 2026



Revision History

3/4/2022 – V1 – Added slides #1-5, s2668 and s2669

7/13/2022 – V2 – Added slides #6-7, s2725

9/30/2022 – V3 – Added slides #8-9, s2768