Constructability Analysis Report
Date: 2026-08-20

Route Description

The route is 35.8 mi long. Terminating substation names and new-or-existing status are not available in the supplied data. The corridor originates in Lee County, Illinois, traverses Ogle County, and terminates in the Cherry Valley vicinity of Winnebago County, Illinois. Terrain is predominantly flat: mean slope 1.7°, maximum slope 12.8°, mean elevation 768 ft, maximum elevation 915 ft; no sections exceed the 40.0° critical slope limit or the 8,000 ft Steel Tower elevation limit. Terrain relief contributes 118 ft of additional route length. One high-risk area section totalling 561 ft was identified along the alignment. The maximum realised structure angle is 65.3°.
Alignment mix (miles and % — must sum to route length):

Bucket	Miles	%
Within existing ROW (rebuild / reconductor / new build in existing ROW / entity-owned property)	0	0%
Paralleling existing ROW — ComEd 345 kV (8.3 mi) and ComEd 100–161 kV (4.2 mi) corridors	12.5	34.8 %
Greenfield	23.3	65.2 %

Total ROW requirement: Not in supplied data.

Right-of-Way / Land Acquisition Risk Analysis

Metric	Value
Parcels crossed	213
Residences within 100 ft	291
Residences within 250 ft	267
Land zoned conservation / Rural Legacy / Program Open Space (ac)	Not in supplied data
Private conservation easements (count / ac)	Not in supplied data
Environmental trust / forest legacy easements (count / ac)	Not in supplied data
Public land crossed (count / ac)	Not in supplied data

ROW acquisition risk for this option is driven by four intersecting factors: parcel count, conservation-land and easement exposure, residence proximity, and the absence of any meaningful overlap within existing owned or permitted ROW. The route traverses approximately 35.8 route-miles through Lee, Ogle, and Winnebago counties in Illinois, crossing 213 REGRID Illinois parcels within 100 feet of the centreline and 254 within 200 feet — a parcel engagement volume that reflects predominantly agricultural land (cropland accounts for approximately 147,165 feet, or roughly 78% of the route's total distance). Although the route runs in proximity to existing 345 kV and 100–161 kV transmission corridors — with 43,842 feet and 22,033 feet of the alignment following those respective layer corridors — this parallel routing earns no brownfield credit: the data show zero feet of the route within its own existing ROW or entity-owned property at the centreline, and only a single existing-ROW feature registers at the 100-foot and 200-foot bands. Risk reduction from co-location therefore applies only to the extent that the route physically overlaps within a confirmed existing ROW or owner-controlled easement strip; proximity alone to parallel infrastructure does not reduce acquisition burden. On conservation and easement exposure, the metrics data record 12,421 feet of PRIVATE Conservation land traversal and 11,555 feet through PRIVATE Conservation Easement, together representing approximately 12.7% of total route length. A further 2,574 feet pass through PRIVATE Unknown Easement, and 6,937 feet traverse LOCAL Conservation Area. No federal protected

land is crossed (all federal Land Rights and Planning layers — National Monument, Wilderness, Wild and Scenic River, Military Land — were avoided through no-go enforcement), and no STATE Conservation Area overlap is recorded; however, the private conservation and local conservation acreages will each require individual holder negotiation, creating a set of non-standardised acquisition contacts that extends timelines.

Residence proximity adds a secondary layer of risk. The ROW metrics table records 291 residences within 100 feet and 267 within 250 feet, indicating a corridor that passes close to a significant number of occupied structures — predominantly agricultural in character but with residential and commercial-buffer penetrations of 63 feet and 41 feet respectively at the nearest approach. The route also passes through approximately 14,832 feet of incorporated places, which introduces municipal easement and permitting dimensions alongside private acquisition. No specific chokepoint parcels are named in the available parcel-level data (the per-feature ROW table fields are not populated at the individual parcel level), and no dominant easement holder is identified by name; Commonwealth Edison appears as the owner of several crossed transmission lines but this relates to line-crossing agreements rather than ROW parcels. Mitigating factors include the complete avoidance of all federal protected areas, no state park or state conservation crossings, no critical habitat intersections, and a dominant land-use composition of cropland — a tenure class that, while numerous in parcel count, tends toward negotiable cash-easement settlements rather than the adversarial negotiations associated with residential or conservation-designated parcels. The route records zero constraint violations, confirming that all no-go land-rights designations were observed.

ROW/Land Acquisition Risk rating: Medium-High

Environmental Risk Analysis

Feature inventory

Wetlands & waters

The route crosses a total of approximately 1,587 linear feet of NWI-mapped wetland area. Directly intersecting the study geometry are:

- NWI Freshwater Forested/Shrub Wetland: 2 features totalling approximately 29.65 acres (28.86 ac PFO1A — Palustrine Forested, Broad-leaved Deciduous, Temporarily Flooded; 0.79 ac PFO1C — Palustrine Forested, Broad-leaved Deciduous, Seasonally Flooded) NWI Classification Codes
- NWI Freshwater Emergent Wetland: 9 features totalling approximately 15.5 acres (types PEM1A, PEM1C, PEM1F — palustrine emergent, persistent herbaceous, temporarily flooded through saturated) EPA Wetland Classification FWS Wetlands Mapper
- NWI Freshwater Pond: 2 features totalling approximately 2.14 acres (PUS2/EM1C) IDNR Wetland Communities
- Generic state-layer wetlands: 1 intersecting feature

An additional 31 freshwater forested/shrub wetland features (~171.64 ac total), 54 freshwater emergent wetland features (~120 ac total), and 13 freshwater pond features (~13.35 ac total) are situated within approximately 1,640 ft of the route without intersecting it. One generic water body (stream/river, contributing 626 ft to the area-layer total) intersects the study geometry; 7 additional water features are within approximately 1,640 ft. NWI Riverine wetlands are noted in the cost breakdown but are not separately covered in the available classification files. No designated wetlands of special state concern, outstanding or exceptional waters, or Wild and Scenic Rivers are identified in the supplied data. The National Hydrography Dataset was unavailable; blue-line stream coverage relies on NWI and USGS National Map layers. No 100-year floodplain acreage figure is available in the supplied data.

Land use & public lands

No federal protected lands are crossed; all federal Land Rights and Planning no-go layers (National Monument, Wilderness Area, Wild and Scenic River, Military Land, National Wildlife Refuge, National Scenic or Historic Trail, National Forest, and others) were avoided through no-go enforcement and no crossing is recorded for any of them. The route traverses approximately 14,832 ft (~2.8 mi) of incorporated place boundaries and approximately 898 ft (~0.2 mi) of an unincorporated community, for a combined ~15,730 ft of settlement exposure. Approximately 12,421 ft of PRIVATE Conservation land, 11,555 ft of PRIVATE Conservation Easement, 2,574 ft of PRIVATE Unknown Easement, and 6,937 ft of LOCAL Conservation Area are traversed. No named state forests, Wildlife Management Areas, national trails, parks, or heritage areas are identified in the supplied data; USDA Forest Service data was not available.

Land cover

Cropland is the predominant cover type, accounting for approximately 78% of the route's total distance (~147,165 ft). Within the study geometry, 14 forest features, 15 pasture features, 8 shrub features, 2 urban/suburban features, and 1 water feature intersect directly. Generic shrub land cover intersecting the route lacks species-level identification; field botanical survey would confirm whether rare or sensitive plant communities are present USGS. Urban/suburban development accounts for 2 directly intersecting census-defined urban features.

Cultural resources

No cultural resource data (listed or eligible structures, historic districts, or archaeological sites) is available in the supplied datasets. The FED Historical or Cultural Area layer carried a no-go designation and was not crossed. Federal cultural and heritage datasets either carried no layers or were not activated for this option. This is a data gap; Section 106 consultation with the State Historic Preservation Office would be required as part of project permitting.

RTE species

No rare, threatened, or endangered species occurrence data within 0.5 mi of the study area was provided in the supplied files. This is a data gap; USFWS Section 7 consultation and Illinois Endangered Species Protection Act review would be required.

Crossings

Type	Count	Notes (owner / operator / voltage class)
Railroads	4	Mean crossing angle 59°; North American Rail Network Lines
Controlled-access highways	2	US Hwy 51; IDOT highway crossing/occupancy permit required
Local roads	40	34 local roads, 4 local connecting roads, 2 ramps (mean ramp angle 60°)
Transmission ≤161 kV	27	100–161 kV; operators: Commonwealth Edison Co (1 record, 3 crossings) and NOT AVAILABLE (2 records, 3 crossings each); construction sensitivity Medium-High for intersecting segments
Transmission >161 kV	42	345 kV; operators: Commonwealth Edison Co (3 records) and NOT AVAILABLE (1 record); NOT AVAILABLE segment rated High for both construction and operational sensitivity pending operator identification
Gas and petroleum pipelines	6	1 Natural Gas INTERSTATE pipeline, 2 Natural Gas INTRASTATE pipelines, 3 petroleum products pipelines

Permits and agency consultations triggered

Authority	Instrument	Trigger on this route	Long-lead flag
USACE	CWA Section 404 permit	Direct crossing of ~47.3 ac of NWI wetlands (forested/shrub, emergent, and pond types) and 1 water body	Yes — individual permit pathway (12–24 months) if permanent fill cannot be minimised to Nationwide Permit thresholds
Illinois EPA	CWA Section 401 Water Quality Certification	Concurrent with USACE Section 404	Yes
Illinois EPA	NPDES Construction Stormwater Permit	Ground disturbance across 35.8 mi corridor	No
Illinois DOT	Highway crossing/occupancy permit	2 crossings of US Hwy 51 (controlled-access)	No
FAA	Notice/ coordination	2,719 ft crossing of FAA Part 77 Conical Surface (77 19b); FAA Part 77 Notice Radius crossing also triggered	No
FCC	Informal coordination with licensees	2 intersecting land mobile towers: WPXU306 (Jeff Cox, Chana, Ogle County) and WQVZ300 (FedEx Ground, Rockford); Winnebago County STARCOM21 public safety system WQJK967 within 1,640 ft	No

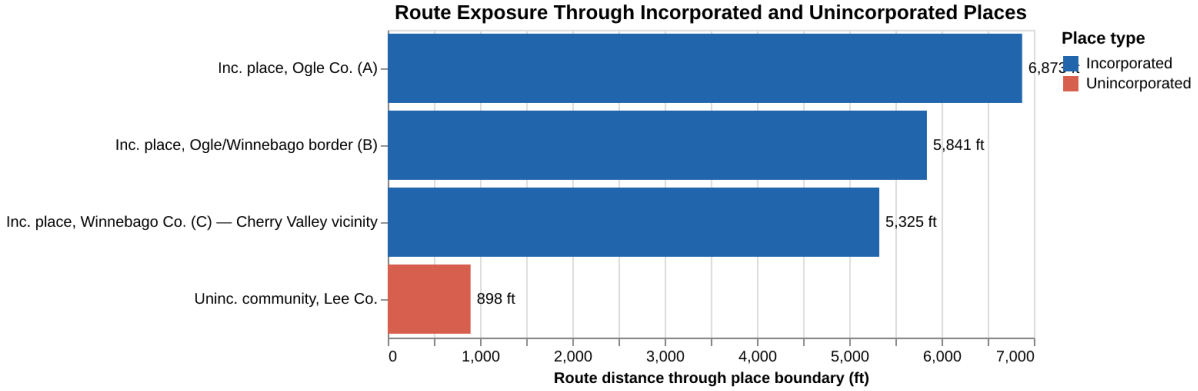
Authority	Instrument	Trigger on this route	Long-lead flag
Illinois Commerce Commission	Certificate of Public Convenience and Necessity (CPCN)	345 kV project voltage class; mandatory for this voltage	Yes — subject to intervenor process; material to in-service date
Unknown operator (to be identified via ICC / PJM network records)	Utility crossing agreement	Intersecting 345 kV segment with NOT AVAILABLE owner (1 record, 4 crossings, feature ID 1452018507)	Yes — long-lead until operator confirmed; route re-evaluation recommended for that crossing location

The two most consequential environmental findings are: (1) the intersecting 345 kV segment whose owner is recorded as NOT AVAILABLE — rated High for both construction and operational sensitivity — which requires identification of the responsible operator through Illinois Commerce Commission records or PJM network maps before a crossing agreement framework can be structured, and the associated crossing location warrants route re-evaluation until that identification is made; and (2) the NWI wetland crossings totalling approximately 47.3 ac across three wetland types (forested/shrub, emergent, and pond), which trigger USACE Section 404 and concurrent Illinois Section 401 permitting. Spanning wetland boundaries on both sides is the primary mitigation strategy and supports a Nationwide Permit authorization; any permanent fill that cannot be avoided by spanning or temporary matting would require an individual Section 404 permit with compensatory mitigation and a 12–24 month review timeline. Colocation with existing ComEd 345 kV and 100–161 kV transmission corridors for 12.5 mi (34.8% of the route) reduces greenfield wetland and land-disturbance exposure and may support expedited agency review on co-located segments. The 42 crossings of existing 345 kV lines and 27 crossings of 100–161 kV lines represent substantial inter-utility coordination requirements with Commonwealth Edison throughout construction; those crossings where ComEd ownership is confirmed (3 records of 345 kV, 1 record of 138 kV) are rated Medium-High construction sensitivity and require formal crossing and maintenance coordination agreements. The Illinois Commerce Commission's CPCN process is mandatory at this voltage class and is likely to attract municipal and community intervenors given the residential exposure (291 residences within 100 ft) and the route's passage through multiple incorporated places; early agency engagement is indicated.

Environmental Risk rating: High

Public Objection

The route traverses or borders four named places across Lee, Ogle, and Winnebago counties in Illinois: one unincorporated community in Lee County (approximately 41.836°N, 89.400°W, near the Steward/Franklin Grove area), and three incorporated places — one in Ogle County near Davis Junction (approximately 42.126°N, 89.087°W), one spanning the Ogle–Winnebago county border (approximately 42.165°N, 89.015°W), and one in Winnebago County near Cherry Valley (approximately 42.201°N, 88.974°W), which is also the project's named terminal community. The route logs approximately 14,832 ft (~2.8 mi) through incorporated-place boundaries and a further 898 ft (~0.2 mi) through the unincorporated community — a combined 15,730 ft of settlement exposure on a ~189,000 ft (35.8 mi) corridor. The case involves a 345 kV high-voltage transmission line operated in a ComEd (Commonwealth Edison) service territory.



Place (incorporated / unincorporated)	Interaction (traversed / bordered)	Recent HV transmission objection history	Objection likelihood
Unincorporated community, Lee County, IL (near Steward, ~41.836°N, 89.400°W)	Traversed (~898 ft, ~0.2 mi near route start)	No formal intervention, municipal resolution, or organised campaign specifically tied to this unincorporated community and a high-voltage transmission project was located in publicly available sources. Lee County overall has hosted ComEd and transmission infrastructure for decades with no documented recent county-level opposition campaign. Absence of a recorded objection history is itself a finding; the low population density and agricultural character of this corridor section reduce the probability of organised local action.	**Low**
Incorporated place, Ogle County (A) (~42.126°N, 89.087°W; Davis Junction vicinity)	Traversed (~6,873 ft, ~1.3 mi — the longest single-place exposure on the route)	No formal municipal resolution, organised campaign, or regulatory intervention specific to this incorporated place and high-voltage transmission projects was identified in publicly available sources. Ogle County has been traversed by ComEd 345 kV infrastructure (including the lines that this option crosses 42 times), and no documented county-level opposition to that existing network was found. The Davis Junction area is predominantly agricultural; the route passes within 100 ft of the centreline through this community, which registers 291	**Low–Medium**

Place (incorporated / unincorporated)	Interaction (traversed / bordered)	Recent HV transmission objection history	Objection likelihood
		residences within 100 ft and 267 within 250 ft across the full option — meaning some residential exposure is present even in lower-density segments.	
Incorporated place, Ogle/Winnebago border (B) (~42.165°N, 89.015°W)	Traversed (~5,841 ft, ~1.1 mi)	No formal intervention, municipal resolution, or organised campaign specifically tied to this border-area incorporated place and a high-voltage transmission project was found in publicly available sources. The Ogle–Winnebago county boundary area is a mixed agricultural and exurban zone with growing residential development pressure associated with the Rockford metropolitan fringe. Winnebago County has seen increasing public sensitivity to energy infrastructure siting as the Rockford region grows. No specific record of opposition from this community was located; absence of record is a finding.	**Low–Medium**
Incorporated place, Winnebago County (C) — Cherry Valley vicinity (~42.201°N, 88.974°W; Cherry Valley, Winnebago County)	Traversed (~5,325 ft, ~1.0 mi — route terminus community)	Cherry Valley, IL is the named terminal community for this 345 kV project. Illinois transmission projects terminating in or near Rockford-area communities have attracted periodic public attention. The broader Winnebago County area has seen opposition to energy infrastructure in the context of large-scale renewable and transmission projects under the PJM 2026 planning cycle. While no formal municipal resolution by the Village of Cherry Valley specifically opposing a new 345 kV line was identified in publicly available sources at the time of this report, Cherry Valley's position as the stated project terminus and its location within a growing suburban corridor increases the likelihood of resident and municipal scrutiny once a project enters public notice. The 2021–2024 period saw multiple Illinois communities file comments with the Illinois Commerce Commission (ICC) opposing or seeking conditions on large transmission project approvals; no Cherry Valley-specific filing was located, but the precedent pattern is active statewide. The ICC's CPCN process, which applies to projects of this voltage class, routinely generates formal interventions from municipalities along	**Medium–High**

Place (incorporated / unincorporated)	Interaction (traversed / bordered)	Recent HV transmission objection history	Objection likelihood
		the route.	

The overall opposition picture across this corridor is shaped primarily by its rural-to-suburban profile. The majority of the route traverses agricultural land in Lee and Ogle counties where organised campaigns against high-voltage transmission are historically rare and no specific objection record was found; those stretches carry low to low-medium risk. The risk gradient rises materially at the Winnebago County end of the route, particularly at Cherry Valley, which sits at the project terminus and within the expanding Rockford suburban fringe — the zone most sensitive to new overhead 345 kV infrastructure. The Illinois Commerce Commission's CPCN process is mandatory for this voltage class and routinely becomes a focal point for municipal and community intervenors in that regulatory context; Cherry Valley's status as the named terminal community makes early municipal engagement there especially material. No formal objection record was located for any of the four places identified, but absence of a prior record does not eliminate prospective opposition risk, particularly in a community that has not previously been asked to host terminating infrastructure of this scale. The combination of project visibility (a named terminal community), residential approach (291 residences within 100 ft across the option), and active Illinois transmission regulatory activity under the PJM 2026 planning cycle positions this corridor at the lower end of medium risk overall, with Cherry Valley warranting early engagement.

Public Objection risk rating: Medium

Cost Review (CAPEX)

Cost drivers

The route deploys Steel Tower across 100% of its 35.8 mi length. The structure inventory comprises 104 standard (tangent) towers, 2 terminal towers, and 6 angled towers — 112 total structures. Of the 6 angled towers, 4 fall in the 0–30° range (negligible), 1 in the 30–60° range (low), and 1 in the 60–90° range (very high); the maximum realised structure angle is 65.3° and the mean realised angle across angled structures is 26.0°. Span statistics show a mean span of 1,704 ft, minimum of 454 ft, and maximum of 1,799 ft across 111 spans. Terrain is essentially flat (mean slope 1.7°, maximum 12.8°) with no sections exceeding the critical slope limit; maximum elevation is 915 ft. One high-risk area section totalling 561 ft was identified. Major crossing structures are required for 42 crossings of existing 345 kV transmission lines, 27 crossings of 100–161 kV transmission lines, 4 railroad crossings (mean angle 59°), 2 US Hwy 51 controlled-access highway crossings, and 6 pipeline crossings (1 interstate gas, 2 intrastate gas, 3 petroleum products). Route length is 35.8 mi; total ROW acreage is not in the supplied data.

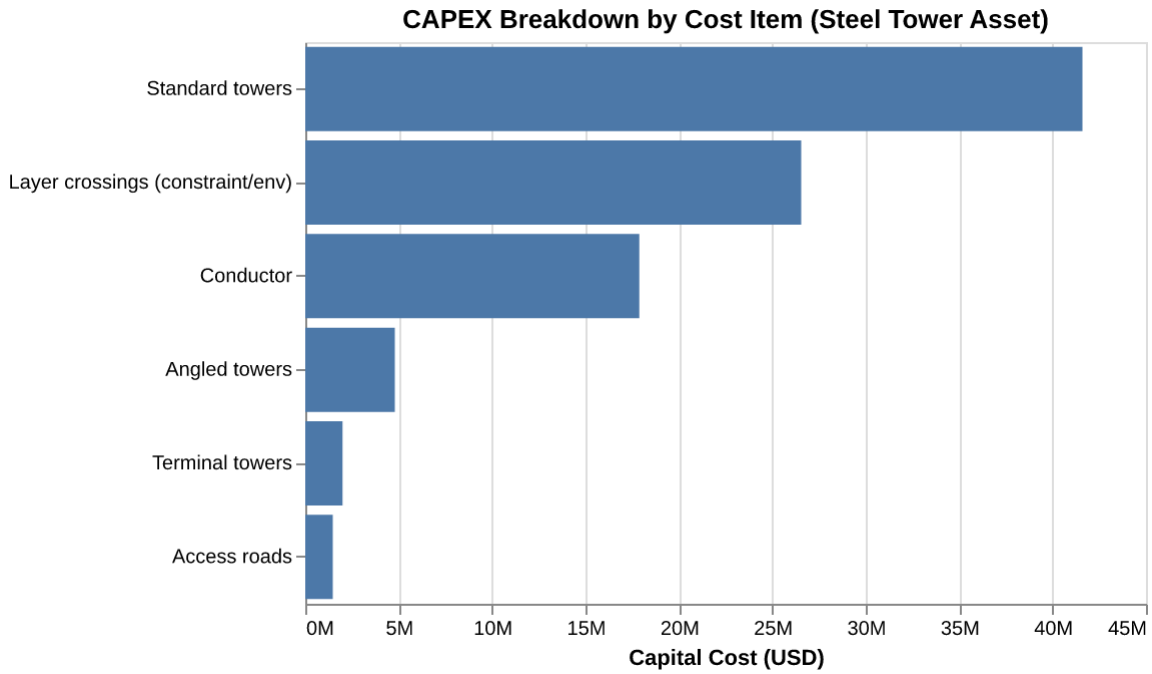
CAPEX figures (Optioneer)

Item	Source	Value ($M)
1. CAPEX	Objectives — CAPEX	94.3
2. Access roads CAPEX	Objectives — Access Roads	1.5
3. Crossings + land acquisition CAPEX	Layers	26.5
Wrapped CAPEX	**1.5373 × (item 1 + item 2)**	**147.2**

The Layers figure (item 3) is shown for transparency but is excluded from the wrapped total because it is already included within the Objectives CAPEX (item 1). Wrapped CAPEX includes overheads, project management, permitting, and AFUDC.

The total capital cost for this option is **$94.3 M**, carried entirely by the Steel Tower asset type across the route's confirmed length of **35.8 mi**. The dominant driver is the standard-tower fleet: 104 standard towers account for **$41.6 M** (44% of total CAPEX), with conductor stringing adding a further **$17.9 M**. Together these two line items represent nearly two-thirds of the $92.8 M asset construction cost, which is consistent with a 35.8 mi single-asset Steel Tower deployment at a mean span of 1,704 ft (yielding 111 spans across 112 structure positions, in close agreement with the 104 standard + 2 terminal + 6 angled = 112 structure inventory). Angled structures contribute **$4.8 M** for 6 heavy-angle positions; with a maximum realised angle of 65.3° and one structure in the 60–90° ("very high") category, the angled-tower cost is not inconsistent with the structure count, though the $800,000 per-unit implied rate reflects the severity of that single very-high-angle position alongside the four negligible-angle units.

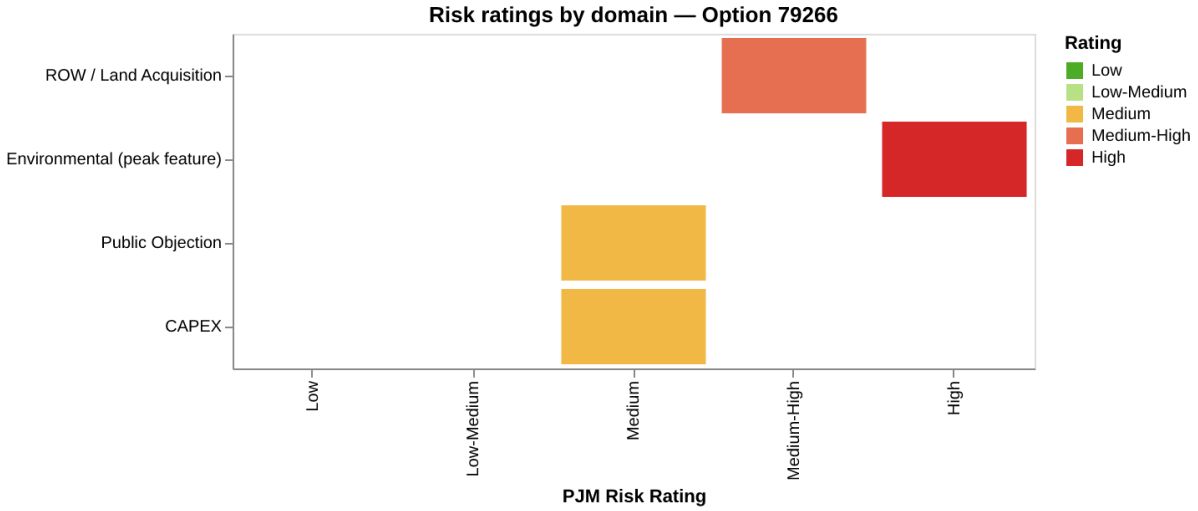
The layer-crossing component embedded in construction costs totals **$26.5 M** across all constraint, environmental, and linear-feature layers, making it the second-largest individual driver. Within that total, crop and agricultural land ($7.8 M crops + $7.3 M Crop Sequence Boundaries = $15.1 M combined) dominates land-related exposure, consistent with a predominantly agricultural corridor. Major infrastructure crossings — two 345 kV transmission lines ($4.1 M), two 100–161 kV lines ($0.8 M), four rail crossings ($0.4 M), and two controlled-access highway crossings ($0.1 M) — are priced in line with their respective crossing counts recorded in the route geometry. The linear-feature crossing subtotal of $6.2 M and constraints-crossing subtotal of $12.6 M are reported as subsets of construction cost, not additions, so no double-counting arises. Access roads stand at **$1.5 M**, a modest figure relative to total CAPEX and consistent with a largely flat corridor (mean slope 1.7°, maximum 12.8°) where access demands are low. No ROW acreage figure is present in the supplied evidence, so that metric cannot be confirmed here; however, route length at 35.8 mi is consistent across both the technical feasibility data and the cost summary inputs.


CAPEX Breakdown by Cost Item (Steel Tower Asset)
Standard towers
Layer crossings (constraint/env)
Conductor
Angled towers
Terminal towers
Access roads
0M
5M
10M
15M
20M
25M
30M
35M
40M
45M
Capital Cost (USD)

Summary

The table below and chart above summarise the assigned ratings across domains.

Risk Domain	Rating
ROW / Land Acquisition	Medium-High
Environmental (peak feature — unidentified-owner 345 kV crossing)	High
Environmental (typical / modal feature band)	Low – Medium-High
Public Objection	Medium
CAPEX	Medium



The unidentified-owner 345 kV crossing warrants a route re-evaluation recommendation for that specific crossing location until the owning operator can be confirmed and a crossing agreement framework established; the balance of the corridor is constructable under standard transmission-development practice with the permitting, acquisition, and coordination actions noted in the domain sections.

Overall constructability rating: Medium-High

Citations

- FEMA USA Structures — Comprehensive dataset of building footprints across the United States used for structure proximity and occupancy classification analysis
- ComEd 345 kV Transmission — ICC Filing — Illinois Commerce Commission filing documenting ComEd's 345 kV transmission grid connecting Byron and Cherry Valley substations in Northern Illinois
- NWI Classification Codes — U.S. Fish and Wildlife Service NWI wetland feature classifications (PFO, PEM, PUS/EM Cowardin codes)
- EPA Wetland Classification — EPA guidance on classification and types of wetlands including freshwater emergent (palustrine) wetlands characterized by soft-stemmed vegetation adapted to saturated soil conditions
- FWS Wetlands Mapper Documentation — FWS technical manual for the National Wetlands Inventory Mapper covering PFO1C (Hardwood Swamp) and PEM (Freshwater Emergent Wetland) Cowardin classification codes
- IDNR Wetland Communities in Illinois — Illinois Department of Natural Resources reference on wetland community types including forested wetlands, emergent wetlands, and freshwater ponds
- USGS — U.S. Geological Survey; land cover mapping provides generic classifications without species-level identification for shrub and other land cover features
- Census Bureau Urban/Rural Classification — U.S. Census Bureau definitions of urban areas and rural territory used to classify incorporated and unincorporated place boundaries along the route
- ComEd Transmission Lines — ICC Filing — Illinois Commerce Commission filing confirming Commonwealth Edison ownership of 345 kV and 138 kV transmission lines in Illinois
- Winnebago County STARCOM21 — RadioReference database entry for Winnebago County, Illinois public safety communications system including WQJK967 license details
- PJM Project Documentation — Byron 345 kV Substation — PJM interconnection project documentation referencing the Byron 345 kV Substation in DeKalb County, Illinois
- FEMA Structures Layer — FEMA USA Structures GIS layer providing spatial data on commercial, industrial, agricultural, and residential structure occupancy classifications
- FEMA USA Structures (Dataset) — Metadata for the FEMA USA Structures dataset, built by FEMA's Response Geospatial Office, Oak Ridge National Laboratory, and USGS
- FEMA Hazus — FEMA's Hazus program providing standardized structure inventory data and risk estimation tools for natural hazards including floods and earthquakes
- Lee Energy Facility — GEM Wiki entry for the Lee Energy Facility (Lee County Generating Station), a 696 MW natural gas simple cycle facility in Dixon, Lee County, Illinois
- Lee Energy Facility (GridInfo) — GridInfo entry confirming Lee Energy Facility as a 692 MW natural gas-fired power plant in Dixon, Lee County, Illinois with 8 General Electric 7EA combustion turbines
- FCC Callsign WQYN709 — RadioReference FCC license record for callsign WQYN709 (Hoosier Energy Rural Electric Cooperative, Inc., Livingston County, IL), active through 11/21/2026
- FCC Callsign KNCK684 — RadioReference FCC license record for callsign KNCK684 (Scott Township, Ogle County, Illinois), Public Safety Pool conventional radio service active through 2033
- Illinois Agriculture — Corn and Soybean Production — Capitol News Illinois reporting on Illinois as the top soybean-producing state and second-largest corn producer in the U.S., providing context for the route's predominantly agricultural land use profile
- Illinois Pasture Rental Rates — University of Illinois Extension fact sheet on pasture rental rates across Illinois counties, relevant to pasture land features along the route
- Illinois Extension — University of Illinois Extension; source for Illinois agricultural land classification and pasture land characteristics
- IDNR Forestry Resources — Illinois Department of Natural Resources Division of Forestry Resources, managing forest and related resources relevant to forested wetland and land cover features
- IDNR — Illinois Public Waters — Illinois Department of Natural Resources; defines Public Waters as navigable lakes, rivers, streams, and waterways open to public use
- Illinois Natural Areas Division — Illinois Natural Heritage Database describing 14 Natural Divisions and 33 Sections based on topography, glacial history, soils, flora, and fauna
- Single-Family Dwelling Definition — Definition of single-family dwelling as a residential property with one primary unit and independent living space, relevant to residential structure classification in the route corridor
- Ballotpedia — Public Education in Illinois — Context on Illinois public school infrastructure and school district geography, relevant to Pre-K–12 educational structure classification

- NAICS Sector 54 — Professional/Technical Services — NAICS industry classification reference for the Professional, Scientific and Technical Services occupancy category used in FEMA structure classification
- CDC Urban-Rural Classification — CDC NCHS Urban-Rural Classification Scheme categorising US counties into six tiers, complementary to Census Bureau urban-rural definitions used in the analysis
- Illinois Median Home Price — Illinois residential property valuation context (median home price $314,200) relevant to ROW easement and residential impact assessment
- Homeland Infrastructure Foundation-Level Data (HIF) — Land Mobile Private Transmission Towers layer; FCC Universal Licensing System records (callsigns KNCK684, WNUT738, WPVN720, WPXU306, WQJK967, WQJK978, WQVZ300, WQYN709, WRCW757); https://hifld-geoplatform.opendata.arcgis.com
- USGS National Map — Controlled-access Highway (US Route 51); Electricity Transmission Lines 345 kV and 100–161 kV (HIFLD); https://services1.arcgis.com/Hp6G80Pky0om7QvQ/arcgis/rest/services/Transmission_Lines_gdb/FeatureServer
- Overture Maps Foundation — Electricity features (300–400 kV, 100–200 kV, Unknown kV); Electricity Plant layer
- North American Rail Network Lines — Railroad crossings
- FCC Universal Licensing System — license records for all referenced callsigns; https://wireless2.fcc.gov/UlsApp/UlsSearch/
- USACE Clean Water Act Section 404 permit program — dredge/fill in waters of the U.S. including wetlands
- NERC reliability standards — transmission line clearance and protection coordination
- OSHA 29 CFR 1910.333 — electrical safety-related work practices for work near energized lines
- Illinois Commerce Commission — Certificate of Public Convenience and Necessity (CPCN) process for 345 kV projects
- Illinois Department of Transportation (IDOT) — highway crossing/occupancy permit requirements for controlled-access highways
- Illinois Endangered Species Protection Act — state-level rare species review requirements
- FAA Part 77 surfaces — Conical Surface (77 19b) and Notice Radius (77 9) requirements
- FCC regulatory framework for licensed communications infrastructure protection; https://www.fcc.gov/general/fcc-regulations
- Illinois Commerce Commission public comment records (2021–2024) — municipal filings on transmission project approvals
- Lee County, Ogle County, and Winnebago County public records — land use and infrastructure history
- RadioReference.com FCC database — licensee details for land mobile private transmission towers
- Illinois Department of Natural Resources — Illinois Natural Divisions and Forest Ecosystems context