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	<b>W. Main St (Rt.9), West Brookfield MA</b>	Town of West Brookfield

# W. Main St (Rt.9), West Brookfield MA

## Electric Distribution Constructability Review

### Coy Hill Distributed Generation Project

#### West Brookfield

April 23, 2026

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## I) Executive Summary

A 3.96 MWac solar generating facility and a 2.7 MWac solar generating facility are currently under construction off Coy Hill Road in West Brookfield and require upgrades to the existing electric distribution infrastructure. To safely and reliably accommodate this new generation, three phase electric service must be extended from the National Grid distribution substation located on Gilbertville Road (Route 32) in Ware to the project site.

National Grid evaluated multiple potential interconnection paths between the substation and the solar facility. Based on constructability, safety, and system reliability considerations, only one viable interconnection route was identified. This route would require vegetation impacts along several of the town’s roadways.

Before finalizing the interconnection path, the West Brookfield Planning Board and Tree Warden requested that National Grid reevaluate an alternative route along W. Main Street (Route 9), noting that a substantial portion of the roadway widening work has been completed since it was last reviewed. In response, National Grid conducted an Electric Distribution Design review along the currently undeveloped segment of W. Main Street in West Brookfield.

This section of Route 9 is a winding rural roadway characterized by steep grades, dense vegetation, and extensive rock ledge on both sides of the road. These conditions severely limit the ability to safely install and maintain utility poles and associated infrastructure, while meeting National Grid safety standards for both the public and utility workers. As a result, this route presents substantial constructability and long-term maintenance concerns and is not considered a viable interconnection alternative.

## II) National Grid Utility Pole and Overhead Line Clearance Standards

### 1. Vertical Clearance Requirements

#### 1.1 Electric Distribution Lines

- Overhead electric distribution lines shall maintain a minimum vertical clearance of 18 feet over:
  - Public ways
  - Driveways

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- Internal roadways and access routes

This clearance is necessary to accommodate emergency vehicles, service trucks, snow removal equipment, and utility vehicles.

### 1.2 Installations Over Private Property

- Over private property not intended for vehicular travel, lower clearances may be permitted.
- All installations must comply with applicable utility safety standards and industry codes.

### 1.3 Communication Lines

- Communication and cable lines are typically installed at a minimum of 18 feet above grade to:
  - Maintain safe separation from electric facilities (min: 40 in.)
  - Allow safe worker access and maintenance operations

## 2. Utility Access and Work Area Requirements

### 2.1 Roadside Access Clearance

For safe utility vehicle operation, including bucket trucks and emergency response:

- A minimum clear width of 12 feet should be maintained along the roadside or access way where utilities are located.

### 2.2 Pole Base Work Area

- Each utility pole shall have a minimum clear work area of 10 feet in all directions around the pole base, free of:
  - Structures
  - Fences
  - Landscaping features
  - Permanent obstructions

This area is required for safe crew movement, equipment staging, and vehicle outriggers.

## 3. Pole Placement and Roadway Setbacks

### 3.1 Preferred Pole Location

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- Utility poles should be located as far from the traveled way as practicable.
- Preferred locations include:
  - Behind curbs or sidewalks
  - Behind guardrails
  - Within utility corridors or easements

Proper placement minimizes vehicle collision risk and improves pedestrian safety.

### 3.2 Minimum Horizontal Clearance

- A minimum horizontal clearance of 3 feet shall be maintained between the utility pole and:
  - The edge of the paved roadway, or
  - The edge of the roadway shoulder

These standards are intended to complement, not replace, applicable state codes, utility requirements, and industry safety standards.

### III) MassDOT Utility Pole installation requirements

- Poles should be located behind guardrails where practicable to reduce the risk of vehicle collisions and improve safety for both motorists and utility workers.
- Poles must maintain adequate conductor clearances and meet National Electrical Safety Code (NESC) standards for strength and spacing.
- Guardrails provide a protective barrier, so poles behind them do not require the same setback distance from the traveled way as poles without guardrail protection.
- Poles must still be set back a minimum distance (5 ft) from the guardrail to allow for maintenance access and to avoid interference with the guardrail structure.

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- Installation behind guardrails often requires coordination with MassDOT and local authorities to ensure compliance with roadway design and safety standards.
- Poles installed behind guardrails must have proper foundations, such as embedded or anchor base poles with precast concrete foundations, to ensure stability.
- Access for maintenance vehicles and crews must be maintained behind guardrails, with clear paths and adequate space for safe work.
- Coordination with MassDOT for permits and traffic control plans is required for installation and maintenance activities near guardrails.

#### IV) Permitting Challenges

- Wildlife Management Area
  - Areas where grading and ledge are less severe, pole and pole support (anchors and push braces) would impact protected land.
  - Protected by Article 97, requiring legislative involvement.
- Environmental and Wetland Impacts
  - This area is heavily wooded with many streams and bodies of water along the roadway.
- Extensive Tree and Vegetation Management
  - The roadside vegetation is very close to the travelled way
  - There are currently no electrical facilities in this area, and the vegetation has never been managed to accommodate poles and wires.
  - More trees would need to be removed from both public and private property (see Wildlife Management Area above) than the proposed path.

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## V) Recommendation

National Grid recommends proceeding with the proposed construction along Lyon Rd, Ragged Hill Rd, and Pierce Rd. Existing utility infrastructure is already present along the full length of this route, making it the most practical and least disruptive option. Utilizing this corridor minimizes additional tree removal and vegetation trimming when compared to alternative alignments.

Alternative routing along Route 9 presents significant constructability and long-term maintenance challenges that cannot be reasonably mitigated, particularly along the segment between Gilbertville Road (Route 32) and the Rock House Reservation. These constraints include limited available space, challenging terrain and landscape conditions, significant traffic and public safety concerns, and restricted access for both initial construction and ongoing maintenance activities.

An underground system was also evaluated for portions of, and for the entirety of, this challenging segment of Route 9. However, underground construction standards still require manholes, conduit, and other access structures to be installed along the edge of the roadway to support safe installation, operation, and maintenance. As a result, the underground option encounters many of the same constraints as overhead construction, including steep roadway grades, extensive rock ledge, and minimal to nonexistent roadway shoulders. These conditions limit constructability, create safety concerns, and restrict long-term maintenance access, making underground installation impractical along this section of the route.

Based on these considerations, the design along Lyon, Ragged Hill, and Peirce roadways represents the most balanced approach, reducing environmental impacts while supporting safe construction, reliable operation, and ongoing maintenance of the electric distribution system

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## Appendix A



Example of significant grade behind the guardrail.

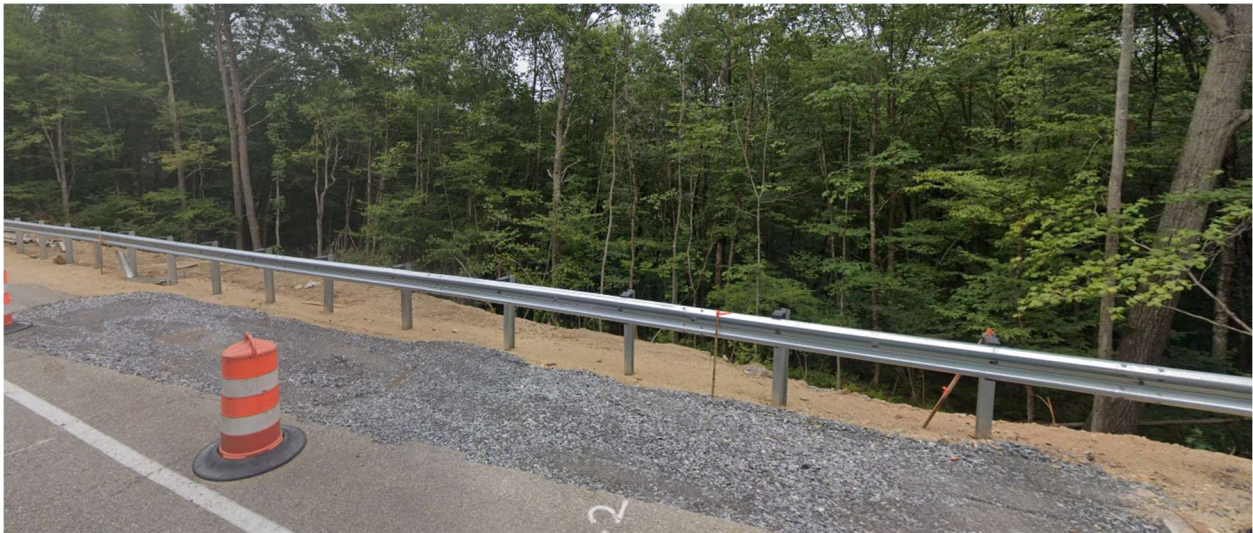


Example of grade behind the guardrail.

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Significant rock ledge and grade issues.



Significant grade issues behind the guardrail.

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Safety issue with potential pole location too close to the road, minimal space on public roadway. Wildlife Management Area private land.



Significant rock ledge on both sides of the roadway.