

# Marshland - Briggs Road (Q-1D) 161kV Rebuild Project Construction and Restoration Fact Sheet



Dairyland Power Cooperative (DPC), a not-for-profit generation and transmission cooperative headquartered in La Crosse, Wisconsin is proposing to rebuild approximately 13 miles of the north segment of the Q-1 161 kilovolt (kV) transmission. This 13-mile Project, referred to as the Q-1D, extends from 1.5 miles south of the Marshland Substation located in Trempealeau County, Wisconsin to the Briggs Road Substation located in La Crosse County, Wisconsin.

Three miles of the Project would cross the ecologically sensitive Black River floodplain, which includes 0.9 miles of the Upper Mississippi River National Wildlife and Fish Refuge (Refuge) and approximately 0.3 miles of the Van Loon Wildlife Area. DPC plans to use specialized construction to minimize impacts to this area. For the remaining 10 miles constructed in upland areas (beyond the Black River floodplain), DPC would use conventional construction methods.

## Upland Conventional Construction Methods

1. In upland areas, the existing transmission structures (transmission poles) would be removed using a crane or similar equipment.
2. Access routes for construction equipment and vehicles would follow entrances from local roads, field roads, and private driveways and continue along existing easements. Damage to vegetation and crops as well as soil compaction is possible. DPC would compensate landowners for damage resulting from construction.
3. Construction would begin by auguring a hole for the structure with a drill rig or other heavy equipment. Once a structure has been assembled on the ground, a mobile crane would be used to erect the structure.
4. Wire would then be strung between structures. Several reels of wire would be placed in the cradles, and the wire run through a series of sheaves that support the wire while it is being pulled into place by a winch. Once the wires are strung, they would be properly "sagged" to maintain pre-determined wire tension and clipped in.
5. Areas disturbed by construction would be re-contoured, re-vegetated, and returned to pre-existing conditions after construction, following DPC's Vegetation Management Plan, which is

## How can I get involved?

The public will have thirty (30) days to submit comments following the publication of the notice of availability of the Ecological Assessment in the newspaper. Comments can also be submitted to Stephanie Strength, Environmental Protection Specialist at [Stephanie.strength@wdc.usda.gov](mailto:Stephanie.strength@wdc.usda.gov) or at 1400 Independence Avenue, SW, Mail Stop 1571, Room 2242, Washington, D.C. 20250.

Construction of the Project would occur entirely within the existing right-of-way (ROW), and require use of existing and temporary access routes and two temporary staging areas.

available in Appendix C of the EA. In non-agricultural land, disturbed areas around the newly installed structures would be seeded and mulched per landowners' requests.

### TERMS TO KNOW

**Access route:** A path used by trucks and/or equipment to gain access to the electric transmission line.

**Dewatering:** The removal of ground or surface water from a construction site.

**Right of way:** Land area legally acquired for a specific purpose, such as the placement of transmission facilities and for maintenance access.

**Sheave:** A rotating grooved wheel for wire installation.

**Structure:** Pole that support an electric transmission line.

**Staging area:** Designated area where vehicles, supplies, and construction equipment are positioned for access and use for a construction project.

**Substation:** A facility that monitors and controls electrical power flows, uses high voltage circuit breaker to protect power lines and transforms voltage levels as needed to further distribute energy into the electrical grid.

## Black River Floodplain Specialized Construction Methods

DPC plans to use Y-frame steel structures rather than H-frame wood structures. A comparison of the structures is found below. The Y frame structures will:

- Limit new transmission line height to average of 65 feet to remain at or below the average tree height of as requested by the U.S. Fish & Wildlife Service and Wisconsin Department of Natural Resources.
- Decrease the width of the ROW to 65 feet to reduce the width ROW and allow for the unneeded portion of the ROW to revert to native vegetation.
- Reduce the number of structures needed in the Black River floodplain from 22 H-frame structures (44 poles) to 21 single Y-frame structures.

DPC would also use specialized construction methods to minimize environmental impacts. The following methods eliminate the need for concrete, avoid the need for dewatering, do not generate waste soil material, and would not require placing gravel or other fill for construction access.

1. The existing wooden H-frame transmission structures would be cut off at ground level and removed by helicopter. A heavy-lift helicopter would then transport the steel caisson and associated construction equipment to the construction site ①.
2. The helicopter would then use a vibratory hammer ② ③ to vibrate the caisson to the required foundation depth at each structure location. A video showing a heavy lift helicopter installing transmission structures is available at: <http://www.youtube.com/watch?v=1pplGnUZMeU>.

3. Once the caisson is correctly installed, the heavy lift helicopter would transport the tubular Y-frame steel structure ④, and attach the structure section to the foundation. Prior to erection, these structures would be stored in a nearby staging area then flown to the site. The heavy lift helicopter would then remove all equipment when installation is complete.
4. Wire stringing within the Black River floodplain would use a helicopter to pull the wire. The final construction operation would be to “clip-in” and fasten the conductors to the insulators. Once the wire has been clipped in, the construction operation would be essentially complete, and post-construction activities would follow.
5. Construction within the Black River floodplain would use access routes that have been used by DPC’s maintenance crews since the early 1950s.
6. Access routes within the Black River floodplain area would be between 6 and 12 feet wide and would not require grading or vegetation clearing. Personnel would access the structure locations on foot or via an Argo amphibious ATV vehicle ⑤. This type of vehicle has a ground pressure rating of 1.5 pounds per square inch to minimize soils disturbance and compaction.
7. Areas disturbed by construction would be re-contoured, re-vegetated as described in the Vegetation Management Plan located in Appendix C of the EA.



## Construction Schedule

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The Q-1D line needs to be rebuilt as soon as possible to avoid interruptions in service and ongoing maintenance issues. Due to the need for the Q-1D line to remain in service during construction of the CapX2020 project in Wisconsin that is expected to be completed in May or June of 2015, DPC plans to construct the Q-1D line between August and December 2015. This is the earliest timeframe that would avoid impacts to certain protected species, wetlands, and waterways.

### Black River Floodplain Comparison of Existing and Proposed Structures

Structure Type	ROW Width	Average Structure Height	Number of Structures in Black River Floodplain	Number of Structures on USFWS- & WIDNR-owned Land	Number of Poles in Black River Floodplain	Average Distance Between Structures
Existing Wood H-Frame	80'	55'	22	11	44	695'
New Steel Y-Frame	65'	65'	21	8	21	730'