# Appendix G - Draft Vegetation Management Plan

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# Vegetation Management Plan

## OTTO TAP 115 KV TRANSMISSION LINE PROJECT

## IN OTTER TAIL COUNTY, MINNESOTA

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## Acronyms and Abbreviations

| | |
|---|---|
| BMP | best management practice |
| BWSR | Minnesota Board of Soil and Water Resources |
| dbh | diameter breast height |
| ERO | Electric Reliability Organization |
| FERC | Federal Energy Regulatory Commission |
| kV | kilovolt |
| LREC | Lake Region Electric Cooperative |
| MDA | Minnesota Department of Agriculture |
| MDNR | Minnesota Department of Natural Resources |
| MnDOT | Minnesota Department of Transportation |
| MPCA | Minnesota Pollution Control Agency |
| MPUC | Minnesota Public Utilities Commission |
| MVEC | Minnesota Valley Electric Cooperative |
| NERC | North American Electric Reliability Corporation |
| NPDES | National Pollutant Discharge Elimination System |
| NWIS | noxious weeds and invasive species |
| Plan | Vegetation Management Plan |
| Project | Otto Tap 115-kV Transmission Line Project |
| SWPPP | Stormwater Pollution Prevention Plan |
| TCSB | temporary clear span bridge |

## 1. PROJECT SUMMARY

Great River Energy and Lake Region Electric Cooperative ("LREC" and, together with Great River Energy, the "Owners") are applying to the Minnesota Public Utilities Commission ("MPUC") for a route permit to build a new 2.9-mile, 115-kilovolt ("kV") single-circuit transmission line ("Transmission Line") in Otto and Pine Lake Townships and to upgrade the Otto Substation in Otter Tail County, Minnesota, referred to as the Otto Tap 115-kV Transmission Line Project ("Project"). The Project will consist of a tap line from Great River Energy's 115-kV Perham to Rush Lake transmission line to LREC's existing Otto Substation, as well as construction of a new Otto Substation immediately adjacent to the existing one[1] to enable 115-kV service.

## 2. PLAN OVERVIEW

This Vegetation Management Plan (or "Plan") has been developed for the Project to address an anticipated Route Permit condition related to vegetation management.

The primary goal of this Plan is to construct and maintain the Project in a manner that ensures safe and reliable transmission infrastructure. In addition, this Plan addresses the following goals:

- Develop and maintain cooperative relationships with landowners along the right-of-way and accommodate reasonable requests and preferences related to right-of-way vegetation management.
- Comply with applicable requirements in federal, state, and local permits, licenses, and easements.
- Prevent the introduction and spread of noxious weeds and invasive species ("NWIS") due to the Project.

This Plan reflects vegetation management practices which are consistent with applicable North American Electric Reliability Corporation ("NERC") requirements, as well as requirements set by the MPUC. This Plan also incorporates, where applicable, MPUC's Generic Vegetation Establishment and Management Plan Guidance.

## 3. SITE DESCRIPTION

### a. Existing conditions.

Land cover crossed by the Proposed Alignment is a mix of low intensity developed (0.2 mile), developed open space (1.3 miles), pasture and cultivated crops (1.1 mile), woody wetlands (less than 0.1 mile), and emergent wetlands (0.3 miles). The Proposed Alignment moves east to west and north to south over relatively flat terrain with approximately 16 feet of elevation change throughout the Proposed Alignment. The new Otto Substation is located on open land owned by LREC that is not in agricultural production.

There are no Minnesota Department of Natural Resources ("MDNR") lands, high value

[1] The existing 69-kV Otto Substation will be decommissioned upon energization of the new system at 115 kV.

biological resources or native plant communities, or calcareous fens impacted by the Project.

**b. Project components.**

*i. Transmission Line right-of-way.*

The Transmission Line right-of-way is generally 50 feet from each side of the transmission line centerline for a total width of 100 feet. Landowners will be compensated for the right-of-way as part of the easement acquisition process.

*ii. Otto Substation.*

LREC will construct a new substation directly adjacent to the south of the existing Otto Substation on LREC-owned property. The existing 69-kV substation will be decommissioned upon completion of the Project.

*iii. Temporary construction areas.*

Temporary construction areas typically include stringing equipment setup areas. Landowner agreements are acquired for these stringing areas.

## 4. MANAGEMENT OBJECTIVES

**a. Construct the Project and maintain the Project right-of-way in a manner that ensures a safe and reliable transmission line.**

The Owners' primary goal is to construct the Project and then operate and maintain the Project and its right-of-way in a safe and reliable manner.

In response to widespread outages in the United States in the early 2000s, Congress enacted the Energy Policy Act of 2005, which authorized the Federal Energy Regulatory Commission ("FERC") to certify an Electric Reliability Organization ("ERO") to create mandatory, enforceable reliability standards; the standards are subject to FERC review and approval. FERC subsequently designated NERC as the ERO tasked with developing and enforcing standards to ensure the reliability of the transmission system in North America. NERC's standards are developed using a results-based approach that focuses on performance, risk management, and entity capabilities. NERC uses an American National Standards Institute-accredited process that ensures the process is open to all persons directly and materially affected by the reliability of the North American bulk power system. [2]

More specifically, NERC developed its Reliability Standard FAC-003 Transmission Vegetation Management Program and began enforcement of that standard in 2007. In recognition of the fact that failure to address vegetation requirements can cause major power outages and injury, NERC is authorized to assess regulatory penalties for non-compliance. This standard is updated from time to time and is reviewed and approved by FERC, just like other NERC reliability standards. NERC has determined that "[m]ajor outages and operational problems have resulted from interference

[2] *See* North American Electric Reliability Corporation, *Standards*, *available at* https://www.nerc.com/pa/Stand/Pages/default.aspx.

between overgrown vegetation and transmission lines located on many types of lands and ownership situations" and that adherence to standard requirements "will reduce and manage this risk."[3] The purpose of the NERC standard is:

> *To maintain a reliable electric transmission system by using a defense- in-depth[-]strategy to manage vegetation located on transmission rights of way and minimize encroachments from vegetation located adjacent to the right-of-way, thus preventing the risk of those vegetation-related outages that could lead to Cascading.* [4]

For transmission lines subject to NERC standards, compliance with these standards is required. And, even for transmission lines which are not subject to NERC standards, ensuring safe and reliable construction and operation is paramount. While the Project is not subject to NERC standards, it is Great River Energy's general practice to follow these standards for its 115-kV transmission lines. The purpose of this Plan is to meet the objective of a safe and reliable transmission line, consistent with applicable laws, permits, and other requirements, while also minimizing human and environmental impacts associated with vegetation management to the extent possible.

In sum, safe operation of the Project is the priority. To ensure safe construction of the Project, Great River Energy will clear the right-of-way of woody vegetation in advance of construction. Additional detail regarding the right-of-way preparation and construction process is included in **Section 5**. After construction, Great River Energy will restore the right-of-way as discussed in **Section 9**. Great River Energy will annually conduct vegetation inspections along the right-of-way to ensure safe and reliable operations and will implement "wire/border zone" practices as discussed in more detail in **Section 12**.

Safety and reliability are Great River Energy corporate imperatives, and every Great River Energy employee and contractor is required to adhere to these imperatives. In the short term, i.e., during construction and restoration, the onsite project construction representative is primarily responsible for overseeing the work in a manner that follows them. Upon completion of the construction, these imperatives continue to apply for the life of the transmission line, and every employee and contractor is again required to adhere to them. Great River Energy's supervising manager of the vegetation management department is specifically responsible for the vegetation management in our right-of-way in a manner that is supportive of these imperatives.

### b. Landowner Preferences.

*i. Develop and maintain cooperative relationships with landowners along the right-of-way and accommodate reasonable requests and preferences related to right-of-way vegetation management.*

Great River Energy works cooperatively with landowners before, during, and after the construction

[3] *E.g.*, NERC, *FAC-003-4 Transmission Vegetation Management*, *available at* https://www.nerc.com/pa/Stand/Reliability%20Standards/FAC-003-4.pdf.
[4] *Id.*

process regarding easements, rights-of-way, structure locations, restoration, and maintenance (**Section 5a**, **6, 8, 9, and 12**). This coordination and cooperation are in recognition of the fact that, in most locations, Great River Energy has an easement for the Project—it does not own the property in fee simple—and, in large part, the landowners' use of their property, including the right-of-way, will continue unimpeded after the Project is constructed and operational.

For example, land that is in agricultural production will likely return to agricultural production; similarly, landowners with mowed turf grass will typically want the right-of-way restored with turf grass that the landowner can mow, just like the rest of the parcel. In this way, a transmission line right-of-way is distinct from other types of energy infrastructure for the purposes of vegetation management (for example, a solar farm where the project operator has exclusive control of the premises).

This Plan acknowledges that Great River Energy does not have exclusive access to the easement and that landowner can and will continue to use the easement in a manner that does not interfere with the safe and reliable operation of the Project and is otherwise lawful. As such, this Plan reflects that Great River Energy will coordinate with landowners regarding restoration and maintenance, which means that restoration is likely to be consistent with pre-existing conditions and use, where practicable and consistent with safe and reliable transmission line operation (**Section 4a**). When coordinating with landowners regarding restoration and maintenance practices, Great River Energy will also discuss the use of native and/or pollinator vegetation with landowners, where desired and practicable.

Great River Energy's supervising manager of the vegetation management department is specifically responsible for vegetation management in our rights-of-way, including working with the landowner, for the life of the transmission line. Most seeding and landscaping plans cannot be developed until after construction activities are completed. Great River Energy is committed to work with each landowner to develop a seeding or landscaping plan consistent with our negotiated easements once construction is completed. Great River Energy assumes that due to this Project's location, seeding will mostly consist of cover crops or MnDOT approved road right-of-way mix.

*ii. Comply with applicable requirements in federal, state, and local permits, licenses, and easements.*

In addition to the Route Permit, the Project is required to comply with other applicable federal, state, and local permits, licenses, and easements. Potential permits, licenses, and easements are listed and addressed in the Route Permit Application. Where those permits, licenses, or easements conflict with this Plan, they shall take precedent over this Plan to the extent they do not violate any other route permit condition. For example:

- Road right-of-way permits: Where the Project will impact road rights-of-way, Great River Energy will follow the vegetation management requirements and guidelines of the appropriate road authority. For example, the Minnesota Department of Transportation (MnDOT) has guidelines regarding seeding methods and mixes for its rights-of-way that are typically addressed when Great River Energy applies for its required permits.

- Stormwater Pollution Prevention Plan ("SWPPP"): If a National Pollutant Discharge Elimination System ("NPDES") Construction Stormwater Permit program administered

by the Minnesota Pollution Control Agency ("MPCA") is required for the Project, a SWPPP must be prepared to meet the site-specific requirements of the Project, to outline procedures to minimize erosion, and to mitigate sediment transport during and after construction activities. The SWPPP covers, among other things, temporary erosion and sediment controls best management practices ("BMPs"). Many of those BMPs are reflected in this Plan. At this time, Great River Energy expects that less than one acre of land will be disturbed, and as such, a Construction Stormwater Permit will not be required. Nevertheless, Great River Energy will install BMPs to minimize erosion and runoff to protect wetlands and waterways along the Project.

- MDNR licenses/permits: MDNR licenses or permits may have requirements specific to a certain water crossing or site. There are no Public Water Inventory wetlands, streams or waterbodies within the Project's proposed right-of-way. Great River Energy has assessed the route through MDNR's Minnesota Conservation Explorer and reached out to MDNR as part of its May 2025 outreach. At the time of filing for the Route Permit Application, MDNR has not responded. Great River Energy will continue to engage and work with MDNR on project-related feedback.

*iii. Prevent the introduction and spread of NWIS due to the Project.*

During all phases of Project activities, including right-of-way preparation, construction, operation and maintenance, the Project will minimize the introduction and spread of NWIS along the right-of- way by implementing BMPs that discourage the spread of identified species, and by routine cleaning of equipment to remove dirt and plant debris. See **Section 7** below for further detail.

**c. Vegetative Cover.**

Great River Energy's goal is to establish sufficient permanent vegetative cover as expeditiously as possible after the Project construction activities are complete to minimize erosion potential. Consistent with the MPCA's NPDES construction stormwater general permit, sufficient vegetative cover will be achieved once exposed soils have 70% permanent vegetative cover.[5] For transmission line construction, soil disturbances are generally limited to shallow surface impacts, other than the augering of holes for structure placement, so existing seed banks within the right-of-way soils will be retained and facilitate revegetation. Where necessary and appropriate, Great River Energy will apply supplemental seed using BMPs as discussed further in **Sections 9 and 10**.

Sufficient vegetative cover is expected to be achieved within two years where no soil grading was necessary. Actual timeframe for complete restoration will be affected by weather and seasonal issues (e.g., appropriate timing for supplemental seeding). Further, if pollinator seeds are included

[5] "Permanent Cover" means surface types that will prevent soil failure under erosive conditions. Examples include gravel, concrete, perennial cover, or other landscaped material that will permanently arrest soil erosion.

Permittees must establish a uniform perennial vegetative cover (i.e., evenly distributed, without large bare areas) with a density of 70 percent of the vegetative cover native to local undisturbed areas on all areas not covered by permanent structures, or equivalent permanent stabilization measures. Permanent cover does not include temporary BMPs such as wood fiber blanket, mulch, and rolled erosion control products (Minnesota Admin. Rules 7090).

in supplemental seed mixes, Great River Energy recognizes that pollinator establishment may take up to three to five years. Similarly, if grading is necessary, sufficient vegetative cover may take up to five years.

## 5. RIGHT-OF-WAY PREPARATION & CONSTRUCTION

### a. Landowner notification.

Landowners will be notified prior to right-of-way preparation activities, as required by applicable permit conditions (typically 14 days). Among other things, the notification letter will inform landowners:

- The right-of-way will be staked indicating the extent of vegetation removal activities.
- Landowners can request to keep any of the timber and materials. Requested wood will be cut to no less than 10-foot segments. Requested whole trees, trunks, wood chips or mulch will be placed just outside of the right-of-way.
- All unwanted materials will be removed from the landowner's property.
- Herbicides may be used to prevent regrowth of woody vegetation. Landowners will be informed of the method of application and be given the opportunity to request that no herbicides be used. **See Section 6**.

### b. Initial right-of-way preparation activities.

The right-of-way will be surveyed and marked in advance of vegetation clearing to identify the extent of Project activities.

Staging and lay-down areas will be limited to previously disturbed areas where practicable and will avoid wetlands.

Vegetation clearing will be limited to the permanent right-of-way, temporary right-of-way, danger trees off right-of-way, and off-right-of-way access.

BMPs will be used to minimize the spread of NWIS. **See Section 7**.

Where Project schedule allows, vegetation clearing will be conducted on firm or frozen ground to minimize rutting and soil erosion. If schedules or weather do not support firm ground, low ground pressure equipment will be used and/or construction mats will be installed as necessary to minimize erosion.

Mechanical equipment such as feller bunchers or brush cutters may be used for vegetation clearing. In areas where vegetation clearing with large equipment is not viable, it will be done with chain saws or other hand tools.

Vegetation within the right-of-way will be cut at or slightly above the ground surface. Any tree stumps or surface roots in managed turf grasses will be ground to slightly below grade and the

hole backfilled with local soils and seeded with a similar turf grass mixture. Any stumps outside of managed turf grass areas will typically be cut or ground such that no more than two inches remain above grade. Great River Energy does not typically grub stumps or roots to minimize soil impacts and erosion potential.

Trees, trunks, and/or limbs cut on private property are typically cut to approximately 10-foot lengths unless the landowner requests longer lengths.

Trees (≥3 inches diameter at breast height ("dbh") or >20 feet tall) cut from a wetland will be moved outside of the wetland. If the materials will be chipped or shredded, that work will be completed outside of wetlands.

Brush within a wetland may be cut with a brush mower or similar device if the chips/mulch will not exceed one inch in depth. If debris will exceed one inch, sufficient brush will be hauled out for processing in an upland area so that debris within the wetland will not exceed one inch.

All landowner-requested materials will be stacked outside the right-of-way. All materials a landowner does not wish to keep will be stacked inside the right-of-way for further processing and disposition.

Any materials a landowner does not wish to keep will be removed from their property. These unwanted materials may be offered to other landowners, offered for sale, placed in a composting site, or disposed of at landfill.

**c. Erosion & sediment control BMPs.**

If the Project is determined to likely exceed one acre of soil disturbances, all work will comply with the SWPPP developed to comply with the MPCA's Construction Stormwater permit. The SWPPP will define BMPs for erosion and sedimentation prevention and mitigation. If a Construction Stormwater Permit is not necessary, BMP's consistent with MPCA's requirements will still be installed and maintained to minimize erosion and runoff. Excavating in steeply sloped areas will be avoided to the extent practicable. Due to entanglement issues with small animals, use of erosion control blanket shall be limited to 'bio- netting' or 'natural netting' types and specifically not products containing plastic mesh netting or other plastic components (e.g., those meeting MnDOT Specification 3885).[6]

**d. Right-of-way preparation and construction at public water crossings.**

The Project does not cross public waterways, wetlands or basins. The transmission line and right-of-way crosses Public Ditch #5346 at MP 2.6. Ditch 5346 is not a MNDR-designated public water but is identified on the Minnesota Buffer Protection Map. Public ditches require that the landowner maintain a 16.5-foot vegetative buffer. This buffer will be maintained. Great River Energy does not anticipate the use of temporary clear span bridges over waterways.

Right-of-way clearing within no less than 30 feet of a non-MDNR jurisdictional streams or

[6] MnDOT Rolled Erosion Prevention Products ("REPP"), http://www.dot.state.mn.us/environment/erosion/rolled-erosion-prevention-products.html

wetlands will be conducted to protect all non-invasive vegetation. Brush species will be left across a majority of the right-of-way, except brush in the wire zone (**see Section 12.c**) will be removed to facilitate right-of-way access. No trees that could grow to over 15 feet tall are allowed in the right-of-way.

## 6. HERBICIDES

Landowners, operators of organic farms on adjacent parcels, and bee apiary operators within three miles will be notified 14 days in advance if herbicides will be used on the right-of-way. The notice will indicate what herbicides will be used and the methods of application (e.g., broadcast, selective spot treatment, or basal treatment).

Unless a landowner has specified that no herbicides are to be used on their property, herbicides may be used to treat tree and brush stumps to prevent regrowth, and/or to control NWIS (**Section 7**). If organic farming is being practiced on adjacent property, additional requirements will be implemented (see **Section 7 Organic Farms)**.

Any weed control spraying will be in accordance with State of Minnesota regulations. Herbicides will be used in accordance with manufacturer's specifications and all applicable federal and state regulations.

Herbicides used within or near wetlands or waterbodies must be:

- designed for use in wet areas as designated by manufacture's specifications and federal and state regulations; and
- be used in accordance with manufacturer's specifications as well as all applicable federal and state regulations.

Areas of high public exposure such as rivers, creeks, streams, and U.S. and state highways shall be treated with a selective basal or backpack application. Approximately 30 to 300 feet on each side of the crossing shall be treated in this manner.

Herbicides will not be used on any state or federal lands without approval of the agency having authority over such land.

The Owners may use herbicides on land owned by the Owners (e.g., substation facilities). The Owners will work with adjacent landowners, if requested, on weed control activities.

## 7. NOXIOUS WEEDS & INVASIVE SPECIES

Terrestrial plant invasive and noxious species in Minnesota are regulated by the Minnesota Department of Agriculture ("MDA").[7] The MDNR also manages terrestrial plant invasive and noxious species on public lands and at public waters. The MDNR maintains a geospatial dataset of terrestrial invasive and noxious species observations;[8] according to this dataset, known invasive and noxious species that are regulated and within the Project Area include Canada thistle, common

[7] https://http://www.dnr.state.mn.us/invasives/index.html
[8] https://gisdata.mn.gov/dataset/env-invasive-terrestrial-obs

tansy,[9] non-native phragmites, and curly leaf pondweed.[10]

During all phases of Project activities including right-of-way preparation, construction, operation and maintenance, the Owners will manage documented NWIS occurrences that are listed as "eradicate" or "control" under the "Prohibited Noxious Weed" category by the MDA located within the right-of-way and temporary workspaces. During construction and maintenance, Great River Energy will implement the following BMPs to prevent the spread of NWIS:

- Limiting grading and excavation to areas surrounding pole structure foundations, and only as needed along access roads and workspace areas for a level and safe working area.
- Equipment will be cleaned before it is used in Project right-of-way and temporary workspaces, between equipment use in a known infested area and a non-infested area, and exiting the Project right-of-way or temporary workspace. Cleaning will consist of scraping or blowing to remove visible dirt and weed debris from machinery and trailers, including tracks and wheels.
- Only weed-free materials (e.g., straw bales, bio-rolls, mulch) will be used in erosion control.
- Equipment and clothing will be inspected for invasive materials.
- Collected invasive materials will be secured and disposed of at an offsite location to avoid dispersal.
- Minimally disturbed areas will be allowed to restore naturally.
- All disturbed areas will be revegetated using seed mixes labelled "Noxious Weeds; None Found" in accordance with regulations and will utilize yellow tag seed when available.
- Compliance with MPCA Construction Stormwater General Permit if applicable, including stabilization requirements, and inspection, maintenance and repair of erosion and sediment control BMPs.
- Major infestation areas may be treated with the recommended herbicides (if approved by the landowner) or by mechanical methods such as mowing or burning. The contractor will be required to obtain the necessary permits and/or certifications for the use of applicable herbicides.

It is important to note that there may be NWIS already existing on private parcels along the right-of-way. While this does not preclude the Owners from the responsibility of managing the spread of NWIS to the greatest extent possible, this ability may be limited by pre-existing conditions. For example, a NWIS concentration adjacent to the right-of-way may result in NWIS also spreading

[9] MDNR – Ecological and Water Resources. Terrestrial Invasive Species Observations. 4/27/2023. https://gisdata.mn.gov/dataset/env-invasive-terrestrial-obs

[10] MDNR – Ecological and Water Resources. 4/27/2023. Aquatic Invasive Species. https://gisdata.mn.gov/dataset/env-invasive-aquatic-obs

into the right-of-way. The Owners do not have the authority to treat NWIS outside of their right-of-way. Where land outside of the right-of-way contains significant amounts of NWIS clearly visible from the right-of-way, Great River Energy and its contractors will attempt to notify landowners about them and control options they may want to consider.

Revegetation in non-agricultural areas will be considered successful when the cover of acceptable vegetation is dominant and non-NWIS species density is less than or similar to surrounding lands that have not been affected by the Project. If monitoring indicates a higher density of NWIS, Great River Energy will respond appropriately to control NWIS. See also **Section 4.c.**

## 8. ORGANIC FARMS

There are no known or registered organic farms within or adjacent to the Project right-of-way according to the MDA[11] or the United States Department of Agriculture Organic Integrity Database.[12] However, if Great River Energy encounters a farm that is working toward certification or a landowner considers its farm to be organic, even if they are not certified, Great River Energy will work with the landowner to minimize impacts. Special practices would be adhered to within and adjacent to these organic agricultural lands.

If Great River Energy becomes aware of an existing or developing, unregistered organic farm within or adjacent to the right-of-way, Great River Energy would work with the organic farmer to develop acceptable maintenance practices potentially including:

- Working with the landowner to identify site-specific maintenance and/or construction practices that would minimize the potential for decertification; once these are developed, the specific measures would be followed. Possible practices may include:
    - Equipment cleaning
    - Planting a deep-rooted cover crop in lieu of mechanical decompaction
    - Application of composted manure or rock phosphate
    - Preventing the introduction of disease vectors from tobacco use
    - Restoration and replacement of beneficial bird and insect habitat
    - Maintenance of organic buffer zones
    - Use of organic seeds for any cover crop
- Prohibited substances would not be applied onto organic agricultural land. No herbicides, pesticides, fertilizers, or seed would be applied unless requested and approved by the landowner.

[11] MN Department of Agriculture Organic Farm Directory by County, https://www.mda.state.mn.us/organic-farm-directory-county.
[12] US Department of Agriculture Organic Industry Database, https://organic.ams.usda.gov/integrity/.

- No refueling, fuel or lubricant storage or routine equipment would be allowed on organic agricultural land. If these prohibited substances are used on land adjacent to organic agricultural land, they would be used in such a way to prevent them from entering the organic agricultural land.

- Topsoil and subsoil layers that are removed during work on these lands for temporary road impacts would be stored separately and replaced in the proper sequence after work is complete.

- Erosion control methods on organic agricultural land would be consistent with the Organic System Plan to the extent feasible. Adjacent to these lands, erosion control procedures would be designed so sediment from non-organic land would not flow into the organic agricultural lands.

- Weed control methods would be consistent with the Organic System Plan to the extent feasible.

## 9. RESTORATION

### a. Overview of restoration process.

Once construction ceases, the right-of-way will be inspected to identify areas impacted by Project activities. Typical impacts might include rutting, soil compaction, soil exposure, and damage to native vegetation, all to varying degrees. In areas of minimal disturbance (e.g., where erosion is limited to disperse areas and surrounding existing vegetation provides control of sediments, existing vegetation is matted down due to vehicle traffic, or areas where drilling spoils are raked into existing vegetation) the disturbed areas will be allowed to regenerate naturally.

All conditions as specified in the local, state, and federal permits and private landowner agreements for final restoration and cleanup will be met. Revegetation and restoration of disturbed areas associated with Project activities are intended to protect wetland and water resources from issues associated with sedimentation, to protect wildlife habitat, and reduce the movement of NWIS species within the right-of-way.

Restoration work will be coordinated with each individual landowner by the restoration contractor and/or Great River Energy's land agent. Finally, each landowner will be mailed a letter asking if they have any outstanding restoration concerns.

Restoration activities may, as needed, include:

- Collecting and disposal of all work-related debris and trash.

- Discing or grading to repair rutting.

- Replacing stockpiled topsoil.

- Regrading areas disturbed by construction or vegetation clearing to reflect pre-construction conditions.

- Applying temporary stabilization to minimize erosion potential to the extent practicable.
- Applying temporary seed if conditions or the time of year are not appropriate for final seeding.
- Permanent seeding non-agricultural areas disturbed by transmission line construction and installing temporary stabilization to prevent erosion.
- Unless timber, slash or chips have been requested by the landowner, all residual vegetation materials will be removed and properly disposed of off-site. Great River Energy may request a burning permit from state or local jurisdictions to burn residuals.
- Trees (>3 inches dbh or >20 feet tall) cut from a wetland will be moved outside of the wetland. If the materials will be chipped or shredded, that work will be completed outside of wetlands.
- Brush within a wetland may be cut with a brush mower or similar device if the chips/mulch will not exceed one inch in depth and the work will not cause rutting or compaction in the wetland. If debris will exceed one-inch, sufficient brush will be hauled out for processing in an upland area.
- In accordance with easements, Great River Energy's land agent will work with any farmers to repair any damages to cropped fields through discing or planting of deep-rooted crops, and compensate them for any crop damage, consistent with the requirements of Great River Energy's easements (which generally require that landowners receive compensation for construction-related crop damages) and any related landowner agreements.
- Temporary access routes, if any, may be left intact with landowner agreement unless otherwise restricted by federal, state, or local regulations. If a temporary access road is to be removed, the land will be returned to its previous use and restored to pre-construction conditions to the extent practicable unless the landowner requests differently.
- Within wetlands, all construction matting will be removed and vegetation will be allowed to regenerate naturally.

**b. Temporary restoration.**

Temporary cover and/or seeding may be used as a quick means to minimize soil erosion and reducing the potential for the establishment of NWIS. Temporary seed mixes are considered a cover crop and are made up of annual grasses, have rapid germination, and provide quick ground cover. These seed mixes are not intended to provide multi-year cover. Unless specifically requested by landowners or regulatory agencies, the Project will not establish temporary vegetation on cultivated land or in areas of open water.

Temporary vegetation establishment may be expected to be successful between April 1 and September 30. Establishment of temporary vegetation is unlikely to be successful outside of this time window. Temporary use of mulch to stabilize soils may be applied outside of the April 1 through September 30 window.

Temporary restoration activities will include the repair of rutted surfaces and an even broadcast-seeding of the temporary cover-crop seed mix at a rate of 100 pounds per acre.

Straw or wood chip mulch may be used to help stabilize areas of bare soils during the establishment of temporary vegetation or during the period between October 1 and April 1 (winter), except that mulch in wetland areas cannot exceed one inch thick. The contractor will apply mulch during the establishment of temporary vegetation as requested by the landowner or specified in licenses or permits. Wood chip mulch free of soil material and derived from on-site sources, may be used to protect areas where bare soils have been exposed due to tree clearing and construction activities. In winter situations, wood chips may be used to provide protection for bare soils exposed due to Project activities if out of season seeding is not applicable. Wood chip mulch derived from on-site locations may be spread up to 6 inches deep in upland areas to provide ground protection along access paths. Straw mulch may be used outside of the seeding window as a temporary erosion control measure, followed by temporary or permanent seeding at the earliest possible time consisting with specific seed mix planting guideline.

**c. Permanent restoration.**

Allowing for and encouraging native species to naturally re-establish temporarily disturbed area is a primary BMP for this Project. Appropriate vegetative cover of the right-of-way will be required along the entire length of the Project. In most cases, natural revegetation by early successional species following tree clearing and construction is expected to occur. In areas where native species revegetate the corridor, active restoration may not be required.

Permanent seed mixes for the Project include native seed varieties commonly found and/or available from local seed distributors. The permanent seed mixes are designed to augment the natural colonization of bare ground by local, native seed sources.

Great River will consider the inclusion of pollinator species based on availability of local genotypes, appropriateness for the location/site, and landowner preference. For example, even if a site would otherwise support pollinator habitat, if the landowner intends to instead plant and maintain turf grass, the parcel would be restored in accordance with the landowner's preference. Similarly, if a parcel is in agricultural production, depending on the timing of restoration, a cover crop may be planted to minimize erosion in the short-term, but pollinator or native species would not be planted in recognition of the fact that the parcel will return to agricultural production.

In wetlands, the preferred method for revegetation of disturbed areas is reliance on revegetation by resident plant communities. Great River Energy, in consultation with the appropriate regulatory agencies, will determine whether disturbed areas will require the use of the temporary cover crop only, or seeding with a wetland-specific mix. In areas where the wetland plant community is dominated by native species with rhizomatous root systems that will likely recolonize areas of limited disturbance, bare soils are to be broadcast-seeded with the seasonally appropriate temporary cover-crop seed mix. Large bare soil disturbance areas are defined as greater than 50 square feet of exposed soils that is greater than two feet wide. These areas are large enough to preclude revegetation from the local, native seed source. Large bare soil areas should be seeded using wetland seed mix.

Potential seed mixes are identified in **Section 10b** below.

## 10. SEEDING

### a. Preparation.

Seedbed preparation and seeding are to occur following completion of construction activities and site cleanup in any given location and consistent with seasonal conditions (e.g., snow cover or frozen ground may preclude effective grading and seeding). Where construction activities have resulted in erosion or rutting, surface grade will be restored prior to seeding.

To minimize ground disturbance along the entire corridor, forested areas will be cleared, but roots and stumps will be left in place. Within areas of cleared forest, it may not be practical to access large areas of ground with seeding and seedbed preparation equipment. In these areas, smaller vehicles may be required to perform tasks such as smoothing ruts, preparing seedbeds with small rakes, and surface packing after seeding. Fertilizers and other soil amendments are not recommended and will only be applied as requested by and agreed to in right-of-way negotiations with individual landowners.

### b. Seed mixes.

Great River Energy will strive to use seed mixes which are native to Minnesota. The following restoration areas and vegetation types are present in and adjacent to the right-of-way:

- Agriculture
- Turf grasses
- Pasture/unmanaged lands
- Road right-of-way
- Natural Vegetation

Seed mixes are based on regionally appropriate state seed mixes that are recommended by the Minnesota Board of Soil and Water Resources ("BWSR")[13] and the MnDOT.[14] Potential seed mixes are listed in Table 10-1. The identified seed mixes are examples of suitable mixes for each site and replacements are likely to be needed based on availability at the time of construction. Ultimately, the landowner will have the final say on what seed mixes they will want planted. Seed mixes were not selected for wetland areas because wetlands will be spanned. Should disturbance occur in wetlands, it is expected that these areas would regenerate naturally. If re-seeding is required in wetlands, those wetlands will be individually assessed to determine the appropriate seed mix.

[13] BWSR. Undated. Seed Mixes. Available online at: https://bwsr.state.mn.us/seed-mixes. Accessed August.
[14] MnDOT, 2024. Guide to the New 2024 MnDOT Seed Mixes. Available online at: https://dot.state.mn.us/environment/erosion/vegetation.html. Accessed August 2024.

**Table 10-1: Default Seed Mixes**

| Seeding Area | Seed Mix Name (State Seed Code) | Rate (Pure Live Seed) | Application Methods |
|---|---|---|---|
| Private agriculture/cover crop | Cover Crop: Winter Wheat (WW) or Oats (O) | 100 lbs/ac. | Broadcast seeder (Vicon or similar) by hand or mounted to equipment.<br><br>Allow natural revegetation in lightly disturbed soil where sod is intact. |
| Private turf | Residential Turfgrass (RT) | 200 lbs/ac. | |
| Private pastures and hay fields | Dry Prairie Northwest Mix | 33. lbs/ac. | |
| Reseeding small areas (<1 acre) | Patch Mix (PM) | 30lbs/ac | |
| Unmanaged and road right-of-way | Northwest Shortgrass Roadside | 26 lbs/ac.* | |
| Wetlands | No seed mix provided. These areas are expected to revegetate naturally. | | |
| *Cover crop is included in these seed mixes<br><br>** Other mixes with higher forbs/pollinator content are preferred where site conditions allow. | | | |
| Sources: MnDOT, 2024. Guide to the New 2024 MnDOT Seed Mixes. Available online at: https://dot.state.mn.us/environment/erosion/vegetation.html. Accessed July 2024.<br><br>BWSR. Undated. Seed Mixes. Available online at: https://bwsr.state.mn.us/seed-mixes. Accessed October 2025. | | | |

**c. Seeding methods.**

Broadcast seeding may be used at all disturbed areas where bare soil is created. Seed is to be uniformly distributed by a mechanical, hand-operated seeder; or in small seeding areas, by hand. Following seeding, the surface is to be raked with a cultipacker, harrow, or hand rake. The bed is to be firmed as appropriate to site conditions.

Hydroseeding without any plastic materials may be used at all disturbed upland areas where bare soil is created. Hydroseeding is not approved in wetland locations as the method requires extra access by heavy vehicles. Seed will be applied in a broadcast, hydromulch slurry. The hydromulch seed mix will not contain plastic/polypropylene fiber additives or Malachite Green dye. The hydroseeder will provide for continuous agitation of slurry and provide for a uniform flow of slurry. Hydroseed slurry will not be held in the tank for more than one hour prior to

application.

Seed drilling may be used in areas where stumps have been removed and a prepared seed bed can be created. However, these areas are expected to be infrequent and may not occur on the Project. Drilled seed will be sown at a depth of 0.25 inch. Seeding equipment will be able to accommodate and uniformly distribute assorted sizes of seed at the required depth. Feeding mechanisms will be able to evenly distribute different seed types at the rates specified. Seedbed soil is to be suitably firmed immediately following seed drilling.

The appropriate seeding rate will be used for the specified method based on the mixture tabulation for the specified mix and will be based on Pure Live Seed weight (not bulk weight).

**d. Timing.**

Seeding periods for application of permanent native seed mixes are most successful in the spring or fall. Spring plantings will be completed between April 1 to June 30 or when soil temperatures are at least 60 degrees Fahrenheit or higher. Fall seedings will occur when soil temperatures have fallen below 50 degrees Fahrenheit for a consistent period, usually around November 1. Frost seedings may also occur if the snow cover is shallow, ice-free and winds are calm. The seed rates may be increased by 25-50 percent for frost seedings. Outside of these time windows, cover crop seed mixes will be applied according to temporary cover crop seed mix specifications, as shown above in **Section 9b**.

## 11. MONITORING

After construction, the Permittee will continue to inspect areas where seeding and temporary erosion and sediment control measures are in place. Great River Energy will implement corrective actions where low germination or establishment, or high weed competition is identified. Great River Energy will continue to inspect the right-of-way until permanent cover is established in accordance with the MPCA construction stormwater general permit. The Project right-of-way will be monitored for up to three growing seasons unless permanent cover is achieved sooner.

## 12. OPERATION & MAINTENANCE

**a. Routine inspections.**

Great River Energy will conduct aerial or ground visual inspections of the right-of-way every year to ensure a safe and reliable corridor and to ensure access for maintenance activities or emergencies. Maintenance work will be based on the findings of those inspections.

**b. Routine maintenance.**

Great River Energy and LREC will periodically perform inspections, maintain equipment, and repair damage to the Transmission Line and Otto Substation. Regular maintenance and inspections will be performed over the life of the facility to ensure a reliable system. Tree clearing will be done consistent with wire/border zone practices **(see Section 11c** for more detail on wire/border zone). Vegetation clearing typically includes brushing equipment traveling down

the right-of- way, which may consist of tracked or rubber-tired equipment to cut brush and trees, hand-held saws, or other manual methods. Small cuttings will be left in place, non-merchantable timber or slash will be disposed of where it originates, hauled off-site, or chipped and evenly spread on the right-of-way. If burning is proposed, Great River Energy will consult with landowners, as well as applicable authorities to obtain necessary authorization or permits.

Other maintenance techniques and mitigation measures include:

- If the surface is unstable such that rutting, soil compaction, or soil mixing may occur, low ground-pressure equipment will be used or maintenance equipment will be operated from weed-free mats or temporary timber corduroy that will be removed upon completion of the work.

- Slopes leading to water bodies will be cleared by hand, leaving adequate herbaceous or low shrub cover to avoid erosion. Trees and shrubs will not be grubbed; all roots will be left intact.

- Vegetation management requirements stipulated in any licenses or permit will be followed.

All extra work areas (such as temporary pulling areas, staging areas and additional spoil storage areas) will be located outside of wetland boundaries, where topographic conditions permit. If topographic conditions do not permit, an alternate location or matting will be used to minimize impacts.

In wetlands, special practices are necessary for some operations and maintenance activities as follows:

- Heavy equipment passage through wetlands will be limited to only when necessary to complete the operations and maintenance activity.

- Great River Energy will attempt to complete maintenance vegetation clearing during frozen conditions. When frozen conditions are not practicable, maintenance will be done using low ground-pressure equipment (ATVs and the like), after installing temporary matting or corduroy, or with hand tools.

- Brush within a wetland may be cut with a brush mower or similar device if the chips/mulch will not exceed one inch in depth. If debris will exceed one-inch, sufficient brush will be hauled out for processing in an upland area.

- Wetlands generally revegetate naturally. If no standing water is present, temporary cover crop (oats or winter wheat) may be planted at a rate of 100 pounds per acre. See **Section**

  **9b.** No fertilizer or lime will be applied in wetlands.

**c. Wire/border zone.**

Great River Energy uses the wire/border zone methodology in maintaining the right-of-way. The wire zone, or clear zone, is generally defined as the area that extends 15 feet outside of the area directly below the outermost conductors of the transmission line[15] (**Fig. 12-1**). For example, where conductors are located on both sides of a structure, the horizontal distance between 115-kV conductors is approximately 15 feet, which would result in a total wire zone width of 45 feet. Narrower total widths might be viable if the conductors are located only on one side of the structure depending on terrain conditions and equipment accessibility. Great River Energy encourages all landowners to contact us regarding any plans to plant or construct within the right-of-way[16].

The border zone extends from the edge of the wire zone to the edge of the easement right-of-way.

The wire zone is maintained free of any vegetation that would inhibit Great River Energy from accessing the right-of-way with its equipment or limit its ability to use equipment, such as bucket trucks, to maintain or quickly repair the transmission line. No trees or shrubs are allowed to establish within the wire zone. Stumps or roots that could impede equipment travel will be removed by cutting or grinding them at or slightly below the surface.

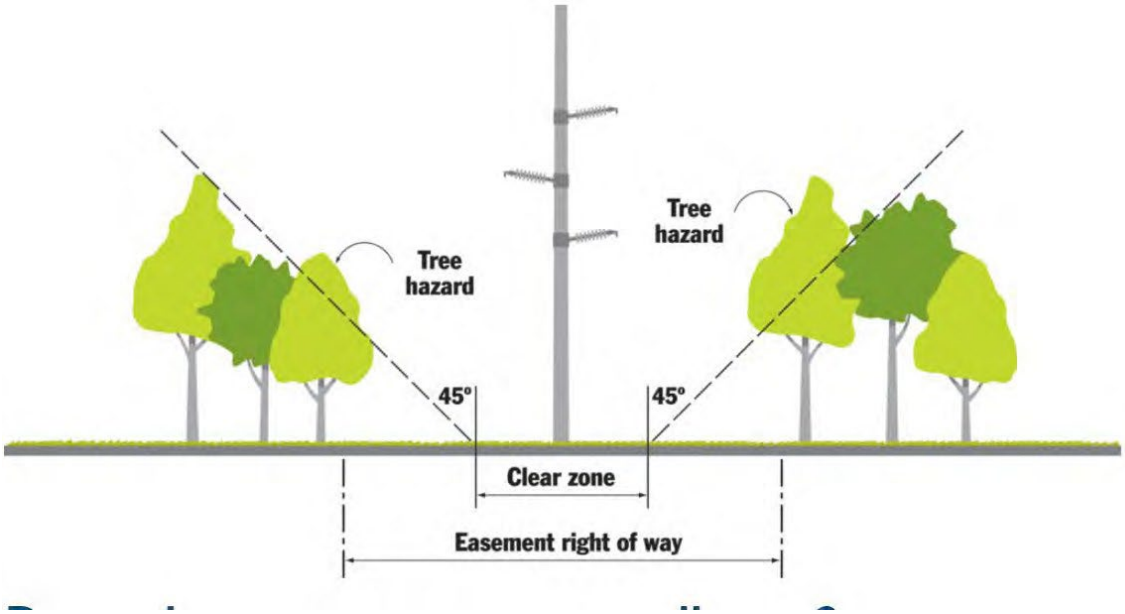
Within the border zone, landowners may plant lower growing tree species or shrubs if the species does not exceed a height as depicted in **Fig. 12-1** unless other right-of-way conditions prevent vehicle access. Trees that lie outside of the easement but have branches and/or foliage that lie within the border zone, as depicted in **Fig. 12-1**, may be pruned, or removed. In the border zone, allowed woody vegetation can have increasing heights moving away from the wire zone up to a maximum mature height of 15 feet. Again, Great River Energy encourages landowners to contact Great River Energy regarding any planting within the right-of-way.

Danger trees are designated by a certified arborist and are typically any tree that is leaning, damaged, having poor root structure, or showing signs of internal decay such that Great River Energy's right-of-way inspectors believe all or portions of the tree may fall into the transmission line. Great River Energy's easements authorize the removal of danger trees outside of the right-of-way. Danger tree removal is a critical aspect of ensuring transmission line reliability and fire prevention.

[15] In areas where sloped, rocky, or other complex terrain characteristics limit equipment access on one side of the transmission centerline or where the transmission line angles, the wire zone may need to be extended further out than 15 feet on one side of the transmission centerline.

[16] [15] https://greatriverenergy.com/transmission-and-delivery/power-line-project-faqs/easements-and-rights-of-way/.

**Figure 12-1: Wire/Border Zone17**




**d. Emergencies.**

It may be necessary for Great River Energy to cut, trim or remove vegetations due to damage caused by weather events or accidents. Such work is typically done to facilitate restoring services on the line. Staff will attempt to notify the landowner prior to entering the property.

[17] Not to scale.