Appendix I

Vegetation Management Plan

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DAIRYLAND POWER COOPERATIVE

DRAFT
VEGETATION MANAGEMENT PLAN
WABASHA RELOCATION PROJECT

March 2024

DAIRYLAND POWER
COOPERATIVE
A Touchstone Energy® Cooperative

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1. INTRODUCTION

Dairyland Power Cooperative (Dairyland, or the Applicant) has applied for a Route Permit to relocate approximately 13.3 miles of 161-kilovolt (kV) high voltage transmission line (HVTL) and construct a new substation (the Wabasha Relocation Project, or the Project). The Project will begin in the vicinity of Structure X-Q3-75 on the existing Dairyland LQ34 161-kV transmission line (the Wabaco-Alma transmission line or LQ34 line) near the Town of Plainview, Minnesota in Wabasha County. This structure will be removed as part of the Project and will be replaced with the starting structure for the new 161-kV line. After travelling 13.3 miles northeast and then east, it will tie directly into a new 4-acre 161/69-kV substation located within a larger 10.8-acre site, which is proposed to be located off County Road 84, west of the Mississippi River and southeast of the City of Kellogg (Kellogg Substation). The Project is a relocation of approximately 10.4 miles of the existing LQ34 line, which presently connects to the Wabaco Substation (located approximately 2 miles south of the Town of Plainview) and to the Alma Substation (located on the east side of the Mississippi River in Wisconsin). The Project starts in Plainview Township, northeast of the Town of Plainview, and traverses northeast through Highland, Watopa, and Greenfield Townships, ending east of the City of Kellogg in Wabasha County, Minnesota near the Mississippi River (**Figure 1-1**).

Within this Plan, the term "Proposed Alignment" refers to the centerline location of the transmission line and structures. The Proposed Alignment is contained within a 100-foot-wide right-of-way (ROW) for construction and operations. The term "Proposed Route" or "Project Route Width" is a larger area that is inclusive of the Proposed Alignment and the Kellogg Substation.

1.1 GOALS

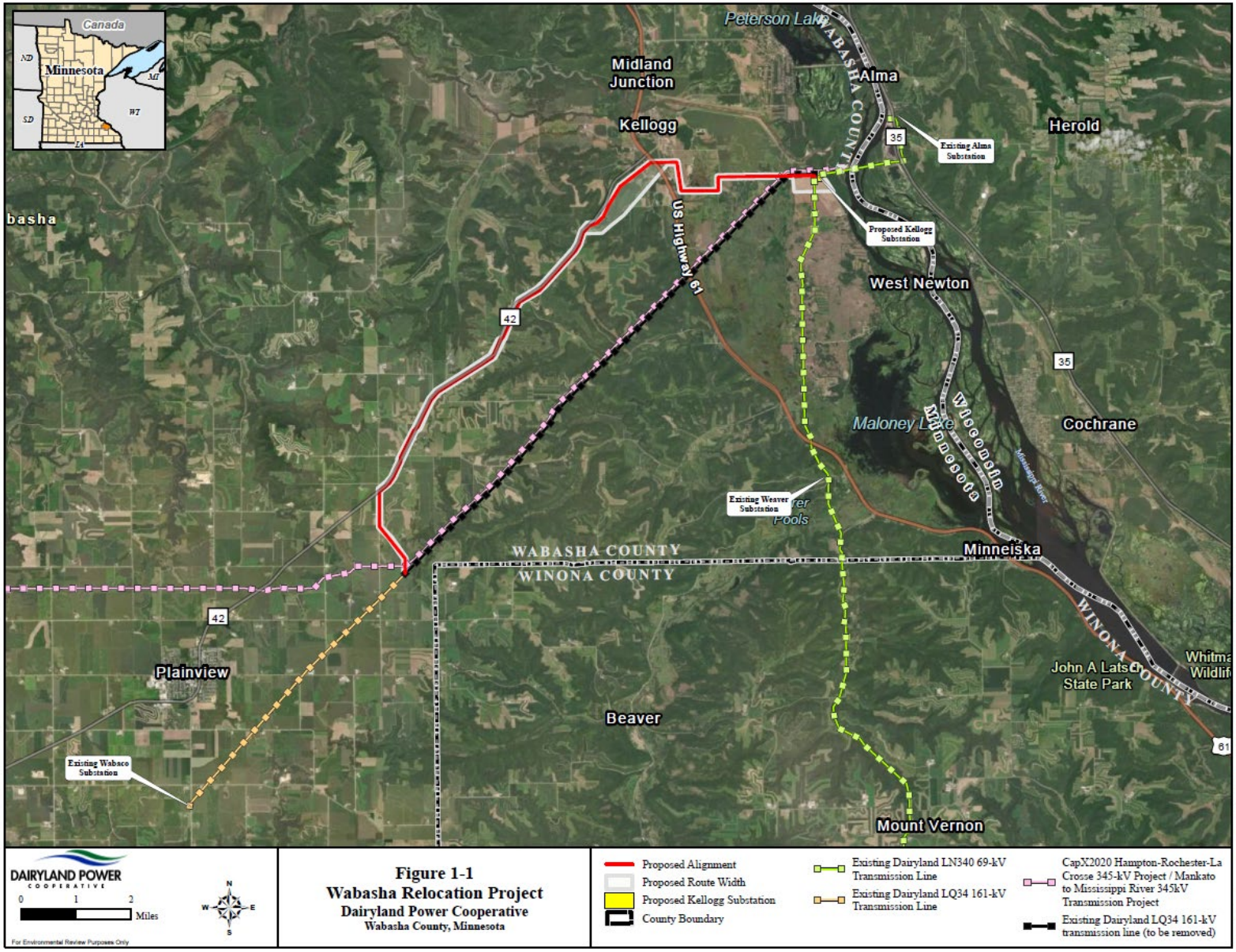
Dairyland has developed this Vegetation Management Plan (VMP or Plan) for the Project to address an anticipated route permit condition for the Project related to vegetation management. The primary goals of this Plan are to describe the procedures that will be implemented:

- during construction of the transmission line to revegetate and restore the right-of-way in accordance with landowner preferences and in compliance with federal, state, and local permits and authorizations, and Minnesota water quality standards; and

- to maintain the ROW during operations in a manner that ensures a safe and reliable transmission line.

This Plan was developed based on Dairyland's experience implementing best management practices (BMPs) during construction, as well as applicable North American Electric Reliability Corporation (NERC) requirements and requirements set by the Minnesota Public Utilities Commission (Commission). This Plan also incorporates, where applicable, the Minnesota Department of Commerce-Energy Environmental Review and Analysis (DOC-EERA)'s Generic Vegetation Establishment and Management Plan Guidance.

Figure 1-1. Wabasha Relocation Project



1.2 APPLICABLE PERMITS AND AUTHORIZATIONS

In addition to the route permit, the Project is required to comply with other applicable federal, state, and local permits, licenses, and/or easements. 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 ROW permits: Where the Project will impact road ROWs, Dairyland 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.

- Stormwater Pollution Prevention Plan (SWPPP): As a requirement of the National Pollutant Discharge Elimination System (NPDES) construction stormwater permit program, a SWPPP must be prepared to meet the site-specific requirements of each 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 control BMPs. Many of those BMPs are reflected in this Plan.

- Minnesota Department of Natural Resources (MDNR) licenses/permits: The MDNR Utility License may have requirements specific to a public water crossing. Where applicable, Dairyland will implement MDNR-required site specific conditions.

1.3 LANDOWNER COORDINATION

Dairyland works cooperatively with landowners before, during, and after the construction process regarding easements, rights-of-way, structure locations, restoration, and maintenance. This coordination and cooperation are in recognition of the fact that, in most locations under private ownership, Dairyland 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 ROW, will continue 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 ROW restored with turf grass that the landowner can mow, just like the rest of the parcel. In this way, a transmission line ROW is distinct from vegetation management for other types of energy infrastructure (for example, a solar farm where the project operator has exclusive control of the premises).

This Plan acknowledges that Dairyland does not have exclusive access to the easement and that the 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 Dairyland 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. When coordinating with landowners regarding restoration and maintenance practices, Dairyland will also discuss the use of native and/or pollinator vegetation with landowners, where desired and practicable.

1.3.1 Landowner Notifications

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

- The ROW will be staked indicating the extent of clearing 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 ROW.

- All unwanted materials will be removed from the landowner's property.

- Herbicides to prevent regrowth of woody vegetation may be used, the method of application, and the opportunity for them request that no herbicides be used (**Section 4.4.2.4**).

2. PROJECT DESCRIPTION

2.1 ENVIRONMENTAL SETTING AND EXISTING CONDITIONS

The Proposed Route occurs over varying topography. The southwestern 8.5 miles of the Proposed Route occurs over hilly terrain ranging in elevation from approximately 1,100 to 1,200 feet. The Project then decreases in elevation from approximately 1,100 feet to 700 feet from MPs 8.5 to 9.7. The remaining portion of the Project, MPs 9.7 to 13.3 is generally flat with a minor decrease in elevation from 700 feet to 680 feet.

Flora can be generally characterized for the Project area using the Ecological Classification System.[1] The system was developed by the MDNR and U.S. Forest Service for ecological mapping and landscape classification. The Project falls within Blufflands subsection. Pre-settlement vegetation was comprised of tallgrass prairie and bur oak savanna on ridge tops and dry upper slopes. Red oak-white oak-shagbark hickory-basswood forests were present on moister slopes, and red oak-basswood-black walnut forests in protected valleys. Prairie was restricted primarily to broader ridge tops, where fires could spread, but also occurred on steep slopes with south or southwest aspect.

Dairyland's Proposed Alignment is 71% collocated with existing electric distribution, road, and railroad corridors. There is some developed/commercial land as the Project nears Kellogg and the Canadian Pacific Railroad, and the majority of the Proposed Route occurs in agricultural areas. There are no organic farms crossed by the Project. Because the Proposed Alignment would be collocated with existing infrastructure and in agricultural land use areas, the majority of the ROW has already been cleared. Dairyland estimates only approximately 14.4 acres of tree clearing would be required.

The Proposed Alignment would cross 10 rivers and streams, including Gorman Creek, a public water managed by the MDNR. Gorman Creek is identified as an impaired water for Aquatic Macroinvertebrate Bioassessments and is further listed under the draft 2024 data as impaired for Fishes Bioassessments. The next closest impaired water is the Zumbro River. The Zumbro River is approximately 0.3 mile east of the Kellogg Substation and was listed in 2022 and is proposed for relisting in 2024 as impaired for Fecal Coliform, Mercury in Fish Tissue, PCB in Fish Tissue, and Turbidity.

The Proposed Alignment and associated ROW would also cross forested and emergent wetlands. The Proposed Alignment (centerline) would cross approximately 885 feet of wetlands, and the 100-foot-wide ROW would cross approximately 2,390 feet of wetlands.

In addition, the Project crosses the Minnesota Biological Survey (MBS) McCarthy Lake site with a "High" ranking. Dairyland will coordinate with the MDNR regarding any specialized restoration and maintenance measures at this location.

[1] MDNR, 2024. Ecological Classification System. See: https://www.dnr.state.mn.us/ecs/index.html

2.2 TRANSMISSION LINE

2.2.1 ROW Requirements

The Project will require a 100-foot-wide ROW that will be used to construct the transmission line and will be permanently maintained for the life of the transmission line (as further described in **Section 7.0**). The transmission line ROW is generally 50 feet either side of the centerline for a total width of 100 feet. Where the transmission line parallels roads, the transmission line structures are typically installed one to five feet outside of road ROW, resulting in approximately 55 feet of ROW needed outside of the road ROW. All structures will be self-supporting; therefore, no guying will be required.

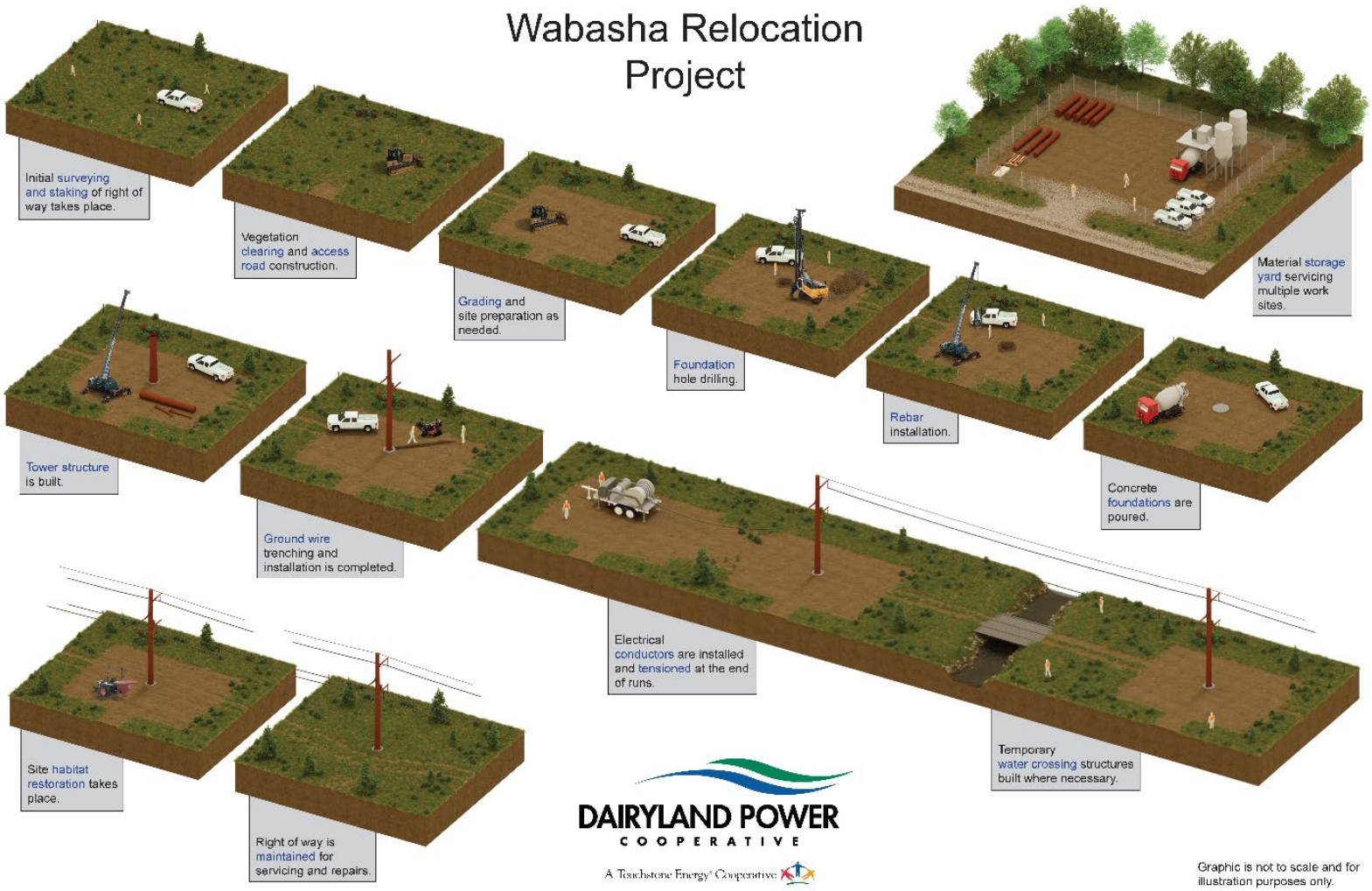
Additional temporary workspace (ATWS) beyond the 100-foot-wide ROW may be required at certain locations, such as road or railroad intersections, utility crossings, along steep slopes, and at stringing locations. In addition, there will be temporary staging of materials such as structures and hardware along the ROW prior to construction installation. Dairyland will avoid the placement of additional temporary workspace in wetlands and near waterbodies as practicable.

2.2.2 Construction Sequence

Construction of an overhead transmission line requires several different activities at any given location. **Diagram 2-1** and **Section 3.0** describe the major construction activities and approximate sequence.

- Surveying and Staking
- Install temporary erosion and sediment control BMPs
- Mobilization and Preparation of Staging / Laydown Yards
- Develop Temporary Access Roads
- Vegetation Clearing
- Establish Travel Lanes and Bridge Installation within the ROW
- Grading, Excavation, and Foundation Installation
- Structure Setting
- Wire Stringing and Clipping
- Removal of Existing Facilities
- Cleanup and Restoration of ROW

Figure 2-1. Transmission Line Construction Sequence



2.3 KELLOGG SUBSTATION

The Kellogg Substation facilities are proposed to be sited on a 10.8-acre parcel of land. Approximately 4 acres of the site will be used for the substation, access drive, and stormwater drainage features.

Site preparation would include installing erosion and sediment control BMPs, stripping topsoil, and hauling in structural fill to build up the subgrade for the substation pad. Once the substation pad is built to the subgrade, all areas will be restored, and the site will be ready for use. This work will occur the year prior to transmission line and substation construction to allow for one winter to allow the ground to settle.

Construction within the newly prepared substation pad will consist of drilled pier foundations ranging in size from three to seven feet in diameter and 10 to 35 feet deep. The foundations will be installed to support transmission line dead-end structures, static masts, and bus and equipment support structures. Slabs-on-grade eight feet square by two feet thick will be used for 161-kV circuit breakers, and six-foot square by two feet thick will be used for 69-kV circuit breakers. The control building will be on a 20-foot by 40-foot- by 1-foot-thick concrete slab. Transformer and reactor secondary oil containment will be a concrete-lined pot filled with stone. Conduit for control and communication cables and grounding conductor will be installed prior to the placement of the final layer of crushed rock surfacing. The ground grid will be installed 18 inches below the subgrade surface throughout the substation pad and extend four feet outside the substation security wall.

3. CONSTRUCTION PROCEDURES

3.1 SURVEYING AND STAKING

All construction equipment and vehicles will be confined to the approved construction workspace (i.e., ROW) and ATWS. Prior to the commencement of clearing activities, civil survey crews will flag or stake the boundaries of the construction workspace and improved access roads in a manner that ensures all individuals can readily identify the boundaries of the authorized construction limits and to ensure that construction activities will only occur in areas authorized. In addition, Dairyland will install signs or flagging for the following environmental features along the construction workspace and access roads so they can be easily identified by Project personnel and managed as described in applicable permit applications:

- wetland boundaries and waterbody crossing locations;
- drainages/drain tiles as identified by counties and landowners;
- hiking and hunter walking trails, snowmobile and all-terrain vehicle (ATV) trails, winter access roads, or other recreational areas as required by permit conditions;
- buffer zones for environmentally sensitive features, including archaeological and historic sites, bald eagle nests, rare plant or ecological communities, and other sensitive wildlife species and/or habitat per agency consultations (note that the signs will not disclose the specific location and/or species or feature type where laws require data protection).

These activities are generally completed by a two-person crew travelling by foot, ATV, or pick-up truck.

3.2 STAGING / LAYDOWN YARDS

Initially, labor and equipment will be mobilized to prepare laydown yards for temporary trailer(s) and security measures to receive materials, storage containers, portable toilets, dumpsters, construction mats, tools, and equipment. Activities involved to prepare the staging / laydown yards include installation of erosion and sediment control BMPs, any grading/leveling of uneven surfaces, stripping, and stockpiling of topsoil (if necessary), and installation of gravel, tracking pads near entry/exit, if needed, installation of culvert(s), power, and fencing. This work is generally completed using equipment such as a bulldozer and dump trucks. The disturbance from the laydown yard is dependent on soil type and topography. Depending on landowner preferences, laydown yards may be left in place or returned to prior conditions following construction activities. Dairyland typically will locate staging / laydown yards in sites that have been previously disturbed (e.g., existing yards, parking lots, quarries).

3.3 TEMPORARY ACCESS ROADS

To provide temporary access to the construction workspace, Dairyland will maintain existing roads, improve existing trails or roads, or build new roads as needed and as approved through applicable permits and leases. Road improvements may include tree trimming, tree clearing, road grading, widening and fill placement. The travel surface of the access road is generally 20 to 25 feet wide. The total amount of disturbance of the road (cut slope to base of the spoils slope) is dependent on

soil type and topography. Access road improvement activities are generally completed using equipment such as a bulldozer, track-hoe, skid-loader, and dump trucks.

Typically, gravel will only be added to maintain existing roads that have an existing gravel road base, or to develop permanent access roads, if needed. Dairyland may use construction mats or rock on top of geotextile fabric, with or without a flume/culvert as appropriate depending on site conditions, to construct or widen access roads at intersections with other roads or the construction workspace. Gravel on top of geotextile fabric will only be used on approaches to construction workspace and not within construction workspace. Mats, rock, geotextile fabric, and flume/culverts will be removed after construction and the area will be restored to pre-construction conditions following construction.

Only construction mats will be used cross wetland features; construction mats will be removed after completion of construction activities.

After construction, Dairyland will return improved roads to their pre-construction condition unless the road authority, landowner, or land-managing agency requests that the improvements be left in place and the following conditions are met:

- The access road does not cross wetland features;
- No new temporary bridge/culverts were installed at waterbody features crossed by the road;
- Gravel fill was not added from originally non-gravel roads.

Restoration of temporary access roads will proceed as described in **Section 3.3**. Regardless of landowner, road authority, or land-managing agency preference, all temporary infrastructure in wetlands or waterbodies (e.g., bridges, construction mats, and/or other fill material) must be removed as required by applicable permits and authorizations.

3.4 VEGETATION CLEARING

To facilitate construction equipment access and ensure safe clearances between vegetation and the transmission line, all vegetation will be cleared for the full width of the ROW. Clearing may be accomplished with mechanical equipment such as mechanized mowers, sky trips, process harvesters, feller bunchers or brush cutters. In areas where clearing with large equipment is not viable, clearing will be done with hand tools such as chain saws or other hand tools.

All merchantable timber will be managed in accordance with landowner agreements and applicable permits and licenses. Trees, trunks and/or limbs cut on private property are typically cut to approximately 10-foot lengths unless the landowner requests longer lengths. All materials a landowner has requested to keep are stacked outside the ROW. All materials a landowner does not wish to keep are stacked inside the ROW 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. The balance of materials will likely be disposed of at the Wabasha County Landfill or another appropriate location, to be determined by the clearing contractor.

Unless otherwise agreed upon between Dairyland and the applicable landowner or land-managing agency, non-merchantable timber and slash will be disposed of by mowing, cutting, chipping, mulching and left in upland areas, and/or hauling off-site to an approved location or used in stabilizing erodible slopes or construction entrances. In non-agricultural, non-wetland areas, chips, mulch, or mechanically cut woody debris may be uniformly broadcast across the construction workspace in a manner that avoids inhibiting revegetation. This material may also be incorporated into the topsoil layer during grading activities, with landowner approval. Chips, mulch, or mechanically cut woody debris shall not be stockpiled in a wetland.

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 as long as the chips/mulch will not exceed one inch in depth. If sufficient brush is present such that debris will exceed one-inch, sufficient brush will be hauled out for processing in an upland area.

Vegetation within the ROW will be cut at or slightly above the ground surface. Any tree stumps or surface roots in managed turf grasses (e.g., residential areas) 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. Dairyland does not typically grub stumps or roots to minimize soil impacts and erosion potential; however, stump removal may be necessary in some locations to facilitate the movement of construction vehicles, or when reasonably requested by the landowner.

Burning of non-merchantable wood may be allowed only where the applicable permits and approvals (e.g., agency and landowner) have been acquired and in accordance with all state and local regulations. Burning is not allowed in wetlands. Burning within 100 feet of a wetland or waterbody is prohibited without site-specific approval in advance from Dairyland and in accordance with applicable permits and/or approvals.

3.5 TRAVEL LANES

Dairyland will establish a travel lane within the ROW to allow for the safe passage of construction vehicles and equipment. Construction mats will be placed along the travel lane within delineated wetlands within the construction workspace and along access roads to minimize ground impacts and provide access. Construction mats may also be used in other conditions, such as unstable soils, as needed. Most mat travel lanes will be 16 to 20 feet wide. Mat travel lanes are typically a single layer; however, there may be cases in saturated areas where more than one layer of mats must be placed to provide a stable working surface. Dairyland may use multiple mat configurations in inundated areas depending upon the depth of inundation and presence of channelized flow to maintain surface flow. Dairyland may use the following types of construction mats:

- Composite Mats: Composite mats are built out of high-density polyethylene material. Mats are typically 4 inches thick and 8 feet wide by 14 feet in length. Mats are interlocking, have a treaded traction surface, are flexible and extremely durable. These mats are also typically lighter in weight than traditional timber mats. Heavy duty mats are able to support construction equipment of all types, sizes, and weights, with load-bearing capabilities up to 600 pounds per square inch. Light duty mats are also available.

- Timber Mats: Timber mats are available in a variety of sizes and are constructed of hardwood materials that are bolted together. No individual timbers will be used. Timber mats are suitable for all vehicle types present on the construction workspace, have high durability under traffic, and are easily installed and removed using typical construction equipment. Timber mats are suitable for use in all soil conditions for all pipeline construction activities.

- Laminated Mats: Laminated mats are available in a variety of sizes and are constructed of laminated wood materials. Laminated mats are suitable for all vehicle types but are limited in their weight bearing capacity (e.g., 600 pounds per square inch). They have high durability and are easily installed and removed using typical construction equipment. Laminated mats are suitable for use in most soil conditions but should not be used in extremely saturated conditions. Laminated mats can be used on access roads, at drill pads, and for storage and staging of equipment.

Construction mats will be installed with rubber-tired grapple trucks, forwarders, forklifts, or skid loaders. Vegetation clearing crews will typically bring mats with the mechanized equipment and "leap frog" the mats forward as clearing progresses. The installation of the line will be completed in segments with mats being moved and used in other segments as construction progresses.

3.6 TEMPORARY BRIDGES

Temporary bridges or culverts will typically be used to cross waterbodies from top of bank to top of bank with stable banks. Equipment bridges and culverts will be designed to meet the requirements of the applicable agencies and local authorities. Bridges will not restrict flow or pool water while the bridge is in place and will be constructed with clean materials. Bridges will be designed to prevent soil from entering the waterbody. Fording of waterbodies is prohibited (i.e., civil survey, potholing, or other equipment are not permitted to ford waterbodies prior to bridge or culvert placement).

Equipment bridges and culverts will be maintained in accordance with the applicable permits. Debris or vegetation that becomes lodged on the bridge support will be removed and disposed of in an upland area. Bridges will be maintained to prevent soil from entering the waterbody. Soil that accumulates on the bridge decking will be removed daily, or as deemed necessary by the Dairyland.

Equipment bridges will be removed during final cleanup or, if access is needed, after final cleanup and permanent seeding. Bridge decking will be removed to ensure sediment and debris are collected by geotextile fabric secured below decking during bridge construction. Subsequently, geotextile fabric will be removed to prevent debris from entering the waterbody.

Once the bridge is removed, Dairyland will conduct additional seeding and/or implement erosion and sediment control BMPs, as needed. Dairyland will follow the restoration procedures described in **Section 5.0**.

3.7 GRADING, EXCAVATION AND FOUNDATION INSTALLATION

3.7.1 Grading and Topsoil Segregation

Prior to foundation installation, Dairyland will install a construction mat platform generally 40 feet by 40 feet around the structure location to ensure a level and safe working area. In areas with uneven terrain, Dairyland may grade this area. Where grading is required, Dairyland will strip the topsoil layer and potentially into the subsoil layer and store the topsoil and subsoil separately within the ROW. Gaps will be left and erosion and sediment control BMPs installed where stockpiled topsoil and subsoil piles intersect with water conveyances (i.e., ditches, swales) to maintain natural drainage. A minimum 1 foot of separation will be maintained between the topsoil and subsoil piles to prevent mixing. Where the 1-foot separation cannot be maintained due to space constraints, a physical barrier, such as a thick layer of mulch or silt fence, between the topsoil and subsoil piles may be used to prevent mixing.

3.7.2 Excavation

Excavation is required for all structures whether they are direct-embedded or use reinforced concrete foundations. In general, the excavated holes for each type of foundation will range from five to 10 feet in diameter and 20 to 50 feet in depth, or greater, depending on soil conditions. The method of installation, diameter and depth of the foundation will vary depending on the soil capability and structure loadings. For direct-embedded poles, a hole will be excavated to the appropriate depth.

3.7.3 Foundation Installation

The base of the structure will be placed into the excavated hole or, if soils are unstable, into a culvert, the area around the pole will be backfilled with clean granular fill or concrete. For structures requiring a reinforced concrete foundation, the required hole will be excavated, and a rebar cage and anchor bolts will be placed into the excavation. The excavation will then be filled with concrete to a point where the rebar cage and anchor bolts are covered leaving a typical one to two-foot reveal of the foundation above grade with exposed threaded anchor bolts. The complete caisson will then be allowed to cure. Typical equipment for this phase of construction would include dump trucks, drill rigs, cranes, vacuum trucks, concrete mixers, and tanker trucks.

3.7.4 Construction Dewatering and Discharge

In areas with high water tables, or where water is needed to stabilize the hole during drilling, it may be necessary to dewater the excavation. Dairyland will typically utilize portable pumps to dewater the excavation; the number and size of pumps employed will be based on the volume of water to be removed from the trench.

Prior to initiating dewatering activities, Dairyland will approve the water discharge plan to ensure that erosion and sediment control BMPs are applied in such a way as to minimize the potential for water containing sediment from reaching a wetland or waterbody. Furthermore, landowner approval is required in advance of placement of dewatering structures outside of the approved construction workspace. Dewatering structures will be sited to avoid environmental resources that may be affected by the discharge, such as federally- or state-listed species. Dairyland will utilize

the figures accompanying the SWPPP in addition to site-specific conditions at the time of dewatering to assess each water discharge situation, including soil type, contours, proximity to wetland and waterbody features, and existing vegetative coverage.

Typically, water will be directed to a well-vegetated upland area through a geotextile filter bag. Geotextile bags will be sized appropriately for the discharge flow and suspended sediment particle size. Where the dewatering discharge point cannot be located in an upland area due to site conditions and/or distance, the discharge will be directed into a straw bale dewatering structure designed based on the maximum water discharge rate. A straw bale dewatering structure will be used in conjunction with a geotextile filter bag to provide additional filtration near sensitive resource areas.

Appropriation and discharging activities will follow applicable regulations and permit requirements to ensure compliance with Minnesota water quality standards.

3.8 STRUCTURE SETTING

For base plate structures (mounted on concrete foundation), the above-grade structure would be placed on the anchor bolt pattern, leveled, and tightened down. For direct-embedded structures, the base section would be installed, leveled, and backfilled with granular or flow-able fill. After that, the top section or sections will be installed. At each section, hydraulic jacking systems are typically used to slide the joints together to the engineered and fabricated tolerances. Equipment used for this phase of construction would include cranes and bucket trucks at each structure location.

3.9 WIRE STRINGING AND CLIPPING

Once there are a sufficient number of structures set consecutively in a row to support a wire pull, the equipment for the wire pull is mobilized to the pull area and is set up. The conductor and static wires are then pulled and clipped into place. This stringing and clipping activity requires access to each structure with a bucket truck, crane, or helicopter. Other handling equipment used for this phase of construction includes reel trailers, wirepullers, and related stringing equipment.

Wire stringing areas or wire pulling areas are approximately 40 feet by 300 feet. At a minimum, at each wire pulling area, matting will be placed under wire equipment for construction grounding purposes. Incidental matting will also be required at most road crossings. Matting will be removed by similar equipment used for installation as each wire pull or construction segment is completed.

3.10 REMOVAL OF EXISTING FACILITIES

Where replacing or overbuilding existing transmission circuits, the existing structures and wire will be removed. The removed materials will be evaluated to determine their appropriate disposal. Typical equipment used includes cranes, bucket trucks, reel trailers, wirepullers, and related stringing equipment. Where existing transmission structures are to be removed, it is common practice to remove the structure to a depth of at least 4 feet below grade; however, in some cases the structure may be cut off at grade. The determination will be site specific and will be based on the type of structure, land use at the site, and construction vehicle access constraints.

3.11 CLEANUP AND ROUGH/FINAL GRADING

All waste materials, including litter generated by construction crews, will be disposed of daily. Initial cleanup and rough grading activities may take place simultaneously. Cleanup involves removing construction debris (including litter generated by construction crews and excess rock) and large woody debris and repairing/replacing fences or other infrastructure removed or damaged during construction as agreed upon with the landowner or land-managing agency.

Rough grading includes restoring disturbed subsoil to as near as practicable to pre-construction conditions and decompacting subsoil (where applicable) (**Section 5.1**). Final grading consists of returning the topsoil where topsoil has been stripped and final contouring to near as practicable to pre-construction conditions. This includes repairing any rutting observed along the ROW. Any remaining excess subsoil from excavations will be removed and disposed of at an approved off-site location as needed to ensure contours are restored to as near as practicable to pre-construction conditions. For temporary access roads that are not to be left in place per landowner agreement or permits and authorizations, the road area will be graded to near as practicable to pre-construction conditions. Dairyland will then prepare the seedbed and install or repair erosion control measures.

Construction mats and temporary bridges will be removed once restoration activities have been completed and access is no longer required to the ROW.

4. CONSTRUCTION MITIGATION MEASURES

4.1 TEMPORARY EROSION AND SEDIMENT CONTROL BMPS

Dairyland will limit ground disturbance activities to the areas around pole structures along the transmission lines, along access roads where needed, and at the new Kellogg Substation. Dairyland will prepare a SWPPP in accordance with the General Permit. As required by the General Permit, the SWPPP will describe the timing for installation of all erosion prevention and sediment control BMPs, include the location and type of temporary and permanent erosion and sediment control BMPs, along with the procedures used to establish additional temporary BMPs as necessary for the site conditions during construction. The SWPPP will identify all surface waters, existing wetlands, and stormwater ponds or basins that will receive stormwater from the construction site, during or after construction, and will identify special or impaired waters. The SWPPP will also include a description of the permanent stormwater treatment system that will be installed at the Kellogg Substation.

Temporary erosion prevention and sediment control BMPs, also referred to as erosion control devices (ECDs), include but are not limited to sediment barriers (e.g., silt fence, certified weed-free straw bales, bio-logs), filter socks, certified weed-free mulch, upslope diversions, slope breakers (earthen berms), and revegetation subsequent to seeding of exposed soils. The equipment used during installation of erosion and sediment control BMPs typically includes ATVs and trucks for crew transportation, as well as skid loaders, tractors, backhoes, hydro-seeders, and other light-duty equipment.

Dairyland will maintain ECDs as required in the Project construction documents and as required by all applicable permits, including the SWPPP. Stormwater inspections of temporary ECDs will occur at least once every 7 calendar days and within 24 hours after a rainfall event of 0.5 inch or greater. Non-functional ECDs will be repaired, replaced, or supplemented with functional materials within 24 hours after discovery, or as otherwise specified in project permits. If silt fence is used, when the depth of sediment reaches about one-half of the height, the sediment will be removed.

Temporary ECDs will be installed prior to or at the same time as ground disturbing activities (e.g., grading, excavation) at the base of sloped approaches to streams, wetlands, water conveyances (e.g., ditches, swales) and roads. Temporary ECDs will also be installed at the edge of the construction workspace as needed, and/or in other areas to slow water leaving the site and prevent siltation of waterbodies and wetlands downslope or outside of the construction workspace (e.g., swales and side slopes). Temporary ECDs will be placed across the entire construction workspace at the base of slopes greater than 3 percent and at site-specific locations identified in the SWPPP until the area is revegetated and there is no potential scouring of, or sediment transport to surface waters. Adequate room will be available between the base of the slope and the sediment barrier to

accommodate ponding of water and sediment deposition. Temporary ECDs will be maintained until permanent cover[2] is established.

Temporary ECDs installed across the travel lane may be removed during active daytime construction; however, ECDs will be properly reinstalled after equipment passage, or activities in the area are completed for the day. These ECDs will also be repaired and/or replaced prior to inclement weather when forecasted. Dairyland is responsible for monitoring weather conditions and adjusting resources as needed to address pending and/or existing weather conditions.

4.2 EROSION PREVENTION

During construction, certain activities may be suspended in wet soil conditions, based on consideration of the following factors:

- extent of surface ponding;
- potential for rutting, defined as the creation of linear depressions made by tire tracks of machinery that results in the mixing of topsoil and subsoil;
- extent and location of potential rutting and compaction (i.e., can traffic be rerouted around wet area); and
- type of equipment and nature of the construction operations proposed for that day.

Dairyland will monitor upcoming weather forecasts to determine if significant rainfall is anticipated during construction, and will be responsible for appropriately planning work, considering the potential for wet conditions, and being prepared to implement mitigation measures in the event of wet weather conditions and/or excessive waterflow. Dairyland will also be responsible for implementing any and all such corrective measures deemed necessary should conditions subsequently worsen where the above described criteria cannot be met. Dairyland will cease work in the applicable area until Dairyland determines that site conditions are such that work may continue in conformance with the required regulatory authorizations.

4.3 TEMPORARY STABILIZATION

Stabilization[3] of all exposed areas, including spoil piles, must be initiated immediately[4] to limit soil erosion when construction activity has permanently or temporarily ceased on any portion of

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[2] 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 native background vegetative cover 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 Rules 7090).

[3] Stabilization means that the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, mats or other material that prevents erosion from occurring. Grass seeding, agricultural crop seeding, or other seeding alone is not stabilization. Mulch materials must achieve approximately 90 percent ground coverage (Minnesota Rules 7090).

[4] Initiated immediately means taking an action to commence soil stabilization as soon as practicable, but no later than the end of the work day, following the day when the land-disturbing activities temporarily or permanently cease, if permittees know that construction work on that portion of the site will be temporarily ceased for 14 or more additional calendar days or 7 days when within 1 mile of a special or impaired water (Minnesota Rules 7090).

the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed no later than 14 calendar days after the construction activity has ceased.

In areas within 1 mile of, and draining to, a special or impaired water, stabilization measures will be initiated immediately and completed within 7 calendar days whenever construction activity has permanently or temporarily ceased on any portion of the site. Areas of the Project where this timing restriction applies will be clearly defined on the figures accompanying the SWPPP.

On portions of the Project where work will be occurring during applicable "work in water restrictions" for Public Waters (i.e., Gorman Creek), all exposed soil areas within 200 feet of the water's edge, and that drain to that water, will be stabilized within 24 hours during the fishery restriction period (March 1-June 1)[5]. Stabilization of all exposed soils within 200 feet of the public water's edge, and that drain to that water, will be initiated immediately and completed within 7 calendar days whenever construction activity has permanently or temporarily ceased on any portion of the site outside of the restriction period. These areas will be identified on the figures accompanying the SWPPP.

4.3.1 Mulch

Dairyland will stabilize exposed ground surfaces within the periods described in **Section 4.3**. In most cases, Dairyland will utilize mulch (certified weed-free straw,[6] wood fiber hydromulch, or a functional equivalent) to disturbed areas (except for actively cultivated land and most wetlands) as required by the applicable permits and authorizations, and as approved by the landowner or land-managing agency. Other stabilization methods, such as staked sod, erosion control blanket[7], mats or other material that prevents erosion from occurring may be used as appropriate based on site-specific conditions.

Mulch will be applied to cover at least 90 percent of the ground surface unless otherwise stipulated by permit conditions. Mulch will be uniformly distributed by a mechanical mulch blower, or by hand in areas not accessible to the mulch blower. Strands of mulch shall be sized to allow proper anchoring. Mulch will be anchored/crimped using a mulch-anchoring tool or disc set in the straight position to minimize loss by wind and water, as site conditions allow. In areas not accessible to a mulch-anchoring tool or too steep for safe operation, the mulch may be anchored by liquid tackifiers. The manufacturer's recommended method and rate of application will be followed.

Hydro-mulch and liquid tackifier can be used in place of certified weed-free straw mulch with prior approval from Dairyland. All hydromulch and liquid tackifier products used will be on the

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[5] MDNR. 2014.. Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001 (4th Version). Available online at: https://files.dnr.state.mn.us/waters/watermgmt_section/pwpermits/gp_2004_0001_chapter1.pdf. Accessed February 2024.

[6] Minnesota Department of Transportation. 2020. Standard Specifications for Construction 2020 Edition (Volume 1) 3882 Type 1 or 3 specifications: 2020 Standard Specifications Volume 1-12292450-v2.PDF. Accessed February 2024.

[7] Dairyland will consider the MPCA recommendation of using "wildlife friendly" natural fiber or 100 percent biodegradable materials that use loose-weave with a non-welded, movable jointed netting. Dairyland will avoid square plastic netting that are degradable (e.g., photodegradable, UV-degradable, oxo-degradable), netting made from polypropylene, nylon, polyethylene, or polyester.

applicable state MnDOT product list. Hydro-mulch and liquid tackifier products containing plastic/polypropylene fiber additives and Malachite Green (colorant) will not be utilized on this Project. Application rates will be at the manufacturer's recommended rate. Dairyland may use hydromulch on steep slopes to prevent erosion until permanent cover has been established.

4.3.2 Temporary Slope Breakers

Temporary slope breakers will be installed to minimize concentrated or sheet flow runoff in disturbed areas. The following maximum allowable spacing unless otherwise specified in permit conditions.

Slope (%)	Approximate Spacing (feet)
3-5	250
5-15	200
15-25	150
>25	<100

If the length of the slope is less than the distance of the required spacing, slope breakers are not required unless a sensitive resource area (e.g., wetland or public roadway) is located immediately down slope, or as determined to be needed by Dairyland. Temporary slope breakers may be constructed using earthen subsoil material, silt fence, certified weed-free straw bales, or in non-agricultural land, rocked trenches may be used. On highly erodible slopes, slope breakers in the form of earthen berms will be used whenever possible.

Temporary slope breakers will be constructed according to the following specifications:

- certified weed-free straw bales used as slope breakers will be trenched in and staked so as to not allow spacing between bales or allow flow underneath the bales;
- the outfall of temporary slope breakers will be directed off the construction workspace into an appropriate energy-dissipating sediment control device (e.g., filter sock, silt fence, straw bales, rock aprons, sumps) to prevent the discharge of sediments and the area will be inspected to ensure stabilization;
- proper slope breaker outfalls will be established where topsoil segregation and/or grading has created a barrier at the edge of the construction workspace;
- J-hook sediment traps will be installed at the perimeter of the erosion control zones on the downslope side of the construction workspace; and
- gaps will be created through spoil piles where necessary to allow proper out-letting of temporary berms.

4.4 MANAGEMENT OF INVASIVE AND NOXIOUS SPECIES

4.4.1 Applicable Laws and Regulations

Dairyland will minimize the potential for introduction and/or spread of invasive and noxious species (INS) along the construction workspace and temporary access roads due to construction activities in compliance with law and regulation. Management strategies will be implemented where applicable and appropriate prior to construction, and during Project construction and restoration. This Plan defines terrestrial plant INS as any species that is listed by the Minnesota Department of Agriculture (MDA) as Prohibited Noxious Weeds. Specifically, this includes documented occurrences of terrestrial plant INS that are listed as "eradicate"[8] or "control"[9] (see **Table 4-1**) under the "Prohibited Noxious Weed" category by the MDA.

Table 4-1. Minnesota Department of Agriculture Prohibited Noxious Weeds

Eradicate List		**Control List**	
Species	**Common Name**	**Species**	**Common Name**
Ailanthus altissima	Tree of Heaven	*Berberis vulgaris*	Common Barberry
Amaranthus palmeri	Palmer Amaranth	*Cardamine impatiens*	Narrowleaf Bittercress
Centaurea diffusa	Diffuse Knapweed	*Carduus acanthoides*	Plumeless Thistle
Centaurea jacea [a]	Brown Knapweed	*Centaurea x moncktonii*	Meadow Knapweed
Centaurea solstitialis	Yellow Starthistle	*Celastrus orbiculatus*	Round Leaf Bittersweet
Cynanchum louiseae	Black Swallow-wort	*Centaurea stoebe*	Spotted Knapweed
Cynanchum rossicume	Pale swallow-wort	*Cirsium arvense*	Canada Thistle
Digitalis lanata	Grecian Foxglove	*Conium maculatum*	Poison Hemlock
Dipsacus fullonum	Common Teasel	*Euphorbia esula*	Leafy Spurge
Dipsacus laciniatus	Cutleaf Teasel	*Lythrum salicaria*	Purple Loosestrife
Heracleum mantegazzianum	Giant Hogweed	*Pastinaca sativa* [a]	Wild Parsnip
Humulus japonicus	Japanese Hops	*Phragmites australis* ssp. australis	Non-native Phragmites
Linaria dalmatica	Dalmatian Toadflax	*Polygonum cuspidatum*	Japanese knotweed
Lonicera japonica	Japanese honeysuckle	*Polygonum sachalinese*	Giant knotweed
Sorghum halepense	Japanese Hops	*Polygonum x bohemicum*	Bohemian knotweed
		Tanacetum vulgare	Common Tansy

Notes:
Source: MDA, 2024. Minnesota Noxious Weed List. Available at: https://www.mda.state.mn.us/plants-insects/minnesota-noxious-weed-list. Accessed February 2024.
[a] Indicates species that have been documented in the proposed 100-foot-wide ROW based on MDNR Terrestrial Invasive Species Observations dataset (https://gisdata.mn.gov/dataset/env-invasive-terrestrial-obs).

[8] Prohibited noxious weeds placed on the noxious weed eradicate list are plants that are not currently known to be present in Minnesota or are not widely established. These species must be eradicated (Minnesota Statute §18.771 (b)(1)). This list is available at: https://www.mda.state.mn.us/plants-insects/minnesota-noxious-weed-list.

[9] Prohibited noxious weeds placed on the noxious weed control list are plants that are already established throughout Minnesota or regions of the state. Species on this list must be controlled (Minnesota Statute §18.771 (b)(1)). This list is available at: https://www.mda.state.mn.us/plants-insects/minnesota-noxious-weed-list.

At the public water (Gorman Creek) managed by the MDNR, the INS management objectives are to minimize the spread of documented occurrences of terrestrial plant INS that are: 1) listed as Noxious by the USDA; 2) listed as "Prohibited Noxious Weeds," "Restricted Noxious Weeds," or "Specially Regulated Plants" by the MDA; or 3) listed as invasive by MDNR Operational Order 113 . In addition, Dairyland will adhere to the requirements set forth by the MDNR Utility License to Cross Public Waters and Natural Heritage Review consultation process.

4.4.2 Standard BMPs

Dairyland will implement several standard BMPs that will limit the amount of disturbance associated with construction activities and assist with managing terrestrial INS infestations within Dairyland's ROW. Dairyland does not have the authority to treat INS outside of its ROW. Where land outside of the ROW contains a significant population of INS visible from the ROW, Dairyland will attempt to notify landowners and suggest management options for consideration. Dairyland will implement the following BMPs during construction:

- 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.
- Installing construction mats for travel lanes in wetlands and other locations as needed.
- 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 General Permit, including stabilization requirements, and inspection, maintenance and repair of erosion and sediment control BMPs. Certified weed-free straw or weed-free hay will be used for erosion and sediment control BMPs.
- All construction equipment must be clean prior to entering and before leaving the work site.
- Manual, mechanical, or chemical management of invasive and noxious weed infestations.

4.4.2.1 Installation of Construction Mats

Dairyland may install and work off of construction mats or equivalent to cover the INS source at locations where the infestation cannot be avoided. Construction mats will then be cleaned before use at another non-infested site as described in **Section 4.4.2.2**.

4.4.2.2 Cleaning Stations

Dairyland may establish cleaning stations to remove visible dirt and plant material from equipment and mats when exiting a known terrestrial INS infestation area along the construction workspace. Cleaning stations may also be implemented at staging/laydown yards, as needed to clean construction mats and equipment. Construction mats will be covered and contained in plastic tarps or geotextile fabric when they are transported and stored to minimize the spread of seeds.

Mechanical means (initial scrape down followed by blow down) will be the primary method used to remove dirt and plant materials from vehicles, equipment, and construction mats at the cleaning stations or construction yards.

4.4.2.3 Mowing

Spot mowing may be used during construction and restoration to control the spread of identified INS populations by cutting the vegetation before it goes to seed, and/or to allow native species the opportunity to establish.

4.4.2.4 Herbicide Application

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 ROW. 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 or land-managing agency 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 listed invasive or noxious weed species.

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 manufacturer'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.

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

4.4.3 Invasive Tree Pests

Invasive tree pests occur in the Project area, including the non-native emerald ash borer (*Agrilus planipennis*). Emerald ash borer larvae feed on all species of ash trees. Most of the species' life cycle occurs underneath the bark; early indications of infestation are bark removal or flecking from

woodpeckers that eat the larvae.[10] The Project occurs in the quarantine area for the emerald ash borer.[11]

Dairyland will clear forested vegetation in upland and wetland areas and will generally dispose of non-merchantable timber and slash by mowing, cutting, chipping, mulching and/or hauling off site to an approved disposal facility. Merchantable timber will be disposed of in accordance with contract specifications and applicable permits and licenses. In accordance with this quarantine, Dairyland will not transport felled ash (genus Fraxinus) trees or any processed parts (i.e., logs, chips, mulch, stumps, roots, branches) from a quarantine to a non-quarantine area.[12]

4.4.4 Oak Wilt

Oak wilt is caused by a non-native invasive fungus (*Bretziella fagacearum*), which invades and eventually kills the oak tree. Oak wilt has been identified in Wabasha County. Trees are most susceptible to the spread between April 1 to July 15; however, if daily high temperatures exceed about 60 degrees Fahrenheit or higher for six consecutive days, spread can occur.[13] In the event that a healthy oak tree adjacent to the construction workspace is damaged or wounded during construction activities, Dairyland will treat the cut surface with water-based paint, a pruning/wound sealer, or shellac to prevent further spread of the disease.

4.5 ORGANIC FARMS

There is one organic farm within the Proposed Route near MP 2.9; however, it is not crossed by nor directly adjacent to the Proposed Alignment and associated ROW.[14, 15] However, if Dairyland encounters a farm that is working toward certification or a landowner considers its farm to be organic, even if they are not certified, Dairyland will work with the landowner to minimize impacts. Special practices would be adhered to within and adjacent to these organic agricultural lands.

If Dairyland became aware of an existing or developing, unregistered organic farm within or adjacent to the right-of-way, Dairyland 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

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10. MDNR. 2024 Emerald ash borer. Available at: Emerald ash borer (EAB) | Minnesota DNR (state.mn.us). Accessed February 2024.
11. MDA. 2024. Emerald Ash Borer Quarantine. Available at: Emerald Ash Borer Quarantine | Minnesota Department of Agriculture (state.mn.us). Accessed February 2024.
12. MDA. 2024. Minnesota Department of Agriculture State Formal Quarantine: Emerald Ash Borer (Version 33). Available online: https://www.mda.state.mn.us/sites/default/files/docs/2024-01/Formal%20EAB%20Quarantine%20Morrison%20County.docx_.pdf. Accessed February 2024.
13. MDNR. 2024. Oak Wilt. Available at: https://www.dnr.state.mn.us/treecare/forest_health/oakwilt/index.html. Accessed February 2024.
14. https://www.mda.state.mn.us/organic-farm-directory-county
15. https://organic.ams.usda.gov/integrity/

- 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.

- 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 USDA organic practices [16] 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 USDA organic practices to the extent feasible.

5. RESTORATION

As previously described, areas of ground disturbance will be limited mainly to structure locations and along temporary access roads. Although Dairyland will cut tall vegetation along the full width of the ROW, vegetation and root stock will remain during construction. Therefore, restoration activities will be limited to:

- Inspecting, maintaining, repairing, and replacing temporary erosion and sediment control BMPs until permanent cover is achieved (see **Section 6.0**).

- Conducting decompaction in areas where temporary access roads were developed and where grading occurred on the ROW, as needed.

- Install permanent erosion and sediment control measures where needed.

[16] https://www.ams.usda.gov/publications/content/fact-sheet-introduction-organic-practices

- Applying temporary seed mix to minimize erosion potential to the extent practicable.

- Permanent seeding non-agricultural areas disturbed by transmission line structures to prevent runoff.

- Removal of construction mats and temporary bridges after restoration activities are complete.

5.1 DECOMPACTION

After rough grading and before topsoil replacement, Dairyland will decompact the subsoil in actively cultivated areas to relieve soil compaction and promote root penetration. Decompaction may also occur on improved upland temporary access roads as appropriate. To alleviate soil compaction, Dairyland will decompact the area prior to topsoil replacement with a deep tillage device or chisel plow if agreed to by the landowner or land-managing agency. Soil conditions must be dry enough to shatter the compacted soil between the points of a subsoiler or chisel plow to lower the bulk density of soil and reduce compaction. Soil at the compacted depth must not be wet and plastic at the time of tilling, otherwise it will not reduce compaction. If subsequent construction and cleanup activities result in further compaction, the measures described above will be completed a second time to alleviate the soil compaction.

After topsoil replacement, the soil will be tilled with a disc or rolling harrow, drag harrow, Harley rake, field cultivator, or chisel plow (or equivalent) to break up large clods and to prepare the soil surface. Suitable conditions generally include a firm soil surface that is not too loose or too compacted and will be prepared to accommodate the seeding equipment and method to be used.

5.2 PERMANENT EROSION AND SEDIMENT CONTROL BMPS

During final grading, slopes in areas other than cropland will be stabilized with erosion and sediment control BMPs (i.e., ECDs). With exception for actively cultivated areas, permanent berms (diversion dikes or slope breakers) will be installed on slopes where ground disturbance has occurred, or where otherwise deemed necessary, according to the following maximum spacing requirements unless otherwise specified in permit conditions.

Slope (%)	Approximate Spacing (feet)
5	250
>5-15	200
15-25	150
>25	<100

Permanent berms will be constructed according to the following specifications:

- Permanent berms will be installed with a 2 to 4 percent out slope.

- Permanent berms will be constructed of compacted earth, stone, or functional equivalent in conformance with the required regulatory authorizations and all applicable regulations governing this activity.

- The outfall of berms will be diverted into an appropriate energy-dissipating sediment control device (e.g., filter socks, silt fence, straw bales) until permanent cover is established to prevent discharge of sediment. Berms will be extended slightly beyond the edge of the construction workspace if possible; however, only with the appropriate sediment capturing device. Outfalls will be inspected to ensure stabilization.

- Permanent berms will be inspected and repaired as deemed necessary by Enbridge to maintain function and prevent erosion.

5.3 EROSION CONTROL BLANKETS

The appropriate class of erosion control blanket will be installed in accordance with manufacture recommendations and/or MnDOT specifications on slopes greater than 33 percent that drain to surface waters, and at other locations based on site-specific conditions. Installation of erosion control blankets and additional erosion and sediment control BMPs may occur after first snowfall depending on construction progress, seasonal weather, and site conditions. Erosion control blankets will be installed running parallel (up and down) with the direction of the slope (not perpendicular).

Dairyland will consider the MPCA recommendation of using "wildlife friendly" natural fiber or 100 percent biodegradable materials that use loose-weave with a non-welded, movable jointed netting. Dairyland will avoid square plastic netting that are degradable (e.g., photodegradable, UV-degradable, oxo-degradable), netting made from polypropylene, nylon, polyethylene, or polyester.

5.4 PROJECT SEED SPECIFICATIONS

Seed used will be purchased on a "Pure Live Seed" (PLS) basis for seeding (both temporary and permanent) revegetation areas. Dairyland will arrange for the appropriate storage of the seed. Dairyland will utilize yellow tag seed, which is certified by the Minnesota Crop Improvement Association, when it is available. Seed tags will identify:

- name of mixture;
- lot number;
- weed seed percentage;
- other crop percentage;
- inert matter percentage;
- noxious weeds by name and number per pound;
- net weight; and
- labeler's name and address.
- In addition, for each component in the mix the following information must be included on the label:
- kind;
- variety;
- pure seed percentage;
- germination percentage;

- hard seed percentage;
- dormant seed percentage;
- total viable percentage;
- origin; and
- test date.

Seed will be used within 5, 12, or 15 months of testing as required by applicable laws and regulations. The seed tags on the seed sacks will also certify that the seed is "Noxious Weed: None Found." The label must show any noxious weed seed by name and number per pound. If none were found in testing, then the label should state "Noxious Weeds: None Found." Any Amaranthus seeds found in the purity and/or noxious exam must be tested using a genetic test to determine if Palmer amaranth is present. If Palmer amaranth is identified in testing, the seed is not legal for sale in Minnesota. Seed rates used on the Project will be based on PLS rate, not actual weight basis. Therefore, to determine the correct application rate if not indicated on the seed tag, a correction calculation will be performed based the purity and total germination.[17] For example, a seed mix that has a specified 10 pounds PLS per acre, 95 percent total germination rate, and is 80 percent pure needs to be applied at the following rate:

(95% total germination × 80% purity)/100 = 76% PLS

10 pounds PLS per acre/.76% PLS = 13.2 pounds per acre actual seeding rate

The species components of individual mixes are subject to availability at the time of purchase. Grass species may be substituted with alternative native or non-invasive species that are included in the Natural Resources Conservation Service guidelines in conformance with the required regulatory authorizations. Any seed substitution must meet all the Project requirements as outlined. The seed tag must always reflect the species in the container and reflect any substitutions.

Seed tags will be collected during seeding activities. The tags will be reviewed by the Dairyland prior to installation to ensure that the seed mix complies with regulations and Dairyland specifications and that it is being applied to the correct location. Seed tags will be maintained for a minimum of 2 years after seeding along with planting records for each specific location. If bulk delivery of seed is made, the above information will still be made available to Dairyland. Off-loading/on-loading of seed will not be performed in a designated wetland area. Dairyland will notify the Minnesota Department of Agriculture, Minnesota Seed Regulatory Program Coordinator so that seed lots may be sampled and tested to confirm compliance with Minnesota Seed Law, as necessary.

Legume seed (if used) will be treated with an inoculant specific to the species and in accordance with the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydroseeding).

Fertilizers and other soil amendments are not recommended and will only be applied as requested by and agreed to in ROW negotiations with individual landowners.

[17] Percent total germination = (germination + hard seed + dormant).

5.5 SEEDING METHODS

Seed will be applied uniformly at specified rates by broadcasting, hydroseeding, or drill seeding. Dairyland will ensure that the seeding equipment is appropriate for the seed mix and is capable of dispensing native seeds without plugging or unevenly distributing the seed. In order to minimize ground disturbance along the entire corridor, forested areas are being cleared, but roots and stumps are being 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 preparing seedbeds with small rakes, and surface packing after seeding. Activities will be suspended if conditions are such that equipment will cause rutting of the surface in the designated seeding areas (see **Section 4.2**).

Broadcast seeding may be used at all disturbed areas where bare soil is created. Broadcast seeding will occur at rate specified in the mixture tabulation for the specified mix. 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 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. Hydroseeding will occur at rate specified in the mixture tabulation for the specified mix. Seed will be applied in a broadcast, hydromulch slurry. The hydromulch seed mix will allow the contractor to see where application has taken place, ensuring uniform coverage of the seeding area. The hydroseeder must provide for continuous agitation of slurry and provide for a uniform flow of slurry. Hydroseed slurry is not to be held in the tank for more than one hour prior to application. Dairyland will pre-approve all hydromulch products, which must be on the applicable MnDOT product list. Hydromulch and liquid tackifier products containing plastic/polypropylene fiber additives and Malachite Green (colorant) will not be utilized on this Project.

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 inches. Seeding equipment will be able to accommodate and uniformly distribute different 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.

5.6 TEMPORARY REVEGETATION

Temporary cover and/or seeding may be used as a quick means to minimize soil erosion and reducing the potential for the establishment of invasive and noxious species. 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 inundated areas. Dairyland's temporary seed mixes were developed based on Minnesota BWSR seed mixes (**Table 5-1**).

Table 5-1. Temporary Cover Crops

Seed Mix	Purpose
Oats Cover Crop (21-111)	Temporary cover crop for spring and summer plantings
Winter Wheat Cover Crop (21-112)	Temporary cover crop for fall plantings
Soil Building Cover Crop (field pea/oats) (21-113)	Temporary crop with soil building function
Source: BWSR. 2024. Seed Mixes | MN Board of Water, Soil Resources (state.mn.us). Accessed February 2024.	

Temporary erosion and sediment control BMPs will also be established as described in **Section 5.6** until permanent cover has been established.

5.7 PERMANENT REVEGETATION

Permanent vegetation will be established in areas disturbed within the construction work area (e.g., graded areas) and along temporary access roads that are to be restored to pre-construction conditions, except in actively cultivated areas and standing water wetlands. Dairyland's permanent seed mixes (**Table 5-2**) were selected to augment revegetation via natural recruitment from native seed stock in the topsoil and are not intended to change the natural species composition.

The seed mixes for permanent seeding include Minnesota state seed mixes that have been developed for a variety of habitats with the intent to increase diversity, create competition for invasive species, and promote plant community resiliency. Native seed mixes were determined by using the MnDOT Seeding Manual[18] and were selected to meet the expected variety of conditions present along the right-of-way. The seed mixes are suitable for the Eastern Broadleaf Provence which the entire Project is located in. If sufficient seeds are not available at the time of seeding, a similar, appropriate seed mix will be used, determined by the BWSR Seed Substitutions table.[19]

It is important to note that native seed mixes can take 2 to 3 years to fully germinate depending on the time of year that the seeds were installed, soil, site, and weather conditions. During the first year, many native plants will have a somewhat weedy appearance growing to only about 1-3 inches tall. By the second year, some native grasses, sedges, and flowers may reach mature height, and some may flower, alongside many first-year native seedlings as well. Many of the native plants will be mature and start flowering by the third year. Depending on the seed mix, other plants will not appear or mature for several years.

18. MnDOT Seeding Manual 2023. Vegetation - Erosion Control and Stormwater Management (state.mn.us)
19. Seed Substitution list (state.mn.us)

Table 5-2. Permanent Seed Mixes

Seed Mix (State Seed Code)	Purpose	Example Seeding Areas along Project
Mesic Prairie Southeast (35-641)	Regional mesic prairie reconstruction for wetland mitigation, ecological restoration, or conservation program planting	• Roadsides
Dry Prairie General (35-221)	General dry prairie mix for native roadsides, ecological restoration, or conservation program planting	• Roadsides
Woodland Edge South & West (36-211)	Partly shaded grassland planting for native roadsides, reclamation, etc.	• Edges of forested areas
Wetland Seedbank Release (31-721)	Wet meadows where there is a high likelihood that seeds of native species will be in the seedbank and there is a need for a seed mix to supplement the seed bank, improve cover of bare soils, and increase diversity.	• Emergent/herbaceous wetlands that need supplemental seeding only
Wetland Rehabilitation (34-172)	For use in areas with soil saturation within a foot of the surface during a majority of the growing season and full to partial sun where a wet meadow community isa the goal. Intended for wetlands where supplemental seeding is needed.	• Wetlands that need supplemental seeding only
Wet Meadow South and West (34-272)	Areas with soil saturation within 1 foot of the surface during the majority of the growing season and full to partial sun where land is being converted from other uses such as agriculture or non-native grasses to wetland restoration.	• Emergent wetland areas
Stormwater South and West (33-261)	Stormwater pond edges, temporarily flooded dry ponds, and temporarily flooded ditch bottoms	• Edge of stormwater pond at Kellogg Substation; edges of ponds or ditch bottoms that are temporarily flooded
Impoundment General (33-161)	Areas with mesic soils to soil saturation within a foot of the surface during a majority of the growing season and full to partial sun where land is being converted from other uses such as agriculture or non-native grasses to an impoundment for periodic holding of water	• Kellogg Substation stormwater pond
Dry Swale / Pond	Temporarily flooded swales in agricultural settings	• Swales in agricultural fields
Low Diversity Buffer South & West (32-242A)	Riparian buffer areas with mesic soils and full sun for at least 70% of the day where the goals of providing wildlife habitat, soil stabilization, and water quality benefits.	• Waterbody / ditch crossings

Riparian South & West (34-262)	Riparian areas along rivers, streams, and other waterbodies with areas of moist soils and potential flooding during part of the growing season and full to partial sun where land is being converted from other uses such as agriculture or non-native grasses to riparian plants	• Waterbody / ditch crossings
Beneficial Insects South and West (38-541A	Designed to support specialist bees, many Lepidoptera species, and a wide range of beneficial insects. Includes a wide range of plant families to maximize insect use, bloom periods, and long-term resiliency of the mix	• Roadsides / upland areas
Pollinator Plot Southeast (38-641)	Designed to support specialist bees, many Lepidoptera species, and a wide range of beneficial insects. Includes a wide range of plant families to maximize insect use, bloom periods, and long-term resiliency of the mix	• Roadsides / upland areas
Source: BWSR, 2024		

5.7.1 Permanent Seeding of Upland Areas

The Project primarily occurs along roadsides within agricultural areas. Dairyland does not intend to seed actively cultivated areas; however, Dairyland will seed with temporary cover crops identified in Table 4-1 or other mixes at the landowner request. In landscaped / lawn areas, Dairyland will use turf grass seed mixes requested by the landowner. Roadside areas may be reseeded with seed mixes in Table 4-2 that most closely resemble the current vegetation community, unless otherwise agreed upon with the landowner and/or road authorities.

Dairyland 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.

5.7.2 Permanent Seeding of Wetland Areas

The Project would cross approximately 2,400 feet of wetlands consisting of forested and emergent wetland types. Construction mats will be placed in these wetlands for vegetation clearing and access; however, Dairyland plans to span these wetlands to avoid structure placement within the wetlands where practical. Therefore, Dairyland does not anticipate the need to grade within these wetland communities. Dairyland will continue to manage woody vegetation within these wetlands as further discussed in **Section 7.0**.

In wetlands, the preferred method for revegetation of disturbed areas is reliance on revegetation by resident plant communities. However, supplemental seeding may be beneficial at some

locations to improve cover of bare soils and increase diversity. Dairyland will use a wetland seed mix in Table 4-2 that most closely corresponds to the native vegetation community to seed large bare soil disturbance areas (i.e., greater than 50 square feet of exposed soils that is greater than two feet wide) (see Table 4-2). No fertilizer, lime, or mulch will be applied in wetlands.

There is a forested/emergent wetland complex located between MPs 12.8 to 12.9 that occurs within the McCarthy Lake Minnesota Biological Survey site. This site is potentially a Rare Natural Community and requires additional consultation with the MDNR. Dairyland will coordinate with the MDNR regarding the appropriate restoration of this location.

5.7.3 Permanent Seeding of Waterbody Banks

Dairyland will reestablish stream bank vegetation as needed using the seed mix the southeast and south and west regions. Dairyland crosses the public water, Gorman Creek, which is managed by the MDNR. Dairyland will coordinate with the MDNR regarding the appropriate restoration of this location.

5.7.4 Timing

Native plant seed mixes are often planted in the fall, generally after November 1, or when temperatures are below 50 degrees Fahrenheit for a consistent period of time in order to stratify the seeds to break their seed dormancy. Snow seeding may also be conducted in early or late winter when there is less than 4 inches of snow on sunny days. Spring seedings should be done around May 1 to June 30, or when soil temperatures at least 60 degrees Fahrenheit or higher. Outside of these time windows, the cover crop seed mixes will be applied according to temporary cover crop seed mix specifications, as shown above in Table 4-1.

6. INSPECTIONS

After construction, Dairyland will inspect areas where seeding and erosion control measures have been implemented and will follow up with reseeding measures where vegetative cover by the specified seed mix, or revegetation by the local, native seed source, is inadequate to provide long term stability and sustainable permanent cover. The Project ROW will be monitored until permanent cover is achieved.

7. OPERATION & MAINTENANCE

Dairyland's primary goal is to construct the Project and then operate and maintain the Project and its ROW in a manner that ensures a safe and reliable transmission line.

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 focus on performance, risk management, and entity capabilities, and using 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.[20]

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 between overgrown vegetation and transmission lines located on many types of lands and ownership situations" and that adhere to standard requirements "will reduce and manage this risk."[21] 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 (ROW) and minimize encroachments from vegetation located adjacent to the ROW, thus preventing the risk of those vegetation-related outages that could lead to Cascading.[22]

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 Dairyland's general practice to follow the standards for its 161-kV transmission lines. The purpose of this Plan is to meet the objective of a safe and reliable transmission line,

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

21. 2 E.g., NERC, *FAC-003-4 Transmission Vegetation Management*, *available at* https://www.nerc.com/pa/Stand/Reliability%20Standards/FAC-003-4.pdf.

22. *Id.*

consistent with applicable laws, permits, and other requirements, while also minimizing human and environmental impacts associated with vegetation management to the extent possible.

7.1 ROUTINE INSPECTIONS

Dairyland will conduct aerial and/or ground visual inspections of the ROW 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.

7.2 ROUTINE MAINTENANCE

Dairyland will periodically clear vegetation from the 100-foot-wide ROW to maintain a safe and apparent corridor, and to allow access for maintenance activities or emergencies. The clearing will be done consistent with the practices outlined in **Section 7.3**. 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 ROW. If burning is proposed, Dairyland will consult with landowners, as well as applicable authorities to obtain necessary authorization or permits.

Project-specific 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.

- Steep slopes and slopes leading to waterbodies 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 MDNR, MnDOT, or local governmental unit licenses or permits will be followed.

- All extra work areas (such as 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.

Due to the typically unstable nature of soils in wetlands, and to preserve wetland hydrology and function, 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 activity.

Dairyland will attempt to complete maintenance 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 as long as the chips/mulch will not exceed one inch in depth. If sufficient brush is present such that 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, Dairyland will use a wetland seed mix in Table 4-2 that most closely corresponds to the native vegetation community. No fertilizer or lime will be applied in wetlands.

7.3 FALL LINE TREES

Dairyland will cut all trees which may strike line facilities, including stub, guy and anchor facilities, based upon the application of a standard fall line calculation through an average 6-year growth horizon of the species identified adjacent to the ROW. Danger trees are typically any tree that is leaning, damaged, having poor root structure, or showing signs of internal decay such that Dairyland's ROW inspectors believe all or portions of the tree may fall into the transmission line. Dairyland's easements authorize the removal of danger trees outside of the ROW. Danger tree removal is a critical aspect of ensuring transmission line reliability and fire prevention. Healthy trees located outside of the ROW with a limited number of limbs and branches that extend within the ROW may be trimmed such that the limbs are completely removed from the ROW.

7.4 EMERGENCIES

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

8. GLOSSARY OF TERMS

Term	Definition
ATV	All-Terrain Vehicle
BMPs	Best Management Practices
Dairyland, or the Applicant	Dairyland Power Cooperative
dBh	diameter at breast height
DOC	Department of Commerce
ECD	erosion control device
EERA	Department of Commerce, Energy Environmental Review and Analysis
ERO	Electric Reliability Organization
FERC	Federal Energy Regulatory Commission
HVTL	High voltage transmission line
INS	invasive and noxious species
kV	Kilovolt
MBS	MDNR Minnesota Biological Survey
MDA	Minnesota Department of Agriculture
MDNR	Minnesota Department of Natural Resources
MnDOT	Minnesota Department of Transportation
NERC	North American Electric Reliability Corporation
PLS	Pure Live Seed
Project	Wabasha Relocation Project
Proposed Alignment	Proposed Alignment is used to refer to the centerline location of the transmission line and structures. The Proposed Alignment follows an approximately 13.3-mile route starting in the vicinity of Structure X-Q3-75 on Dairyland's LQ34 161-kV transmission line northeast of the Town of Plainview, Minnesota in Wabasha County to the new 4-acre Kellogg Substation.
Proposed Route or Project Route Width	The Proposed Route is a larger area that is inclusive of the Proposed Alignment and the Kellogg Substation.
ROW	right-of-way
VMP, or Plan	Vegetation Management Plan