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Proposal to Establish a Native Prairie Landscape in the Great River Energy Transmission Line Corridor Ramsey, MN

Prepared for:

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Approximate site size: 2.75 acres

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A. **Company Background:** **(Follow the blue links to learn more)**

Prairie Restorations, Inc. (PRI) has been dedicated to the restoration and management of native plant communities for over 35 years. We are fortunate to have worked with thousands of clients on a wide variety of projects in both the public and private sectors throughout the Upper Midwest.

The PRI staff currently consists of 45 full-time professionals and about an equal number of seasonal employees which operate out of six Minnesota locations. Most of the staff has B.S. degrees in natural resource related fields such as biology, forestry, horticulture or wildlife. As a full service restoration company, PRI is able to provide our clients expertise and service in all facets of native landscape restoration. Along with consulting, design, installation and land management services, we also produce our own local ecotype seed and plant materials which are used on all of our projects.

The PRI Team is committed to and passionate about protecting and enhancing our valuable natural resources. It is this dedication that is brought to each and every one of our projects. We are proud to offer the best expertise, services and products available in the industry and appreciate the opportunity to provide you with this proposal.

B. **Project Overview:**

1. GRE and the City of Ramsey are looking at the possibility of establishing a native prairie landscape in a transmission corridor easement in Ramsey, MN. Currently, this corridor is overgrown with trees and shrubs that need to be removed for standard maintenance purposes. The native prairie landscape is being proposed as an aesthetically appealing and ecologically appropriate option that will also require less maintenance than traditional corridor vegetation.

2. In certain areas of the project site, it may be necessary to plant select native tree and shrub species for the main purpose of visual screening. The selected species will likely have a mature height of about 7-14 feet and will be planted along the outside perimeter of the project area. General planting locations will be determined by GRE and the City of Ramsey.

3. In order to ensure that the restoration establishes successfully, a 3-year maintenance program will be implemented. This program will be carried out by Prairie Restorations, Inc., with the help from the City of Ramsey, and will include activities such as mowing, spot herbicide application and prescribed burning.

4. The following proposal outlines the recommended materials and procedures for the restoration project:

C. Site preparation:

1. This winter, the trees and shrubs will be removed from the project area *(to be done by Carr's Tree Service).* Where applicable, stumps will be treated with herbicide to prevent resprouting.

2. Next spring, allow the site to green up, followed by an application of Roundup Originalmax® and Garlon 3A® herbicide as per manufacturer's directions. Allow a minimum of 20 days before disturbing the vegetation with other procedures.

3. Burn off the dead vegetation by implementing a controlled burn using appropriate procedures, equipment and permits.

4. Harrow (or lightly disk as needed) the soil to create a viable seedbed.

D. Seed and Seeding:

1. Acceptable seeding dates for native species are in the spring or summer before August 10th or in the fall between September 20th and freeze-up. This project would likely be seeded in early June of 2013.

2. As a means to stabilize the site and facilitate maintenance during the developmental period, the project area will initially be seeded with native grasses only.

3. All grass seed will be sown via broadcasting (a native seed drill may also be used if conditions warrant).

4. A harrowing or raking will follow the seeding in order to incorporate the seed into the soil.

5. Once the grasses have become established, wildflower seed will be interseeded throughout the project area. The will most likely occur during the spring of 2015 immediately following the implementation of a prescribed management burn.

6. All wildflower seed will be sown via broadcasting.

7. The seed mixes shall consist of the following species and amounts:

Grasses	lbs./project area
Mixed height mesic mix: 32% Big bluestem, 28% Little bluestem, 22% Indian grass, 10% Side oats grama, 3% Canada wild rye, 2% Switch grass by PLS weight. 1% Kalm's brome, 1% June grass, 1% Prairie dropseed by bulk weight	30

Note: A wheat or oat cover crop can be sown along with the native grasses at a rate of approximately 25 lbs. per acre. Wheat/oats is an annual grass species that germinates quickly and will reduce the risk of soil erosion on the site.

Wildflowers	oz./project area
Wild lupine (*Lupinus perennis*)	8

Mixed height mesic mix:

16% Black-eyed Susan, 12% Purple prairie clover, 12% Hoary vervain,
7% White prairie clover, 6% Leadplant, 6% Common ox-eye,
5% Tall blazing star, 4% Fragrant giant hyssop, 4% Smooth aster,
4% Stiff goldenrod, 3.5% Golden alexander, 3% Azure aster,
3% Bush clover, 3% Wild bergamot, 2% Upland goldenrod,
2% Blue vervain, 1.5% Mountain mint, 1% Yarrow,
1% Stiff tickseed, 1% Canada tick trefoil, 1% Meadow blazing star,
1% Gray goldenrod, 0.5% Common milkweed,
0.5% Showy goldenrod, all by bulk weight..... 80

E. Erosion Control:

1. Cover crop will be sown along with the native grasses.

2. Optionally, the project area can be mulched with clean straw at a rate of 1.5 tons per acre.

F. Trees and Shrubs:

Optionally, container grown shrubs can be planted in designated areas of the project. In order to guard against herbivory (deer browsing), it is recommended that (at a minimum) that Plantskydd deer repellent by applied to each tree. Biodegradable weed mats are also recommended to reduce weed competition.

Suitable species will be chosen from the following list:

Shrub Species	Size
Serviceberry (*Amelanchier sp.*)	2 gal
Gray dogwood (*Cornus racemosa*)	2 gal
Round-leaved dogwood (*Cornus rugosa*)	2 gal
Hazelnut (*Corylus americana*)	2 gal
Elderberry (*Sambucus canadensis*)	2 gal

G. Management:

1. Management (maintenance) plays a vital role in the eventual success of any native landscape installation, especially during the establishment period.

2. During the first growing season the project area may need to be mowed to control annual weed development. If a "closed" canopy of weed cover develops, it should be mowed to aid in the growth of the prairie seedlings by reducing competition. Mowing may also be necessary if the weeds are about to set seed. Optimum cutting height, depending on the wildflower species present, is typically 4 to 6 inches. Mowings done by PRI will be billed separately unless they are included as part of the installation contract.

3. In years following the first growing season, management services could include site monitoring, prescribed burning, mowing, spot spraying, spot mowing, herbicide wicking or hand weeding. PRI provides estimates for management services on an annual basis prior to the growing season. Most of these services are billed on a time and materials basis and the annual estimates are not exceeded without client approval. Some services such prescribed burning are provided as a lump sum cost. A summary of billing rates and materials costs will be provided with the estimate.

H. Anticipated Management:

Year	Projected Management Procedures
2013	Complete site mowings to control annual weed canopy (2 or 3 mowings as needed to be done by the City under PRI guidance) Project monitoring
2014	1 complete site mowing if necessary (to be done by the City) Integrated Plant Management (IPM) - spot spraying, spot mowing, wicking, hand weeding, etc (2-3 visits are typical) Project monitoring
2015	Spring burn to encourage native plant growth and to help deter the presence of non-native and woody species. IPM (2-3 visits) Project monitoring

I. **Costs:** Based on 2.75 acre site

Base Costs

Site preparation (*includes spraying, burning, and soil prep)*..... $2,350
Seed and seeding grasses as specified *(2013)*..... $1,830
Seed and seeding flowers as specified *(2015)* $2,050

Total **$6,230**

Other Options

Straw mulching entire project area $2,470
Provide and install 2 gallon shrubs as needed $50/plant*
Provide and install 18-24 inch bareroot shrubs as needed..... $26/plant*

*****Includes applying Plantskydd deer repellent (one application) and weed barrier. For larger quantities, this unit price could be adjusted downward. Prices do not include warranty.

Maintenance

Estimated maintenance costs
Growing season 2013……**$250 (site assessment and coordination)**
Growing season 2014……**$1,300**
Growing season 2015……**$1,200 + $990 burn**

Please note: Maintenance is typically billed on a time and materials basis. Work is billed upon completion until the site's maintenance needs are met (the yearly estimate is not exceeded without prior approval).

Also note that the first three years of a restoration are the most crucial in terms of needed maintenance. Typically, costs decrease once the restoration reaches a relative level of maturity (after the 3rd or 4th growing season)

J. **Guarantee:** Prairie Restorations, Inc. (PRI) has a great tradition of successfully installing native landscapes throughout the Upper Midwest. We feel our expertise in this industry is second to none and we stand behind every one of our projects. Because we are confident in our abilities to provide you with the best possible materials and services, we are proud to offer the following guarantee:

On projects installed by PRI crews within the specified dates, we will guarantee successful establishment within three full growing seasons, given the following conditions:

1. *That PRI materials and PRI installation services are used on the project.*
2. *That the failure of the project is not due to the actions of others.*
3. *That PRI staff has been consistently involved with the maintenance of the project (consultation with the client or direct utilization of PRI management services) from the time of germination until the end of the third growing season (i.e. mowing, spot spraying, controlled burning).*

This outline provides a step-by-step plan for accomplishing the restoration of this site. If successful establishment does not occur within three full growing seasons, all necessary steps will be taken to ensure the eventual success of the project, at no additional charge. For purposes of this guarantee, successful establishment is defined as follows: That the presence of at least 75% of the original seeded or planted species can be found on site, and that the overall density of vegetation is comprised of no less than 75% native species.

Restoration outline prepared by Prairie Restorations, Inc. (PRI), Princeton, Minnesota
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