

CCWD Water Quality Cost-Share Program Grant Application

Applicant Information

Project Information - Be clear and brief. If necessary, attach additional pages			
Name, Title	Daniel Buchholtz, Administrator		
Organization	City of Spring Lake Park		
Address	1301 81 st Ave NE Spring Lake Park, MN 55432		
Email, Phone	dbuchholtz@slpmn.org 763-784-6491 763-784-6491		
Title	Vegetated Buffer Strip for Triangle Park Pond Project		

The City of Spring Lake Park has prepared a Capital Improvement Plan that includes implementing
stormwater projects to improve water quality and flood
mitigation. A proposed 2022-2023 water quality project is
a Vegetated Buffer Strip for Triangle Park Pond.
The project will provide a Vegetated Buffer Strip
consisting of native plantings around an existing
stormwater pond in Triangle Park. The project will also
erosion and sediment control improvements with the
installation of erosion blanket and 12-inch diameter coir
logs along a portion of the pond perimeter.
logs along a portion of the polid perimeter.
Triangle Park is located east or Able Street N and south of Manor Dr. NE in the City of Spring Lake Park. The project is in the Oak Glen Creek Subwatershed in the southern end of Coon Creek Watershed District (CCWD). The existing pond functions as a detention pond with a drainage area of 54 acres that is primarily residential land use and flows to the pond via city storm sewer and
overland flow from the surrounding property.
The proposed project will provide water quality benefits to the downstream water bodies of Oak Glen Creek and the Mississippi River.

Water Quality Outcomes Include pollutants or parameters addressed and receiving water(s) benefited. Quantify when possible.	 The project will filter runoff and reduce the existing geese population. The primary pollutants to be treated by the project be Total Suspended Solids (TSS), Total Phosphorus (TP), and E. coli. Based on accepted water quality practices, it is estimated the proposed Vegetated Buffer Strip will remove 10–25 percent of TSS and TP. Although Oak Glenn Creek has not been identified by CCWD as an impaired stream, the proposed improvements will provide benefit to the Mississippi River. The City identified this project as a priority and included it in its Capital Improvements Projects (CIP) list in the current Local Surface Water Management Plan (LSWMP). It is the City's intent to complete this project in the 2022 calendar year with an ongoing maintenance contract for 3 years to help make sure the native vegetation gets established.
Secondary Benefits flood mitigation, safety, aesthetics, reduced maintenance	In addition to the water quality benefits, the proposed improvements will provide pollinator habitat. The project will also improve safety by providing a natural barrier around the pond.
Total \$ Requested not to exceed \$50,000 or 50% of project cost Attach design, photos, or othe	\$ 14,204.00 (50% of total project cost, not including 3-year maintenance) <i>r related project documents as needed</i> - SEE ATTACHED WORK SCOPE FROM

Attach design, photos, or other related project documents as needed PRK SCOPE FROM PRARIE RESTORATIONS, INC.

Signature/ Date: Canut Author

July 26, 2022

Not valid without signature

Fill out budget form or attach quote

(only include line items related to stated water quality outcomes)

Item	Unit	Quantity	Unit Cost	Total
	IC	1	¢2 227 00	¢2 227 00
Project Set-up	LS	1	\$2,337.00	\$2,337.00
Site Preparation	LS	1	\$4,388.00	\$4,388.00
Seed and Seeding	LS	1	\$2,720.00	\$2,720.00
Erosion Blanket - Coir Logs	LS	1	\$12,335.00	\$12,335.00
Wildflower Seedlings	EA	1500	\$4.20	\$6,308.00
Native Restoration Signs	EA	8	\$40	\$320.00
			Grand Total	\$24 409 00
			Grand Total	\$24,408.00

Please use same format on separate page if needed



City of Spring Lake Park - Proposed Triangle Park Pond buffer strip map June 2022

Buffer Areas

Coir Log Installation

Proposal to Create a Native Landscape at the Triangle Park Spring Lake Park, MN

Prepared for:

Kay Okey 84th Avenue NE Spring Lake Park, MN 55432 Office: 763-792-7232 Cell: 612-868-3618 <u>kokey@slpmn.orq</u>

Prepared by: Aaron Soltau Site Manager- Princeton 612-723-3319 asoltau@prairieresto.com

> Project Area: 12,000 square feet

Prairie Restorations, Inc. Y

31646 128th St. Princeton, MN 55371 www.prairieresto.com

A. Company Background:

Prairie Restorations, Inc. (PRI) has been dedicated to the restoration and management of native plant communities for over 40 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 54 full-time professionals and about an equal number of seasonal employees which operate out of five 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. Establishing a native landscape in this area will provide a long term, ecologically sound landscape that is adapted to the existing conditions of the site. This native landscape will not require irrigation or other soil amendments. It will add a distinctive look to the property as well as provide valuable habitat for songbirds, butterflies, bees and other pollinators.
- 2. The shoreline buffer areas will be seeded with native shoreline/mesic grasses and wildflowers that are adapted to the well-drained conditions. A few areas closer to the sidewalks and northeast pond will be seeded with a blend of short/dry grasses and wildflowers.
- 3. To establish this planting, the site will be treated with herbicide to kill existing weeds and grass, lightly tilled, harrowed where feasible and hand raked to provide a smooth seedbed. All areas will be seeded with native grasses and wildflowers, and covered with straw/coconut erosion blanket to protect the seeding and enhance germination.
- 4. Native wildflower and grass plugs will be planted to enhance the diversity and aesthetics of the project.
- 5. An "estimate" for 3 years of Establishment Period Vegetation Management is included in this proposal.

C. Site preparation:

- In areas with actively growing vegetation, apply an aquatic approved glyphosate herbicide (Rodeo[®] or equivalent) and a triclopyr herbicide (Garlon 3A[®] or equivalent) with appropriate surfactants, as per manufacturer's directions. Allow a minimum of 30 days before disturbing the vegetation with other procedures.
- 2. Maintenance staff from the city of Spring Lake Park will bring in topsoil to address the undercutting of the sidewalk in the North West pond as discussed during the site evaluation with Kay Okey. (*To be completed by the City of Spring Lake Park*)
- 3. Scarify the soil surface with a minitiller/dethatcher to prepare the seedbed.
- 4. Harrow where feasible and rake the soil to create a firm, smooth seedbed.

D. Seed and Seeding:

- 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 summer of 2022.
- 2. The grass seed will be spread by hand broadcasting throughout the project areas.
- 3. A raking will follow to incorporate the seed into the soil.
- 4. Following the raking, flower seed will be spread by hand broadcasting onto the soil surface.
- 5. The seed mixes will consist of the following species and amounts:

Grass Seed	lbs./ project area
Blue grama (Bouteloua gracilis)	1.0
Short Dry Grass Mix:	
45% Little bluestem, 47% Side oats grama,	
5% Slender wheatgrass, 1% June grass,	
2% Prairie dropseed, all by PLS weight	0.50
Wet Grass Mix:	
42% Big bluestem, 5% Fringed brome, 10% Indian grass,	
10% Fowl bluegrass, 5% Canada wild rye, 8% Virginia wild r	ye,
5% Red river cord grass, 5% American manna grass,	
4% Switchgrass, 3% Green bulrush, 2% Wool grass, 1% Blue	e joint grass,
all by PLS weight.	
PRI Shoreline Grass Mix:	
10% Fringod bromo, 10% Virginia wild ruo	

19% Fringed brome, 10% Virginia wild rye,13% American manna grass, 10% Fowl bluegrass,

10% Bebb's sedge, 12% Knotsheath sedge,
14% Fox sedge, 4% Green bulrush, 2% Wool grass,
5% Red river cord grass, 1% Blue joint grass,
all by PLS weight 2.0

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

Wildflower Seed

oz./ project area

Fragrant giant hyssop (Agastache foeniculum)	
Wild bergamot (Monarda fistulosa)	
Yellow coneflower (Ratibida pinnata)	
Smooth aster (Symphyotrichum laeve)	

Short/Dry Wildflower Mix:

Wet Grass Mix:

Shoreline Wildflower Mix:

E. Erosion Control:

- 1. Cover crop will be sown along with the native grasses.
- Erosion blanket (SC150bn or equivalent) will be applied as per manufacturer's directions to designated areas.

F. Bioengineering:

1. Install 12" diameter coir logs (9# density) as per manufacturer's directions to the undercutting areas of the shoreline (approximately 160 linear feet). The logs will be anchored with wood stakes and coir twine. **Refer to map for approximate locations.*

Plants and Planting:

G.

- Immediately following the implementation of any erosion control measures, the planting will be further diversified with native wildflower and/or grass plants (plugs). These will be planted individually in appropriate microhabitats throughout, or in designated areas of the project. The plants used will consist primarily of species other than those previously seeded.
- 2. From the following list a minimum of 15 species will be used.
- 3. Plant a total of 1,500 plugs.

Wildflowers

Yarrow (Achillea millefolium) Sweet flag (Acorus americanus) Red baneberry (*Actaea rubra*) Pearly everlasting (Anaphalis margaritacea) Fragrant giant hyssop (Agastache foeniculum) Water plantain (Alisma subcordatum) Meadow garlic (Allium canadense) Prairie onion (Allium stellatum) Wild leek (Allium tricoccum) Leadplant (Amorpha canescens) Canada anemone (Anemone canadensis) Thimbleweed (Anemone cylindrica) Wood anemone (Anemone guinguefolia) Pasque flower (Anemone patens) Pussytoes (Antennaria neglecta) Columbine (Aquilegia canadensis) Wild sarsaparilla (Aralia nudicaulis) American spikenard (Aralia racemosa) Jack-in-the-pulpit (*Arisaema triphyllum*) Prairie sage (Artemisia ludoviciana) Wild ginger (Asarum canadense) Swamp milkweed (Asclepias incarnata) Butterfly weed (Asclepias tuberosa) Whorled milkweed (Asclepias verticillata) Wild indigo (*Baptisia alba*) Marsh marigold (Caltha palustris) Tooth-leaved primrose (Calylophus serrulatus) Harebell (Campanula rotundifolia) New Jersey tea (Ceanothus americanus) Turtlehead (Chelone glaubra) Spring beauty (*Claytonia virginica*) Bead lily (Clintonia borealis) Stiff tickseed (Coreopsis palmata) Bunchberry (Cornus canadensis) Slender penstemon (Penstemon gracilis) Showy penstemon (Penstemon grandiflorus) White prairie clover (Dalea candida) Purple prairie clover (Dalea purpurea)

Silky prairie clover (Dalea villosa) Prairie larkspur (Delphinium virescens) Flat-topped aster (Doellingeria umbellata) Pale purple coneflower (Echinacea angustifolia) Purple coneflower (Echinacea purpurea) False rue anemone (Enemion biternatum) Fireweed (Epilobium angustifolium) Willow-herb (Epilobium coloratum) Rattlesnake master (Eryngium yuccifolium) Trout lily (*Erythronium albidum*) Boneset (Eupatorium perfoliatum) Large-leaved aster (Eurybia macrophylla) Grass-leaved goldenrod (Euthamia graminifolia) Joe-Pye weed (*Eutrochium maculatum*) Wild strawberry (Fragaria virginiana) Northern bedstraw (Galium boreale) Yellowish gentian (Gentiana alba) Bottle gentian (Gentiana andrewsii) Wild geranium (Geranium maculatum) Purple avens (Geum rivale) Prairie smoke (Geum triflorum) Sneezeweed (Helenium autumnale) Frostweed (Helianthemum bicknellii) Giant sunflower (*Helianthus giganteus*) Hispid sunflower (Helianthus hirsutus) Maximilian's sunflower (Helianthus maximiliani) Stiff sunflower (Helianthus pauciflorus) Common ox-eye (*Heliopsis helianthoides*) Sharp-lobed hepatica (*Hepatica acutiloba*) Golden aster (Heterotheca villosa) Alum-root (Heuchera richardsonii) Long-leaved bluets (Houstonia longifolia) Virginia waterleaf (*Hydrophyllum virginianum*) Wild iris (Iris versicolor) Dwarf dandelion (*Krigia biflora*) Rough blazing star (Liatris aspera) Cylindric blazing star (Liatris cylindracea) Meadow blazing star (Liatris ligulistylis)

Dotted blazing star (Liatris punctata) Tall blazing star (*Liatris pycnostachya*) Turk's cap lily (*Lilium michiganense*) Twinflower (Linnaea borealis) Carolina puccoon (Lithospermum carolinense) Cardinal flower (Lobelia cardinalis) Great blue lobelia (Lobelia siphilitica) Pale lobelia (Lobelia spicata) Wild lupine (*Lupinus perennis*) Fringed loosestrife (Lysimachia ciliata) Starflower (Lysimachia borealis) Swamp candles (Lysimachia terrestris) False lily of the valley (*Maianthemum canadense*) False solomon's seal (Maianthemum racemosum) Starry false solomon's seal (Maianthemum stellatum) Northern lungwort (Mertensia paniculata) Monkey flower (Mimulus ringens) Bishop's cap (*Mitella diphylla*) Wild bergamot (*Monarda fistulosa*) Downy sweet cicily (Osmorhiza claytonii) Woodland phlox (*Phlox divaricata*) Prairie phlox (Phlox pilosa) Obedient plant (Physostegia virginia) Jacob's ladder (Polemonium reptans) Solomon's seal (*Polygonatum biflorum*) Prairie cinquefoil (Potentilla arguta) Rattlesnake root (Prenanthes alba) Mountain mint (*Pycnanthemum virginianum*) Prairie buttercup (Ranunculus fascicularis) Long-headed coneflower (Ratibida columnifera) Yellow coneflower (Ratibida pinnata) Prairie rose (*Rosa arkansana*) Meadow rose (Rosa blanda) Dwarf raspberry (Rubus pubescens) Black-eyed Susan (Rudbeckia hirta) Green-headed coneflower (R. laciniata) Arrow-head (Sagittaria latifolia) Early Figwort (Scrophularia lanceolata) Golden ragwort (Senecio aureus) Balsam ragwort (Senecio paupercaulis) Wineleaf cinquefoil (Sibbaldiopsis tridentata)

Compass plant (Silphium laciniatum) Cup plant (Silphium perfoliatum) Blue-eyed grass (*Sisyrinchium campestre*) Wood blue-eyed grass (Sisyrinchium montanum) Zig zag goldenrod (Solidago flexicaulis) Hairy goldenrod (Solidago hispida) Gray goldenrod (Solidago nemoralis) Upland goldenrod (*Solidago ptarmicoides*) Stiff goldenrod (Solidago rigida) Showy goldenrod (Solidago speciosa) Bog goldenrod (Solidago uliginosa) Bur reed (*Sparganium eurycarpum*) Woundwort (Stachys palustris) Rosy twisted stalk (Streptopus roseus) Lindley's aster (Symphyotrichum ciliolatum) Heath aster (Symphyotrichum ericoides) Smooth aster (Symphyotrichum laeve) Calico aster (Symphyotrichum lateriflorum) New England aster (Symphyotrichum novae-angliae) Aromatic aster (Symphyotrichum oblongifolium) Azure aster (*Symphyotrichum oolentangiense*) Red-stalked aster (Symphyotrichum puniceum) Silky aster (Symphyotrichum sericeum) Arrow-leaved aster (Symphyotrichum urophyllum) Tall meadow rue (*Thalictrum dasycarpum*) Early meadow rue (Thalictrum dioicum) Western spiderwort (Tradescantia occidentalis) Large-flowered bellwort (Uvularia grandiflora) Sessile-leaf bellwort (Uvularia sessifolia) Blue vervain (Verbena hastata) Hoary vervain (Verbena stricta) Ironweed (Vernonia fasciculata) Culver's root (Veronicastrum virginicum) Canada white violet (Viola canadensis) Blue marsh violet (Viola cucullata) Prairie violet (Viola pedatifida) Downy yellow violet (Viola pubescens) Arrow leaved violet (Viola sagittata) Downy blue violet (Viola sororia) Heart-leaved Alexander (Zizia aptera) Golden alexanders (Zizia aurea)

Grasses and Sedges

Big bluestem (Andropogon gerardii) Sweetgrass (Anthoxanthum nitens) Side oats grama (Bouteloua curtipendula) Blue grama (Bouteloua gracilis) Hairy grama (Bouteloua hirsuta) Fringed brome (Bromus ciliatus) Kalm's brome (Bromus kalmii) Blue joint grass (Calamagrostis canadensis) Prairie sandreed grass (Calamovilfa longifolia) Bebb's sedge (Carex bebbii) Plains oval sedge (Carex brevior) Bottlebrush sedge (*Carex comosa*) Fringed sedge (*Carex crinita*) Dewey's sedge (*Carex deweyana*) Graceful sedge (*Carex gracillima*) Lake sedge (*Carex lacustris*) Hop sedge (*Carex lupulina*) Pennsylvania sedge (*Carex pensylvanica*) Wood sedge (*Carex rosea*) Pointed broom sedge (*Carex scoparia*) Sprengel's sedge (*Carex sprengelii*) Stalk-grained sedge (*Carex stipata*) Tussock sedge (*Carex stricta*) Fox sedge (*Carex vulpinoidea*) Poverty oats grass (*Danthonia spicata*) Spike rush (*Eleocharis ovata*) Canada wild rye (*Elymus canadensis*) Bottlebrush grass (*Elymus hystrix*) Slender wheatgrass (*Elymus trachycaulum*) Rattlesnake manna grass (*Glyceria canadensis*) Tall manna grass (*Glyceria grandis*) Fowl manna grass (*Glyceria striata*) Porcupine grass (*Hesperostipa spartea*) Soft rush (*Juncus effuses*) Greene's rush (*Juncus greenei*) Path rush (*Juncus tenuis*) June grass (*Koeleria macrantha*) Wood rush (Luzula accuminata) Many-flowered wood rush (Luzula multiflora) Rough mountain rice (Oryzopsis asperifolia) Switch grass (Panicum virgatum) False melic grass (Schizachne purpurascens) Little bluestem (Schizachyrium scoparium) Hardstem bulrush (Schoenoplectus acutus) Three-square bulrush (Schoenoplectus pungens) Soft-stem bulrush (Schoenoplectus tabernaemontani) Green bulrush (Scirpus atrovirens) Wool grass (Scirpus cyperinus) River bulrush (Scirpus fluviatilis) Indian grass (Sorghastrum nutans) Cord grass (Spartina pectinata) Prairie dropseed (Sporobolus heterolepis)

H. Protective Fencing:

- 1. A protective fence will be installed to protect the planting from foot traffic and herbivory by deer, rabbits and geese. (*To be completed by Spring Lake Park Staff*)
- 2. The fence will be installed around the perimeter of the entire planting area.
- 3. The fence should be removed after approximately one growing season.

I. Management:

- 1. Management (maintenance) plays a vital role in the eventual success of any native landscape installation, especially during the establishment period. Active management of your native landscape is highly recommended to give the project the best opportunity for long term success.
- 2. During the germination year, 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. It is important that the clippings are finely mulched in order to prevent smothering. PRI can provide the mowing services if desired. Please refer to the cost section of this proposal for a mowing quote.
- 3. In years following the first growing season, Integrated Plant Management (IPM) services are utilized to control annual, biennial and perennial weed species within the developing native landscape. Typical IPM services include spot herbicide spraying, spot mowing, herbicide wicking or hand weeding. These services are billed on a per trip cost agreed upon prior to the growing season. Rough estimates are provided in the cost section of this proposal for these future management activities.
- 4. Prescribed burning is a highly effective management tool and may be recommended

for your project as it matures. Burning stimulates native species to grow more robustly and also help to deter the presence of many non-native and/or woody species. Prescribed burning, when recommended, will be provided as a separate lump sum cost.

5. In lieu of burning, or during years when the site is not burned, a Spring Dormant Mowing can be used to "clean up" previous year's growth and set the table for the new growing season. This mowing would occur early in the spring, as soon as conditions permit. Spring Dormant Mowing, when recommended, will be provided as a separate lump sum cost.

J. Anticipated Management:

The following table conveys the anticipated management procedures for your project during the first 3 growing seasons. Estimates for these procedures are provided in the cost section of this proposal.

Year Projected Management Procedures

- Complete site mowings to control annual weed canopy (2 or 3 mowings as needed).
 Project monitoring
- Spring burn to encourage native plant growth and to help deter the presence of non-native and woody species.
 Integrated Plant Management (IPM) 3 to 4 visits are typical Project monitoring

K. Costs:

Project Installation:

Project set up and mobilization	\$2,337.00
Site preparation (includes spraying, tillage, harrowing or raking)	\$4,388.00
Seed and seeding as specified	\$2,720.00
Erosion blanket and coir logs as specified	\$12,335.00
Wildflower seedlings (1,500 installed)	\$6,308.00
Native Restoration Signs (8 installed)	\$320.00

Total	\$28,408.00
-------	-------------

Vegetation Management*(IPM Estimates NOT included within Installation Quote):

Germination year management quote:

Complete site mowings as needed (1 to 3 mowings are typical).... \$900/mowing

Future Management Estimates:

Growing season 1 (assumes 3 IPM visits)	\$3,000
Growing season 2 (assumes 3 IPM visits)	\$3,000
Growing season 3 (assumes 3 IPM visits)	\$2,500

Please note: The *Future Management Estimates* are meant to convey typical management costs for projects of similar size and characteristics. Prior to each growing season, you will receive a specified quote from your project manager detailing the recommended management strategies and associated costs for your project.

L. Contract:

If you accept the proposal as written and want to proceed with the project, please sign the contract below and return via mail or email (asoltau@prairieresto.com).

A 50% down payment is required at this time. Please return a copy of the signed contract, along with payment for 50% of the total project cost. The remainder of the contract will be billed upon completion.

Owner:	Date:	
Signed:	Title:	

Project: Triangle Park, City of Spring Lake Park Install 2022

Contract Value: *\$28,408.00*

Contractor: *Prairie Restorations, Inc.*

Signed: Aaron Soltau

Date: 6/1/2022

Restorationist/sales
 Prairie Restorations, Inc.
 31646 128th Street
 Princeton, MN 55371

M. Notes: Please note that this proposal is valid for 1 month (from the date on the proposal). If the proposal is accepted after the 1 month period, PRI reserves the right to modify the proposal based on cost fluctuations and material availability.

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





Coir Log Installation

Buffer Areas