



**LOWER PLATTE SOUTH**  
**natural resources district**

3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581  
P: 402.476.2729 • F: 402.476.6454 | www.lpsnrd.org

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TO: Board of Directors

FROM: Dan Schulz, Resources Coordinator *Dan*

DATE: February 11, 2020

SUBJECT: Prairie Corridor on Haines Branch Seeding Proposal for the Kapke Tract – Prairie Plains Resource Institute

The Recreation, Forestry and Wildlife Subcommittee is scheduled to meet at 1:30PM prior to the Board of Directors meeting on Wednesday, February 19, 2020. The subcommittee will be considering approving the seeding proposal from Prairie Plains Resource Institute to seed the Kapke tract with a high diversity local eco-type seed mixture (see attached proposal).

The cost to seed the 57.1 acres is \$28,550.00. The Prairie Corridor on Haines Branch Project will reimburse the District \$28,550.00 for the planting and seed.

Staff recommends that the **Lower Platte South NRD Board of Directors accept the proposal from Prairie Plains Resources Institute to provide the seed and planting service for the 57.1 acre Kapke tract at a cost not to exceed \$28,550.00.**



## Kapke Tract HDLE Prairie Restoration Proposal

January 27, 2020

Prairie Plains Resource Institute (PPRI) has been providing high-diversity/local ecotype (HDLE) prairie restoration services in central and eastern Nebraska since 1980. Our work includes multiple examples in Lancaster County, including 12 plantings within the Haines Branch corridor and 7 plantings at Spring Creek Prairie.

PPRI has partnered with Lincoln Parks & Recreation and Lower Platte South NRD in the past, and is again offering ecological restoration services in the effort to establish examples of high-quality prairie within the corridor. Specifically, this seeding project will be implemented on the Kapke Tract located in the NE  $\frac{1}{4}$  of S22, T9N, R5E, Lancaster County, Nebraska.

Geographic Information System (GIS) analysis shows the project site is 57.1 acres in size, with 16.65 feet of relief. The soils are silt loam and silty clay loam, and are occasionally flooded (Appendix A; figure 2). The site's relatively level topography and consistent soil types indicate that a mesic seed mix with small additions of upland and ephemeral wetland seed mixes is appropriate. The mix will contain 168 species.



Figure 1. The Kapke Tract seeding will be 100%

With myriad wildflower species blooming throughout the growing season, this diverse native plant community will provide superior butterfly and pollinator habitat while preserving some of the local native plant genetic material that has been lost to years of agricultural conversion and urban development. Furthermore, HDLE restorations are resilient to drought and other extreme climatic and weather events because they are populated with the progeny of the very plants that evolved in Nebraska over centuries of such variable conditions.

These newly restored acres will enhance stream buffering capabilities, slowing runoff and providing increased filtering services. The site will also provide excellent upland game and non-game habitat, as well as expanding education and recreation opportunities in the area.

Project Specifics:

- A mesic (lowland tallgrass) prairie seed mix will be broadcast onto the site no later than May 15th, 2020, at a cost of \$500.00 per acre, for a total of \$28,550.00.
- The seed mix will contain no less than 168 species (Appendix B).
- The seed mix will be planted at no less than 5.0 gallons of combine harvested grass seed per acre and 5.4 gallons of hand-collected forb mix per acre.
- 100% of this seed mix was harvested from wild populations of native plants within 150 miles of the project site.
- PPRI will use an EZ Flow drop spreader pulled by an ATV to broadcast the seed.
- Any GPS/GIS data generated by PPRI during the restoration process will be made available to LPSNRD and/or the City of Lincoln.
- This seed mix will provide high quality monarch/pollinator habitat, enhancing the overall conservation value of the area.
- The established native plant community will provide high quality game and non-game habitat.
- The established native plant community will provide educational and recreational opportunities to the public.
- Project contact: Mike Bullerman, Restoration Ecologist, 402-694-9847, [prc\\_ppri@hamilton.net](mailto:prc_ppri@hamilton.net)

## **Appendix A: Non-technical Soil Descriptions & Map**

**Colo silty clay loam (5.7%) 3.30 acres:** |"Nontechnical description"|"SOI"|"61"|"This deep, nearly level, somewhat poorly drained soil formed in alluvium on bottom land. It has a silty clay loam surface layer and moderately slowly permeable, silty clay loam underlying material. It is occasionally flooded."|"98106"|"98106:m:65403"

**Kennebec silt loam (94.2%) 53.81 acres:** |"Nontechnical description"|"SOI"|"462"|"This nearly level, moderately well drained soil formed in alluvium on bottom land. It has a silt loam surface layer and moderately permeable silt clay loam underlying material. It is occasionally flooded."|"98121"|"98121:m:65418"

**Nodaway silt loam (<1%) 0.03 acres:** |"Nontechnical description"|"SOI"|"119"|"This deep, nearly level, moderately well drained soil formed in alluvium on bottom land. It has a silt loam surface layer and moderately permeable, silt loam underlying material. It is occasionally flooded."|"98131"|"98131:m:65428"



Figure 2. Kapke Tract SSURGO soil map units.

## Appendix B: Species List

<b>KAPKE TRACT SEED MIX - 168 spp.</b>			
<b>Grasses (19)</b>			<b>Wetness</b>
Alopecurus	aequalis	Shortawn Foxtail	OBL
Andropogon	gerardii	Big Bluestem	FAC
Calamagrostis	stricta	Northern Reedgrass	FACW
Elymus	canadensis	Canada Wildrye	FACU
Elymus	virginicus	Virginia Wildrye	FAC
Eragrostis	spectabilis	Purple Lovegrass	FACU
Hesperostipa	spartea	Porcupine Grass	UPL
Hordeum	jubatum	Foxtail Barley	FACW
Koeleria	macrantha	June Grass	UPL
Muhlenbergia	cuspidata	Plains Muhly	FAC
Muhlenbergia	racemosa	Marsh Muhly	FACW
Panicum	acuminatum	Tapered Rosette Grass	FACW
Panicum	oligosanthes	Scribner's Panicum	FACU
Schizachyrium	scoparium	Little Bluestem	FACU
Sorghastrum	nutans	Indiangrass	FACU
Spartina	pectinata	Prairie Cordgrass	FACW
Sphenopholis	obtusata	Prairie Wedgegrass	FACW
Sporobolus	asper	Tall Dropseed	FACU
Tridens	flavus	Purpletop	UPL
<b>Sedges/Rushes (23)</b>			<b>Wetness</b>
Carex	bebbii	Bebb's Sedge	OBL
Carex	brachyglossa	Yellowfruit Sedge	FAC
Carex	brevior	Fescue Sedge	FAC
Carex	emoryi	Emory's Sedge	OBL
Carex	gravida	Heavy Sedge	UPL
Carex	gravida	Wetland Gravida	OBL
Carex	tribuloides	Blunt Broomsedge	FACW
Carex	laeviconica	Smooth Cone Sedge	OBL
Carex	molesta	Troublesome Sedge	FAC
Carex	pellita	Wooly Sedge	OBL
Carex	sartwellii	Sartwell's Sedge	OBL
Carex	scoparia	Broom Sedge	FACW
Carex	vulpinoidea	Fox Sedge	OBL
Cyperus	squarrosus	Bearded Flatsedge	OBL
Eleocharis	palustris	Common Spikerush	OBL
Juncus	dudleyi	Dudley Rush	FACW
Juncus	nodosus	Knotted Rush	OBL
Juncus	tenuis	Tenuis Rush	FAC
Juncus	torreyi	Torrey's Rush	FACW
Schoenoplectus	pungens	Common Threesquare	OBL
Scirpus	atrovirens	Dark Green Bulrush	OBL
Scirpus	pallidus	Pale Bulrush	OBL
Scirpus	pendulus	Rufous Bulrush	OBL
<b>Legumes (14)</b>			<b>Wetness</b>
Amorpha	canescens	Leadplant	UPL
Astragalus	canadensis	Canada Milkvetch	FACU

Baptisia	alba	White Wild Indigo	FACU
Cassia	chamaecrista	Partridge Pea	FACU
Dalea	candidum	White Prairieclover	UPL
Dalea	leporina	Foxtail Dalea	FACU
Dalea	purpurea	Purple Prairieclover	UPL
Desmanthus	illinoensis	Illinois Bundleflower	FACU
Desmodium	illinoense	Illinois Tickclover	UPL
Glycyrrhiza	lepidota	Wild licorice	FACU
Lespedeza	capitata	Roundhead Bushclover	UPL
Lotus	purshianus	Deervetch	FAC
Schrankia	nuttallii	Sensitivebriar	UPL
Strophostyles	leiosperma	Wild Bean	UPL
<b>Composites (55)</b>			<b>Wetness</b>
Achillea	millefolium	Yarrow	FACU
Arnoglossum	atriplicifolium	Pale Indian Plantain	UPL
Arnoglossum	plantagineum	Indian Plantain	FACU
Artemisia	ludoviciana	Sagewort	FACU
Aster	ericoides	Heath Aster	FAC
Aster	pilosus	Frost Aster	FAC
Aster	novae-angliae	New England Aster	FACW
Aster	prealtus	Blue Willowleaf Aster	FACW
Aster	simplex	Tall White Aster	FACW
Bidens	cernua	Nodding Beggarticks	OBL
Boehmeria	cylindrica	False Nettle	OBL
Boltonia	asteroides	False Aster	FACW
Brickellia	eupatoroides	False Boneset	UPL
Chrysopsis	villosa	Golden Aster	UPL
Cirsium	altissimum	Tall Thistle	FAC
Coreopsis	tinctoria	Plains Correopsis	FAC
Echinacea	angustifolia	Purple Coneflower	UPL
Erigeron	philadelphicus	Marsh Fleabane	FAC
Erigeron	strigosus	Daisy Fleabane	FACW
Eupatorium	altissimum	Tall Joe Pye Weed	FACU
Eupatorium	maculatum	Spotted Joe Pye Weed	OBL
Eupatorium	perfoliatum	Boneset	OBL
Euthamia	graminifolia	Grassleaf Goldenrod	FACW
Gnaphalium	obtusifolium	Fragrant Cudweed	UPL
Grindelia	squarrosa	Gumweed	FACU
Helenium	autumnale	Sneezeweed	FACW
Helianthus	grosseserratus	Sawtooth Sunflower	FACW
Helianthus	rigidus	Stiff Sunflower	UPL
Helianthus	tuberosus	Jerusalem Artichoke	FAC
Heliopsis	helianthoides	False Sunflower	FACU
Iva	annua	Small Marsh Elder	FAC
Lactuca	canadensis	Canada Lettuce	FACU
Lactuca	ludoviciana	Wild Lettuce	FAC
Lactuca	oblongifolia	Showy Blue Lettuce	FAC
Liatris	aspera	Rough Gayfeather	UPL
Liatris	lancifolia	Thickspike Gayfeather	FACW
Liatris	punctata	Dotted Gayfeather	UPL
Liatris	pycnostachya	Prairie Blazing Star	FAC
Liatris	squarrosa v. glabrata	Scaly Blazing Star	UPL



Prenathes	aspera	Rough Rattlesnake Root	UPL
Ratibida	columnifera	Upright Prairie Coneflower	UPL
Rudbeckia	hirta	Black-eyed Susan	FACU
Rudbeckia	laciniata	Cutleaf Coneflower	FAC
Senecio	plattensis	Prairie Ragwort	FACU
Silphium	integrifolium	Entire-leaf Rosinweed	FACU
Silphium	laciniatum	Compass Plant	FAC
Silphium	perfoliatum	Cup Plant	FAC
Solidago	canadensis	Canada Goldenrod	FACU
Solidago	gigantea	Giant Goldenrod	FACW
Solidago	missouriensis	Missouri Goldenrod	UPL
Solidago	mollis	Western Goldenrod	UPL
Solidago	rigida	Stiff Goldenrod	FACU
Solidago	speciosa	Showy Goldenrod	UPL
Vernonia	baldwinii	Western Ironweed	FACW
Vernonia	fasciculata	Ironweed	FAC
<b>Miscellaneous (57)</b>			<b>Wetness</b>
Agalinis	aspera	Tall False Foxglove	FACU
Agalinis	tenuifolia	Slender False Foxglove	FACW
Alisma	trivale	American Water Plantain	OBL
Allium	canadense	Canada Garlic (Sets)	FAC
Allium	canadense	Canada Garlic (Seed)	FAC
Ammania	coccinea	Tooth Cup	OBL
Anemone	cylindrica	Candle Anemone	UPL
Apocynum	cannabinum	Prairie Dogbane	FAC
Asclepias	incarnata	Swamp Milkweed	OBL
Asclepias	sullivantii	Sullivant's Milkweed	FAC
Asclepias	syriaca	Common Milkweed	FAC
Asclepias	tuberosa	Butterfly Milkweed	UPL
Asclepias	verticillata	Whorled Milkweed	FACU
Callirhoe	alcaeoides	Pale Poppy Mallow	UPL
Calylophus	serrulatus	Serrate-leaf Primrose	UPL
Epilobium	coloratum	Cinnamon Willow Herb	OBL
Euphorbia	marginata	Snow-On-The-Mountain	FACU
Gaura	longiflora	Large-flowered Guara	UPL
Gaura	parviflora	Velvety Guara	UPL
Linum	sulcatum	grooved Flax	UPL
Lobelia	cardinalis	Cardinal Flower	OBL
Lobelia	siphilitica	Blue Cardinal Flower	OBL
Lycopus	americanus	American Bugleweed	OBL
Lycopus	asper	Rough Bugleweed	OBL
Lysimachia	ciliata	Fringed Loosestrife	FACW
Lythrum	alatum	Winged Lythrum	OBL
Mentha	arvensis	Field Mint	FACW
Mirabilis	nyctaginea	Wild Four O'clock	UPL
Monarda	fistulosa	Wild Bergamot	FACU
Oenothera	villosa	Common Evening Primrose	FAC
Onosmodium	molle	Marbleseed	FACU
Penstemon	digitalis	Smooth Penstemon	FAC
Penstemon	gracilis	Slender Penstemon	FACU
Penstemon	grandiflorus	Shell-leaf Penstemon	UPL
Penthorum	sedoides	Ditch Stonecrop	OBL

Physalis	longifolia	Common Ground-cherry	UPL
Pilea	fontana	Clearweed	OBL
Polygonum	lapathifolium	Pale Smartweed	OBL
Polygonum	pensylvanicum	Pennsylvania smartweed	FACW
Polytaenia	nuttallii	Prairie Parsley	FACU
Potentilla	arguta	Prairie Cinquefoil	FAC
Potentilla	norvegica	Norwegian Cinquefoil	FAC
Prunella	vulgaris	Self-heal	FACW
Pycnanthemum	virginianum	Mountain Mint	FAC
Rosa	arkansana	Wild Rose	FACU
Salvia	azurea	Pitcher Sage	UPL
Smilacina	stellata	False Solomonseal	FAC
Teucrium	canadense	American Germander	FACW
Thalictrum	dasycarpum	Purple Meadow Rue	FACW
Tradescantia	bracteata	Bracted Spiderwort	FAC
Tradescantia	ohiensis	Ohio Spiderwort	FACU
Triodanis	leptocarpa	Venus' Lookingglass	UPL
Verbena	hastata	Blue Vervain	FACW
Verbena	stricta	Hoary Vervain	UPL
Verbena	urticifolia	Elm-leaf Verbena	UPL
Symphoricarpos	occidentalis	Western Snowberry	UPL
Symphoricarpos	orbiculatus	Coralberry	FACU