

2024-2025 grassland seeding report of the Project Clear pipeline path

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In August 2022, the Metropolitan St. Louis Sewer District's (MSD) Project Clear finished installing a sewer pipeline after approximately three years of on-site construction at LREC. The first native seeding was completed in the fall and winter of 2023-2024. This report describes the second native seeding effort of the pipeline path and surrounding impacted areas (Fig. 1). This effort was completed with the combined work of LREC staff, interns, hired contractors, and volunteers.

Topography and Site Preparation: The total area seeded was about 6.26 ac (2.54 ha). The topography of the seeded landscape is relatively flat, except for the Deer Creek banks leading toward the creek edge and the slope leading up the Ameren right of way. Additionally, there are several wet depressions that retain water for most of the year as well as several drainage culverts draining into Deer Creek.

Some areas of the seeded area are more prone to seasonal and flash flooding, such as the southern section of pipeline path (now named the Savanna) where Deer Creek's channel bends rapidly to the east and then back toward the south. On May 7, 2025, contractors installed a bank stabilization product, Flexamat, to protect the bank from further erosion during floods. A cover crop of oats (*Avena sativa*) and pollinator prairie mix was seeded at that time. Unfortunately, heavy rains caused Deer Creek to reach a height of 13.29 ft before the cover crop could establish. Contractors returned on May 28 to seed another round of cover crop and pollinator prairie mix.

Early successional and ruderal vegetation grew on the path along with the previously seeded prairie species. Several invasive species were treated on the path, such as *Conium maculatum*, *Humulus scandens*, *Lespedeza cuneata*, *Lotus corniculatus*, *Melilotus albus*, *M. officinalis*, *Perilla frutescens*, *Lolium arundinaceum*, and *Sorghum halapense*. Management for these species is ongoing. No prescribed burns have occurred post construction.

Seed Collection: Staff and volunteers collected seed throughout the 2024 growing season to be used in the first pipeline path prairie planting. Seed was collected on site, from Shaw Nature Reserve, or purchased from a distributor. Species that were collected had lower [Coefficient of Conservatism](#) ranks (i.e., 7 or below) to ensure successful establishment of the prairie at this early stage.

We collected and purchased seeds from 148 species in 2024 for a total weight of 98 lbs (44 kg) of mostly Pure Live Seed (PLS), but some chaff was included (Table 1). These totals average to about 15 lbs per acre seeded including chaff.

Prairie Planting: There were multiple seeding events between January 3, 2025, and May 28, 2025. Seeding events were separated by habitat and growth type (i.e., wetland, full sun prairie, glade, woodland edge, warm season, and cool season). All seedings either occurred before rain, snow, or ice events or after snow and ice events. Some species were seeded at multiple dates and in multiple habitats of the path.



Figure 1. Pipeline path units and surrounding impacted area. These units were seeded in the Winter and Spring of 2025.

Table 1. A list of all species seeded in Winter and Spring 2025. Seed mixes were designed for the different habitats occurring along the pipeline path. These mixes include species for the main pipeline path in mostly full sun (p), woodland edge (e), wetland (w), upland “glade” slope near the Ameren right of way (g), and Savanna reconstruction unit which only includes the Flexamat and surrounding area seeded by contractors.

Species	Total weight (g)	Total Weight (lbs)	Date Seeded	Area Seeded
<i>Achillea gracilis</i>	5.36	0.01	1/17/2025; 2/14/25	p
<i>Agalinis tenuifolia</i>	23.04	0.05	1/17/2025; 2/14/25	p
<i>Agalinis purpurea</i>	2.72	0.01	5/7/2025; 5/28/25	s
<i>Agave (Manfreda) virginica</i>	40.52	0.09	1/30/25	g
<i>Agrimonia parviflora</i>	3.82	0.01	1/17/2025; 2/14/25	p
<i>Allium cernuum</i>	9.62	0.02	1/17/25	e
<i>Amorpha fruticosa</i>	9.06	0.02	1/3/25	w
<i>Amsonia illustris</i>	490.00	1.08	1/17/2025; 2/14/25	p
<i>Andropogon gerardii</i>	1460.23	3.22	4/29/2025; 5/7/25; 5/28/25	p/s
<i>Andropogon ternarius</i>	90.10	0.20	4/28/25	g
<i>Andropogon virginicus</i>	4.14	0.01	4/28/2025; 4/29/25	p/g
<i>Aristida oligantha</i>	0.04	0.00	4/28/25	g
<i>Aristida purpurascens</i>	0.14	0.00	4/28/25	g
<i>Arnoglossum atriplicifolium</i>	126.30	0.28	1/17/2025; 2/14/25	p
<i>Arnoglossum reniforme</i>	588.38	1.30	1/17/25	e

<i>Asclepias incarnata</i>	154.70	0.34	1/3/2025; 5/7/25; 5/28/25	w/e/s
<i>Asclepias sullivantii</i>	2.68	0.01	1/17/2025; 2/14/25	p
<i>Asclepias syriaca</i>	127.68	0.28	1/17/2025; 2/14/25	p
<i>Asclepias tuberosa</i>	16.00	0.04	1/17/2025; 2/14/25	p
<i>Asclepias viridis</i>	1.10	0.00	1/30/25	g
<i>Baptisia alba</i>	2631.54	5.80	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Baptisia australis</i>	165.11	0.36	5/7/2025; 5/28/25	s
<i>Berlandiera texana</i>	5.68	0.01	1/30/25	g
<i>Bidens polylepis</i>	123.38	0.27	5/7/2025; 5/28/25	s
<i>Blephilia hirsuta</i>	21.04	0.05	1/17/25	e
<i>Boltonia asteroides</i>	1.04	0.00	1/17/2025; 2/14/25	p
<i>Bouteloua curtipendula</i>	1241.03	2.74	5/7/2025; 5/28/25	s
<i>Brickellia eupatorioides</i>	7.84	0.02	1/30/25	g
<i>Bromus pubescens</i>	405.00	0.89	1/17/25	e
<i>Buchloe dactyloides</i>	113.40	0.25	4/28/25	g/p
<i>Callirhoe involucrata</i>	1.00	0.00	1/30/25	g
<i>Campanulastrum americanum</i>	12.22	0.03	1/17/25	e
<i>Carex comosa</i>	17.98	0.04	1/3/2025; 1/17/25	w/p
<i>Carex davisii</i>	33.10	0.07	1/17/2025; 2/14/25	p
<i>Carex lupulina</i>	43.18	0.10	1/3/25	w/e

<i>Carex lupulina/C. grayii mix</i>	28.34	0.06	1/17/25	e
<i>Carex lurida</i>	7.40	0.02	1/17/2025; 2/14/25	p
<i>Carex molesta</i>	24.49	0.05	5/7/2025; 5/28/25	s
<i>Carex molesta, C. brevoir</i>	1.86	0.00	1/17/2025; 2/14/25	p
<i>Carex shortiana</i>	7.42	0.02	1/17/2025; 2/14/25	p
<i>Carex spp.</i>	7.24	0.02	1/17/2025; 2/14/25	p
<i>Carex vulpinoidea</i>	92.31	0.20	1/3/2025; 1/17/25; 5/7/25; 5/28/25	w/p/s
<i>Cephalanthus occidentalis</i>	10.12	0.02	1/3/25	w
<i>Chamaecrista fasciculata</i>	339.35	0.75	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Chasmanthium latifolium</i>	6670.59	14.71	1/17/2025; 2/4/25; 2/14/25	p
<i>Chelone obliqua</i>	2.58	0.01	1/17/2025; 2/14/25	p
<i>Cinna arundinacea</i>	140.32	0.31		e
<i>Colataenia anceps</i>	194.16	0.43	4/29/25	p
<i>Conoclinium coelestinum</i>	6.10	0.01	1/17/25	e
<i>Coreopsis lanceolata</i>	819.78	1.81	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Coreopsis tinctoria</i>	86.18	0.19	5/7/2028; 5/28/25	s
<i>Coreopsis tripteris</i>	153.20	0.34	1/17/2025; 2/14/25	p
<i>Dalea candida</i>	178.81	0.39	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s

<i>Dalea purpurea</i>	176.90	0.39	5/7/2025; 5/28/25	s
<i>Danthonia spicata</i>	0.30	0.00	1/30/25	g
<i>Desmanthus illinoensis</i>	539.84	1.19	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Diarrhena obovata</i>	464.46	1.02	1/17/25	e
<i>Echinacea pallida</i>	185.97	0.41	5/7/2025; 5/28/25	s
<i>Echinacea purpurea</i>	1368.88	3.02	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Elephantopus carolinianus</i>	115.52	0.25	1/17/25	e
<i>Elymus canadensis</i>	1440.70	3.18	1/17/2025; 2/14/25	p
<i>Elymus hystrix</i>	586.76	1.29	1/17/25	e
<i>Elymus macgregorii</i>	496.50	1.09	1/17/2025; 2/14/25	p/e
<i>Elymus villosus</i>	59.28	0.13	1/17/25	e
<i>Elymus virginicus</i>	905.46	2.00	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Eragrostis spectabilis</i>	0.62	0.00	4/28/25	g
<i>Erigeron annuus</i>	0.12	0.00	1/17/2025; 2/14/25	p
<i>Eryngium yuccifolium</i>	1885.72	4.16	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Eupatorium altissimum</i>	47.33	0.10	1/30/2025; 5/7/25; 5/28/25	g/s
<i>Euphorbia marginata</i>	37.78	0.08	1/30/25	g
<i>Euthamia lanceolata</i>	583.56	1.29	1/17/2025; 2/14/25	p/e

<i>Eutrochium fistulosum</i>	101.24	0.22	1/17/2025; 2/14/25	p
<i>Eutrochium purpureum</i>	13.30	0.03	1/17/25	e
<i>Gentiana andrewsii</i>	0.86	0.00	1/17/2025; 2/14/25	p
<i>Helenium autumnale</i>	69.57	0.15	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Helianthus grosseserratus</i>	102.64	0.23	1/17/2025; 2/14/25	p
<i>Helianthus hirsuta</i>	0.26	0.00	1/17/2025; 2/14/25	p
<i>Helianthus maximiliani</i>	56.70	0.13	1/17/2025; 2/14/25	p
<i>Helianthus mollis</i>	8.38	0.02	1/17/2025; 2/14/25	p
<i>Helianthus tuberosus</i>	12.96	0.03	1/17/2025; 2/14/25	p
<i>Heliopsis helianthoides</i>	380.09	0.84	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Hibiscus lasiocarpus</i>	190.80	0.42	1/3/2025; 1/17/25	w/p
<i>Hibiscus moscheutos</i>	1.12	0.00	1/3/25	w
<i>Hibiscus laevis</i>	4.22	0.01	1/3/25	w
<i>Impatiens capensis</i>	0.70	0.00	1/3/25	w
<i>Iodanthis pinnatifidus</i>	4.02	0.01	1/17/25	e
<i>Iresine rhizomatosa</i>	5.02	0.01	1/17/25	e
<i>Juncus effusus</i>	14.18	0.03	1/3/25	w
<i>Liatris pycnostachya</i>	17.66	0.04	1/17/2025; 2/14/25	p
<i>Lobelia cardinalis</i>	1.00	0.00	1/17/25	e

<i>Lobelia spicata</i>	0.62	0.00	1/30/25	g
<i>Ludwigia alternifolia</i>	11.36	0.03	1/17/2025; 2/14/25	p
<i>Melanthium virginicum</i>	20.28	0.04	1/17/2025; 2/14/25	p
<i>Mimosa quadrivalvis</i>	14.17	0.03	1/30/25	g
<i>Mimulus alatus</i>	3.54	0.01	1/3/25	w
<i>Monarda fistulosa</i>	120.24	0.27	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Oenothera biennis</i>	42.86	0.09	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Oenothera macrocarpa</i>	7.09	0.02	1/30/25	g
<i>Oxypolis rigidior</i>	804.10	1.77	1/17/2025; 2/14/25	p
<i>Panicum virgatum</i>	421.22	0.93	4/29/2025; 5/7/25; 5/28/25	p/s
<i>Parthenium integrifolium</i>	352.89	0.78	5/7/2025; 5/28/25	s
<i>Pedicularis lanceolata</i>	31.08	0.07	1/17/2025; 2/14/25	p
<i>Penstemon digitalis</i>	869.79	1.92	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p
<i>Pycnanthemum tenuifolium</i>	54.22	0.12	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Pycnanthemum tenuifolium, P. virginiana, P. pilosum mix</i>	69.02	0.15	1/17/2025; 2/14/25	p
<i>Pycnanthemum virginianum</i>	19.58	0.04	1/17/2025; 2/14/25	p
<i>Ratibida columnifera</i>	214.10	0.47	5/7/2025; 5/28/25	s

<i>Ratibida pinnata</i>	193.23	0.43	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Rudbeckia hirta</i>	77.30	0.17	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Rudbeckia laciniata</i>	9.78	0.02	1/17/25	e
<i>Rudbeckia missouriensis</i>	3.54	0.01	1/30/25	g
<i>Rudbeckia subtomentosa</i>	1660.30	3.66	1/17/2025; 2/14/25	p
<i>Rudbeckia triloba</i>	146.12	0.32	1/17/2025; 2/14/25	p/e
<i>Ruellia humilis</i>	0.50	0.00	1/17/2025; 2/14/25	p
<i>Schizachyrium scoparium</i>	946.19	2.09	4/28/2025; 4/29/25; 5/7/25; 5/28/25	p/g/s
<i>Schoenoplectus tabernaemontani</i>	2.12	0.00	1/3/25	w
<i>Scrophularia marilandica</i>	46.56	0.10	1/17/25	e
<i>Scutellaria incana</i>	8.34	0.02	1/17/2025; 2/14/25	p
<i>Senna marilandica</i>	31.48	0.07	1/17/2025; 2/14/25	p
<i>Silene antirrhina</i>	0.80	0.00	1/17/2025; 1/30/25; 2/14/25	p/g
<i>Silene regia</i>	0.70	0.00	1/17/2025; 2/14/25	p
<i>Silene stellata</i>	0.68	0.00	1/17/25	e
<i>Silphium integrifolium</i>	1632.93	3.60	1/17/2025; 2/14/25	p
<i>Silphium laciniatum</i>	51.78	0.11	1/17/2025; 2/14/25	p
<i>Sisyrinchium angustifolium</i>	0.18	0.00	1/17/2025; 2/14/25	p

<i>Solidago flexicalis</i>	0.84	0.00	1/17/25	e
<i>Solidago missouriensis</i>	54.62	0.12	1/17/2025; 2/14/25	p
<i>Solidago nemoralis</i>	65.15	0.14	1/30/2025; 5/7/25; 5/28/25	g/s
<i>Solidago rigida</i>	102.28	0.23	1/30/2025; 5/7/25; 5/28/25	g/s
<i>Solidago rugosa</i>	60.76	0.13	1/17/2025; 2/14/25	p/e
<i>Solidago speciosa</i>	50.67	0.11	1/30/25	g
<i>Solidago ulmifolia</i>	3.70	0.01	1/17/25	e
<i>Sorghastrum nutans</i>	442.63	0.98	4/29/2025; 5/7/25; 5/28/25	p/s
<i>Spartina pectinata</i>	22.24	0.05	4/29/25	p
<i>Sporobolus heterolepis</i>	54.43	0.12	4/28/2025; 5/7/25; 5/28/25	g/s
<i>Symphyotrichum drummondii</i>	3.20	0.01	1/17/25	e
<i>Symphyotrichum laeve</i>	29.03	0.06	5/7/2025; 5/28/25	s
<i>Symphyotrichum lateriflorum</i>	30.42	0.07	1/17/2025; 2/14/25	p
<i>Symphyotrichum novae-angliae</i>	21.90	0.05	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s
<i>Symphyotrichum praelatum</i>	1076.50	2.37	1/17/2025; 2/14/25	p/e
<i>Symphyotrichum lanceolatum</i>	8.70	0.02	1/17/2025; 2/14/25	p
<i>Teucrium canadense</i>	74.32	0.16	1/17/2025; 2/14/25	p
<i>Tradescantia ohiensis</i>	243.10	0.54	1/17/2025; 2/14/25	p

<i>Tripsacum dactyloides</i>	709.52	1.56	4/29/25	p
<i>Vernonia baldwinii</i>	67.06	0.15	1/17/2025; 2/14/25	p
<i>Vernonia baldwinii/V. missurica mix</i>	2144.30	4.73	1/17/2025; 2/14/25	p
<i>Veronicastrum virginicum</i>	3930.44	8.67	1/17/2025; 2/14/25	p
<i>Zizia aurea</i>	890.52	1.96	1/17/2025; 2/14/25; 5/7/25; 5/28/25	p/s

Additional sources about this project:

1. Sims, Caitlyn M. *[2023–2024 Prairie Seeding Report of the Project Clear Pipeline Path.](#)* 2024.
2. Sims, Caitlyn M. *[2024 Restoration Report of the Project Clear Pipeline Path and Adjacent Areas.](#)* 2025.
3. Faupel, James and Caity Sims. 2024. Reconstruction and reconnecting native habitats post pipeline construction at the Litzsinger Road Ecology Center. Natural History of Ecological Restoraition.
<https://mbgecologicalrestoration.wordpress.com/2024/03/03/reconstructing-and-reconnecting-native-habitats-post-pipeline-construction-at-the-litzsinger-road-ecology-center/>
4. Schmiedeler, Karen, Cailyn Haubein, and Aaron Stovall. Tallgrass Prairie Reconstruction: Seed Collection. 2023.