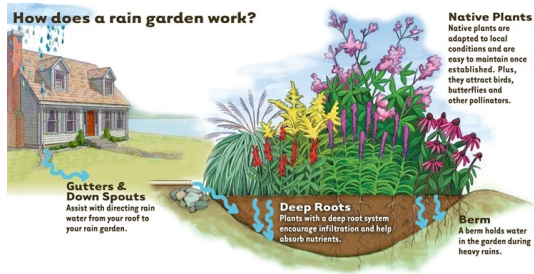




# Shoreline Restoration Tour



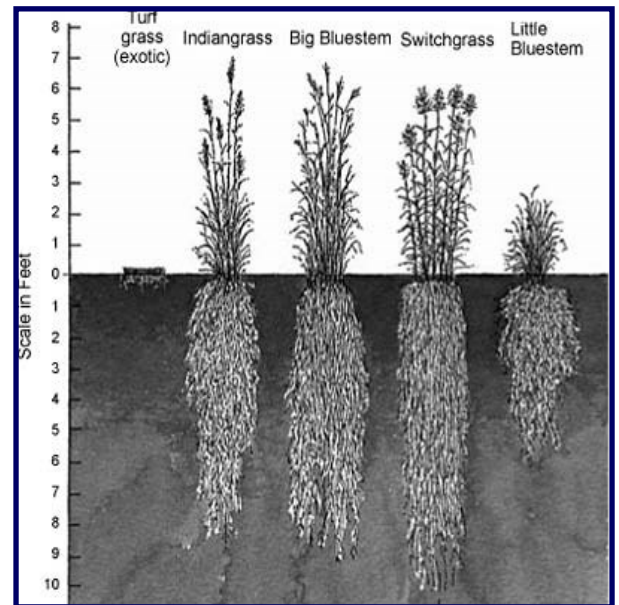
## Native Shoreland Buffers and Rain Gardens

### What is a native shoreland buffer?

A native shoreland buffer is a natural or restored shoreline carpeted by native plants which enhance the quality of lakes and streams as well as recreational activities. Native shorelines help improve water quality by slowing runoff and filtering nutrients, reducing erosion, and providing habitat for wildlife. They also add beauty and color to shorelines as well as providing privacy.

### What is a rain garden?

A rain garden is a planted shallow depression designed to catch and filter rainfall runoff. They provide attractive landscaping that can turn drainage or erosion problems into beauty for your yard. The garden is designed to slow stormwater runoff, help prevent erosion, and remove pollutants.



### Why plant natives?

Native plants have much deeper roots than common introduced turf grasses and hold soil better. They are also more tolerant to drought and require much less maintenance in the form of mowing or fertilizing. By choosing natives, you'll preserve a more natural appearance and probably have better plant survival than with imported cultivars.



OTC COLA & EOT SWCD present:

# Shoreline Restoration Tour

## Hendrickson Project—Lake Seven

Project Type: Shoreline Buffer-2 parts

Installation Year: 2011 and 2014

Cost: **Cost:** Two installations for a total of \$1,107.39, with cost share covering \$830.54





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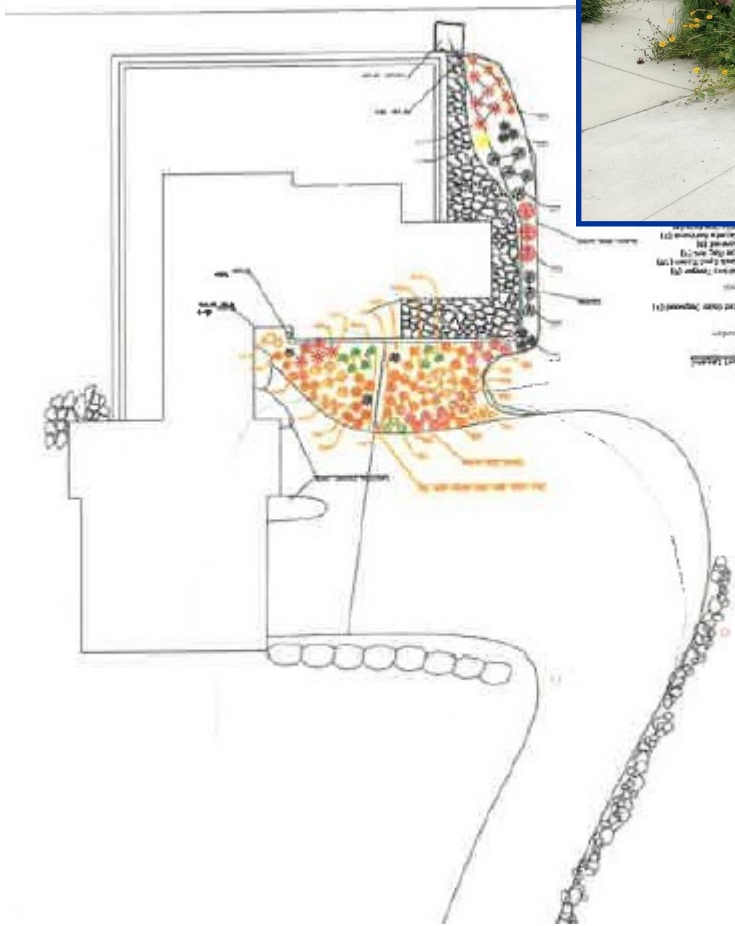
# Shoreline Restoration Tour

## Lien Project—Lake Seven

Project Type: Rain Garden with French drain

Installation Year: 2013

Cost: \$10,230.61 with a cost shared amount of \$7,672.96





# Shoreline Restoration Tour

## Lepp Project—Big Pine Lake

Project Type: Two hillside plantings

Installation Year: 2016

Cost: \$11,516.60 with cost shared amount of 8,637.45



PROJECT NAME		VENDOR #		P.O. NO.	
Lepp Residence					
QTY	UNITS	ITEM	DESCRIPTION	UNIT PRICE	EXTENSION
1,734	EA	Plant Installation	Plug installation July 7th 2016	2.40	4,161.60
3	EA	Herbicide Applicati...	Prep herbicide applications on April 28th, May 27th, June 30th 2016	250.00	750.00
1	LS	Seeding	Hillside native seeding on June 30th 2016	1,100.00	1,100.00
1	LS	Erosion Control Pro...	Hillside hydro-mulching on June 30th 2016	1,500.00	1,500.00
170	LF	Installation	Steel edging installed June 30th 2016	6.50	1,105.00
12	EA	Weed Control Servi...	Weed control visits in 2016, 2017 and 2018	200.00	2,400.00
1	EA	Prescribed Burning	One prescribed burn 2017-2019	500.00	500.00
				6.875%	0.00



OTC COLA & EOT SWCD present:

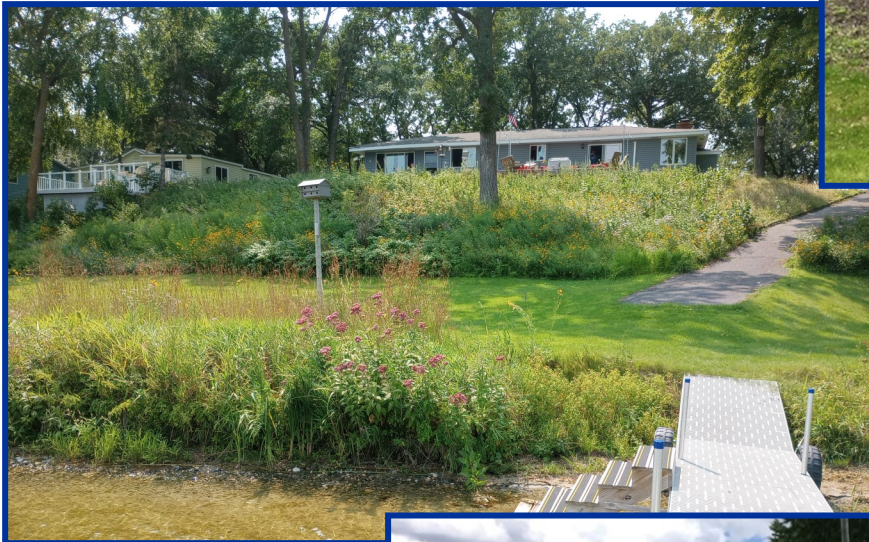
# Shoreline Restoration Tour

## Enger Project—Big Pine Lake

Project Type: Shoreline and hillside plantings

Installation Year: 2015 plus additional work in 2022

Cost: \$17,521.83 with a cost shared amount of \$13,141.37





# East Otter Tail

Soil & Water Conservation District

## MNL Upland Dry Prairie Mix Mixed Height

Ideal for dry (xeric) or sandy sites, mixed height grasses with total height from 2-5'

	Scientific Name	Common Name	% of Mix	Seeds/ Sq Ft	PLS lbs/ac	Bloom Season	
<b>Grasses:</b>	<i>Andropogon gerardii</i>	Big Bluestem	5.00	2.20	0.60		
	<i>Bouteloua curtipendula</i>	Side-oats Grama	23.00	10.09	2.76		
	<i>Bromus kalmii</i>	Prairie Brome	0.80	0.28	0.10		
	<i>Elymus canadensis</i>	Canada Wild Rye	4.50	1.03	0.54		
	<i>Elymus trachycaulus</i>	Slender Wheat Grass	6.95	2.11	0.83		
	<i>Koeleria macrantha</i>	Junegrass	0.25	1.93	0.03		
	<i>Schizachyrium scoparium</i>	Little Bluestem	18.15	12.00	2.18		
	<i>Sorghastrum nutans</i>	Indian Grass	7.00	3.70	0.84		
	<i>Sporobolus compositus</i>	Rough Dropseed	2.15	2.84	0.26		
	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1.70	1.20	0.20		
	<b>Sedges/Rushes:</b>	<i>Carex brevior</i>	Plains Oval Sedge	0.25	0.32	0.03	
		<i>Cyperus schweinitzii</i>	Schweinitz's Flatsedge	0.25	0.47	0.03	
<b>Forbs:</b>	<i>Achillea millefolium</i>	Yarrow	0.10	0.77	0.01	Summer	
	<i>Agastache foeniculum</i>	Fragrant Giant Hyssop	0.15	0.60	0.02	Summer	
	<i>Allium stellatum</i>	Prairie Onion	0.25	0.12	0.03	Summer	
	<i>Amorpha canescens</i>	Leadplant	2.25	1.59	0.27	Summer	
	<i>Artemisia ludoviciana</i>	Prairie Sage	0.10	1.10	0.01	Summer	
	<i>Asclepias syriaca</i>	Common Milkweed	1.30	0.23	0.16	Summer	
	<i>Asclepias tuberosa</i>	Butterfly Milkweed	0.85	0.16	0.10	Summer	
	<i>Chamaecrista fasciculata</i>	Partridge Pea	6.25	0.74	0.75	Fall	
	<i>Dalea candida</i>	White Prairie Clover	4.25	3.56	0.51	Summer	
	<i>Dalea purpurea</i>	Purple Prairie Clover	6.35	4.20	0.76	Summer	
	<i>Drymocallis arguta</i>	Prairie Cinquefoil	0.30	3.04	0.04	Summer	
	<i>Echinacea angustifolia</i>	Narrow-leaved Coneflower	0.25	0.08	0.03	Summer	
	<i>Helianthus pauciflorus</i>	Stiff Sunflower	0.50	0.09	0.06	Fall	
	<i>Heterotheca villosa</i>	Golden Aster	0.25	0.23	0.03	Summer	
	<i>Lespedeza capitata</i>	Round-headed Bushclover	1.00	0.35	0.12	Summer	
	<i>Liatris punctata</i>	Dotted Blazing Star	0.20	0.06	0.02	Summer	
	<i>Lupinus perennis</i>	Wild Lupine	0.20	0.01	0.02	Spring	
	<i>Monarda punctata</i>	Spotted Bee Balm	0.10	0.40	0.01	Summer	
	<i>Penstemon grandiflorus</i>	Large-flower Penstemon	1.00	0.62	0.12	Spring	
	<i>Ratibida columnifera</i>	Long-headed Coneflower	0.80	1.48	0.10	Summer	
	<i>Rudbeckia hirta</i>	Black-eyed Susan	1.30	5.27	0.16	Summer	
	<i>Solidago missouriensis</i>	Missouri Goldenrod	0.10	0.87	0.01	Fall	
	<i>Solidago nemoralis</i>	Gray Goldenrod	0.15	1.98	0.02	Fall	
	<i>Solidago rigida</i>	Stiff Goldenrod	0.20	0.36	0.02	Fall	
	<i>Symphotrichum laeve</i>	Smooth Blue Aster	0.45	1.09	0.05	Fall	
	<i>Symphotrichum oolentangiense</i>	Sky-blue Aster	0.60	2.12	0.07	Fall	
	<i>Tradescantia bracteata</i>	Long-bracted Spiderwort	0.15	0.07	0.02	Spring	
	<i>Verbena stricta</i>	Hoary Vervain	0.40	0.49	0.05	Summer	
	<i>Zizia aptera</i>	Heart-leaved Alexanders	0.20	0.11	0.02	Spring	
			100.00	69.96	12.00		
Seeds/sq ft:	70.00						
Grass Species:	10						
Sedges/Rush Sp:	1						
Forb Species:	29						

Seed mixes are subject to change based on availability

# Restore Your Shoreline - Native Buffers

**Native Buffer** - A 12 foot wide strip that is planted to grasses and flowers to conserve soil and enhance wildlife. The grasses and flowers planted are native, meaning they have always been found in Minnesota prior to settlement.



Wild Bergamot



Blanket Flower

## Will it look nice?

Absolutely! But like with any planting, it will require some maintenance. There are several native flowers we use that are bright and showy, such as Wild Bergamot, Blanket Flower, or Purple Coneflower. It's important to know the buffer will look more natural than your typical flower garden. We typically plant 60% grasses and 40% flowers. Buffers are installed in the spring or fall, and are at least 12 feet wide (from the lake towards the house).

## What's the process?

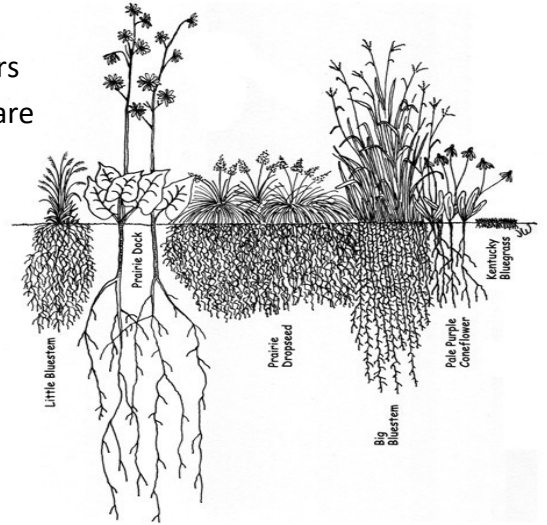
A Shoreland Specialist will come out to your site and address erosion concerns, as well as any potential runoff that might be entering the lake. From there, the Specialist will create a design plan and a cost estimate using the information gathered from the site visit. The existing vegetation will be killed off in the project area - This is important because it reduces plant competition. Next a layer of seed (grasses & flowers) will be put down and live plants will be planted every 1.5 feet, as well as putting in any erosion control material if needed. Lastly, water about an inch every week and watch your buffer grow!

**For more information** on native buffers, rain gardens, or funding, please contact the East Otter Tail County Soil & Water Conservation District:

218-346-9105

Liz.Wiese@eot.mnswcd.org

Pete.Guck@eot.mnswcd.org



## Why put in a buffer?

The native grasses and flowers used in a buffer have a much deeper root system than the typical short lawn grass. This deep root system helps hold your shoreline in place, slows erosion, and infiltrates any runoff from lawns or roads before it hits the lake. A buffer also creates habitat for wildlife, including butterflies and birds. Having trouble with geese? Geese don't like the taller grass!

*We design rain gardens, too!*



## Is there financial assistance available?

We may have cost-share available through the SWCD and/or your local lake association. Cost-share would provide reimbursement up to 75% of eligible costs. When you use cost-share, you agree to a contract which states the buffer will be maintained and functional for 10 years. The SWCD does site checks on years 1, 5, and 9.



OTC COLA & EOT SWCD present:

# Shoreline Restoration Tour

## Notes