

US EPA ARCHIVE DOCUMENT

APPENDIX 8 EXAMPLES OF NATURAL LANDSCAPING INSTALATION AND MAINTENANCE COST

ECONOMIC BENEFITS TO USING NATIVE LANDSCAPE TREATMENTS

The following table represents **1995 costs per acre** for the three identified landscape treatments.

Installation and Seed Costs	Kentucky Blue Grass	Buffalo Grass	Prairie Grasses & Forbs
Seed	\$ 500.00	\$ 1,000.00	\$ 1,200.00
Ground Prep. and Installation	\$ 2,000.00	\$ 500.00	\$ 500.00
Watering, mowing, weeding related to installation	\$ 2,000.00	\$ 500.00	no weeding 1st yr.
	\$ 4,500.00	\$ 2,000.00	\$ 1,700.00
Overseeding (seed and install) ***	\$ 900.00	\$ 550.00	\$ 500.00
Annual Maintenance Costs			
Mowing (\$75 per week)	\$ 2,400.00	\$ 750.00	
Watering	\$ 2,000.00		
Fertilizing (\$90 per application)	\$ 270.00	\$ 90.00 ***	
Weed control (\$50 per application)	\$ 100.00	\$ 100.00 ***	
Core Aeration	\$ 450.00		
Prescribed Burn and/or mowing			\$ 400.00 *
Weeding & hand-wicking			\$ 1,200.00 **
	\$ 5,220.00	\$ 940.00	\$ 1,400.00

- * includes permit application submittal; in most cases, the larger the site the lower the incremental cost of controlled burning, depending on the complexity of the fire plan.
- ** may or may not be necessary during the 1st five years of establishment
- *** may or may not be necessary during the 1st three years of establishment

The above figures represent a "typical" seed installation. Installation and maintenance charges may vary based on ground preparation, seeding rate and desired appearance.

Annual maintenance figures are based on a 32 week growing season.

Per Acre Costs Compared Over a 10 Year Period

YEAR	Treatment	Kentucky Blue	Buffalo Grass	Prairie Grasses and Forbs
1	install & maint.	\$ 9,720.00	\$ 2,940.00	\$ 1,700.00 *
2	maint. & overseed	\$ 6,120.00	\$ 1,490.00	\$ 1,900.00
3	maint. & overseed	\$ 6,120.00	\$ 1,490.00	\$ 1,900.00
4	maint. & overseed	\$ 6,120.00	\$ 1,490.00	\$ 1,900.00
5	maintenance	\$ 5,220.00	\$ 490.00 **	\$ 1,400.00
6	maintenance	\$ 5,220.00	\$ 300.00	\$ 200.00 ***
7	maintenance	\$ 5,220.00	\$ 300.00	\$ 200.00
8	maintenance	\$ 5,220.00	\$ 300.00	\$ 200.00
9	maintenance	\$ 5,220.00	\$ 300.00	\$ 200.00
10	maintenance	\$ 5,220.00	\$ 300.00	\$ 200.00
		\$ 59,400.00	\$ 9,400.00	\$ 9,800.00

- * No maintenance is required for the 1st year of prairie grass establishment.
- ** After 4th year establishment of Buffalo Grass, mowing frequency will decrease to 4 times per year or less depending on desired appearance.
- *** Following full establishment of the prairie, generally after year 5, annual maintenance will be reduced to an annual burn.

CONSERVATION DESIGN FORUM, Inc.
May 1996

What this could mean for you ...

New Installation:

Ten Year Cost Savings Projection
(Based on a 25-Acre Installation)

<u>YEAR</u>	<u>Turf Grass</u>	<u>Buffalo Grass</u>	<u>Cost Savings</u>	<u>Prairie Grasses and Forbs</u>	<u>Cost Savings</u>
1	\$ 243,000	\$ 73,500	\$ 169,500	\$ 42,500	\$ 200,500
2	\$ 153,000	\$ 37,250	\$ 115,750	\$ 47,500	\$ 105,500
3	\$ 153,000	\$ 37,250	\$ 115,750	\$ 47,500	\$ 105,500
4	\$ 153,000	\$ 37,250	\$ 115,750	\$ 47,500	\$ 105,500
5	\$ 130,500	\$ 12,250	\$ 118,250	\$ 35,000	\$ 95,500
6	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
7	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
8	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
9	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
10	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
	<u>\$1,485,000</u>	<u>\$ 235,000</u>		<u>\$ 245,000</u>	
Cost Savings as compared to a Turf installation:			\$ 1,250,000		\$ 1,240,000

Retrofit:

Ten Year Cost Savings Projection
(Based on a 25-Acre Native Vegetation Retrofit)

<u>YEAR</u>	<u>Turf Grass</u>	<u>Buffalo Grass</u>	<u>Cost Savings</u>	<u>Prairie Grasses and Forbs</u>	<u>Cost Savings</u>
1	\$ 130,500	\$ 73,500	\$ 57,000	\$ 42,500	\$ 88,000
2	\$ 130,500	\$ 37,250	\$ 93,250	\$ 47,500	\$ 83,000
3	\$ 130,500	\$ 37,250	\$ 93,250	\$ 47,500	\$ 83,000
4	\$ 130,500	\$ 37,250	\$ 93,250	\$ 47,500	\$ 83,000
5	\$ 130,500	\$ 12,250	\$ 118,250	\$ 35,000	\$ 95,500
6	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
7	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
8	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
9	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
10	\$ 130,500	\$ 7,500	\$ 123,000	\$ 5,000	\$ 125,500
	<u>\$1,305,000</u>	<u>\$ 235,000</u>		<u>\$ 245,000</u>	
Retrofit Cost Savings compared to turf maintenance:			\$ 1,070,000		\$ 1,060,000

COST OF NATIVE VS. NON-NATIVE SPECIES FOR LANDSCAPING

Procedures & Material Site Preparation	Sodded Turf Grasses	Seeded Turf Grasses	Prairie or Wetland Seeding
Spraying ¹	\$ 140.00	\$ 140.00	\$ 140.00
Irrigation ²	\$ 1,680.00	\$ 1,680.00	
Top Soil ³	\$ 4,480.00	\$ 4,480.00	
Tilling	\$ 392.00	\$ 392.00	\$ 392.00
Sod & Seeding	\$ 5,964.00		
Seed & Seeding		\$ 1,064.00	\$ 1,232.00
Wild Flower Planting*			\$ 1,680.00*
First Year Mowing	\$ 784.00	\$ 672.00	\$ 196.00
Total Installation Per Acre	\$13,440.00	\$ 8,428.00	\$ 1,960.00 to \$ 3,640.00
Subsequent Annual Upkeep Per Acre⁴	\$ 1,120.00	\$ 1,120.00	\$ 168.00

1. Spraying must be done on site with live, undesirable vegetation such as quack grass or thistle.
2. Irrigation cost figure assume on underground automatic system.
3. Top soil is figured at approximately 3" depth hauled in from off-site.
* Wild flower planting is optional on low profile site.
The figure is based on 1,000 seedings installed per acre planted.
4. Annual maintenance for turf grass includes 12 mowing per/year plus fertilizer and watering. Annual maintenance for prairie/wetland grasses includes annual burns, occasional spot spraying or mowing.

Source: Applied Ecological Service, Inc.

**PRAIRIE VS. TURF GRASS
INSTALLATION AND MAINTENANCE COSTS/ACRE**

Procedures & Material Site Preparation	Sodded Turf Grasses	Seeded Turf Grasses	Seeded Highway Grasses	Restored Prairie or Wetland
Spraying ¹	\$ 125.00	\$ 125.00	\$ 125.00	\$ 125.00
Irrigation ²	\$ 1,500.00	\$ 1,500.00		
Top Soil ³	\$ 4,000.00	\$ 4,000.00		
Tilling	\$ 350.00	\$ 350.00	\$ 350.00	\$ 350.00
Sod and Sodding	\$ 8,000.00			
Seed and Seeding		\$ 950.00	\$ 800.00	\$ 1,100.00
Wild Flower Planting*				\$ 1,500.00*
First Year Mowing	\$ 700.00	\$ 600.00		\$ 175.00
Total Installation Costs Per Acre	\$14,675.00	\$ 7,525.00	\$ 1,275.00	\$ 1,750.00 to \$ 3,250.00
Subsequent Annual Upkeep Per Acre⁴	\$ 1,000.00	\$ 1,000.00	\$ 150.00	\$ 150.00
Estimated Maintenance Costs 20 years Per Acre	\$20,000.00	\$20,000.00	\$ 3,000.00	\$ 3,000.00

1. Spraying must be done on sites with live, undesirable vegetation such as quack grass or thistle.
2. Irrigation cost figures assume on underground automatic system.
3. Topsoil is figured at approximately 3" depth hauled in from off-site.
* Wildflower planting is optional on low profile sites. The figure shown is based on a level 6 planting, 1,000 seeding installed per acre planted.
4. Annual maintenance for turf grasses includes 12 mowings per year plus fertilizer and water. Annual maintenance for highway grasses includes occasional spot spraying and mowing. Annual maintenance for prairie/wetland grasses includes annual burns, occasional spot spraying or mowing.

Source: Unidentified Source in Minnesota