

FOREST STEWARDSHIP PLAN

for

TED KEARNS
9362 Tollgate Drive
Longmont, CO 80503
(303) 449-5070 (H)

N1/2 NE1/4 NE1/4 NW1/4, Sec 17, T2N, R70W, S.P.M.

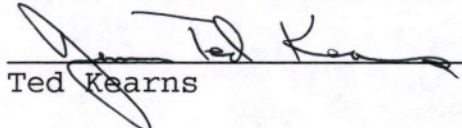
(4.1 Acres)

Prepared By:

Douglas J. Stevenson
Colorado State Forest Service
936 Lefthand Canyon
Boulder, CO 80302
(303) 442-0428 (O)
(303) 448-1283 (F)

January 21, 1997

This management plan has been prepared at my request to guide my Stewardship management activities which I voluntarily apply on my property. I believe that activities recommended in this plan are appropriate to meet my objectives and will benefit the natural resources on my property. I intend to apply the recommended practices and to maintain them for a period of at least ten years, thus helping me to be a good steward of the forest and associated resources entrusted to me on my property.


Ted Kearns

January 21, 1997

TABLE OF CONTENTS

Subject	Page
COOPERATIVE FOREST MANAGEMENT PLANTING PLAN	1
TABLE OF CONTENTS	2
OBJECTIVE	3
DESCRIPTION	3
Valmont very cobbly clay loam	3
WILDLIFE	4
PLANTING PROJECTS	5
Windbreak A	5
Windbreak B	6
Windbreak C	7
Thicket Plantings	9
Northeast (Plum) Thicket (D)	9
Southeast (Pine) Thicket (E)	9
MAINTENANCE	10
MAP	11

OBJECTIVE

To create a windbreak to protect the house and visual screens to block the view from Nelson Road to the north and west. To create wildlife shelters and food sources and to improve the aesthetic qualities of the yard.

DESCRIPTION

The property is located on the southeast corner of Nelson Road and Tollgate Drive.

The site is currently occupied by a house in the southwest corner and by yard. There is a heavy grass sod on the site which is level. It is located on Broadway alluvium, a gravel deposit of late Pleistocene (Pinedale) age. There are a numerous ornamental trees near the house, along the south property line and in a north-south row east of the house. An additional small house has been added north of the main house shown on the map. Otherwise, the site contains only grass.

Valmont cobbly clay loam¹

This is a moderately-deep, well drained soil on high terraces at elevations of 4,900 to 5,500 feet. It formed in gravelly and cobbly loamy alluvium.

Typically the surface layer of this soil is very dark grayish brown light clay loam about 4 inches thick. The subsoil is brown clay loam to a depth of 24 inches. The substratum to a depth of 60 inches is pinkish-white to light-brown very gravelly loam. The surface layer is neutral but becomes moderately alkaline with increasing depth, thus limiting the choice of trees.

Permeability is moderately slow and available water capacity is moderate. The effective rooting depth is 60 inches or more. Surface runoff is medium, and the erosion hazard is slight to moderate.²

The potential native vegetation on this site is dominated by tall grasses such as sand bluestem, sand reedgrass and blue grama.

¹Crabb, James A., Soil Survey of Weld County, Colorado - Southern Part, USDA Soil Conservation Service, Denver, 1980.

²Forester's Note: This soil is subject to blowing and water erosion. Weed barrier and/or grass cover is needed.

Needleandthread, switchgrass, sideoats grama, and western wheatgrass are also prominent. As range condition deteriorates, the sand bluestem, sand reedgrass and switchgrass decrease and blue grama, sand dropseed, and sand sage increase. Annual weeds and grasses invade the site as range condition becomes poorer.

Sand bluestem, sand reedgrass, switchgrass, sideoats grama, blue grama, and pubescent wheatgrass are suitable for seeding. It can be seeded into a clean, firm sorghum stubble, or it can be drilled into a firm prepared seedbed. Seeding early in spring has proven most successful.

Windbreaks and enviornmental plantings are generally suited to this soil. Soil blowing, the principle hazard in establishing trees and shrubs, can be controlled by cultivating only in the tree row and by leaving a strip of vegetation between the rows. Supplemental irrigation may be needed at the time of planting and during dry periods. Trees that are best suited and have good survival are Rocky Mountain juniper, ponderosa pine, Siberian elm, Russian-olive and eastern cottonwood. The shrubs best suited are skunkbush sumac, lilac and Siberian peashrub and American plum.³

Wildlife is an important secondary use of this soil. The cropland areas provide favorable habitat for ring-necked pheasant, and mourning dove. Many nongame species can be attracted by establishing areas for nesting and escape cover. For pheasants, undisturbed nesting cover is essential and should be included in plans for habitat development, especially in areas of intensive agriculture. Rnageland wildlife, for example, the pronghorn antelope, can be attracted by developpeing livestock watering facilities, managing livestock grazing, and reseeding where needed.

Lawns, shrubs and trees grow well. Capability subclass Vs-1 irrigated, VIIIs-1 nonirrigated.

WILDLIFE

Though not a primary purpose, wildlife use of the property is an important secondary purpose of these plantings. Small game and non-game birds are desired.

³Caragana.

PLANTING PROJECTS

WINDBREAK:

Planting A:

Purpose: Together with Planting B, to protect the houses from northerly winds, especially during winter, and from traffic noises all year.

Description: This is a three-row planting. It is 124 feet long, 16 feet wide (36 feet with buffers), occupies 0.1 acres and benefits 1.1 acres. This component starts 45 feet south of the curve in the northwest corner of the property, runs up to the curve and along it 79 feet to meet the north property line.

The planting can be placed on dirt berms if that is desired, but will work without them. Results will be slightly better if the berms are put in place and given several months to settle before planting. If possible, the shrub row should be placed four feet inside the property line where the berm meets the native soil line. The juniper row is then placed eight feet inside the plum row and the tall row is placed eight feet inside the juniper row.

The outer row is 117 feet long and will require 29 shrubs on a four-foot spacing. Workable species include American plums, cottoneasters, lilacs, three-leaf sumacs, Nanking cherries, and caraganas. These shrubs should be of a single species.

The middle row is 105 feet long and will require 17 junipers on a six-foot spacing. Rocky Mountain juniper is the best choice for this site; although, eastern red-cedar, caragana, and Russian-olive will also work well. Again, this row should consist of a single species.

The inside row is 92 feet long and will require 15 tall-growing trees on an eight-foot spacing. Suitable species include ponderosa pine, Siberian or Chinese elms, or eastern or plains cottonwoods. Again, the row should consist of a single species.

At least one of the three rows needs to be a conifer to provide winter protection.

This component will also require 323 feet of weed barrier weed barrier (6-foot width minimum, 8-foot width preferred) and 400 6-inch, 11-gauge wire staples (Square ends are easier to place.).

STEWARDSHIP INCENTIVES PLAN

6

Cost summary for Planting A:

Seedlings:

29 shrubs @ \$21.00/50:	\$ 12.18
17 Rocky Mtn. junipers @ \$28.20/30:	15.98
<u>15 ponderosa pines @ \$28.20/30:</u>	<u>14.10</u>
61 Sub-Total:	\$ 42.26
Bulk Discount (0%):	<u>0.00</u>
SEEDLING TOTAL:	\$ 42.26
Sales Tax (4.15%):	<u>1.75</u>
TOTAL, SEEDLINGS:	\$ 44.01

Materials:

400 Staples @ \$54.00/1000:	\$ 21.60
323' Weed Barrier @ \$108.00/300':	<u>116.28</u>
Sub-Total:	\$ 137.88
Sales Tax (6.9%):	<u>9.51</u>
TOTAL, MATERIALS:	\$ 147.39

Labor:

61 Seedlings planting @ \$2.00 ea.:	\$ 122.00
108 Yards weed barrier @ \$1.08/yd.:	<u>116.64</u>
TOTAL, LABOR:	\$ 238.64

GRAND TOTAL* \$ 430.04

Planting B:

Purpose: To protect the houses from traffic noise.

Description: This is a three-row planting. It is 216 feet long, 16 feet wide (36 feet with buffers), occupies 0.2 acres and benefits 2.0 acres. This component runs from the curved property line in the northwest corner to the Russian-olive row.

The outer row will require 54 shrubs on a four-foot spacing. Workable species include American plums, cottonasters, lilacs, three-leaf sumacs, Nanking cherries, and caraganas. These shrubs should be of a single species.

The middle row will require 36 medium-sized trees on a six-foot spacing. Workable species include Rocky Mountain juniper and eastern red-cedar for year-round protection, and caragana, and Russian-olive for summer only protection. Again, this row should consist of a single species.

The inside row will require 27 tall-growing trees on an eight-foot spacing. Suitable species include ponderosa

STEWARDSHIP INCENTIVES PLAN

7

pine, Siberian or Chinese elms, or eastern or plains cottonwoods. Again, the row should consist of a single species.

At least one of the three rows needs to be a conifer to provide winter protection.

This component will also require 657 feet of weed barrier weed barrier (6-foot width minimum, 8-foot width preferred) and 700 6-inch, 11-gauge wire staples).

Cost summary for Planting B:

Seedlings:

54 shrubs @ \$21.00/50:	\$ 22.68
36 Rocky Mtn. junipers @ \$28.20/30:	33.84
<u>27 ponderosa pines @ \$28.20/30:</u>	<u>25.38</u>
117 Sub-Total:	\$ 81.90
Bulk Discount (0%):	<u>0.00</u>
SEEDLING TOTAL:	\$ 81.90
Sales Tax (4.15%):	<u>3.40</u>
TOTAL, SEEDLINGS:	\$ 85.30

Materials:

700 Staples @ \$54.00/1000:	\$ 37.80
657' Weed Barrier @ \$108.00/300':	<u>236.52</u>
Sub-Total:	\$ 274.32
Sales Tax (6.9%):	<u>18.93</u>
TOTAL, MATERIALS:	\$ 293.25

Labor:

117 Seedlings planting @ \$2.00 ea.:	\$ 234.00
219 Yards weed barrier @ \$1.08/yd.:	<u>236.52</u>
TOTAL, LABOR:	\$ 470.52

GRAND TOTAL*	\$ 849.07
--------------	-----------

Planting C:

Purpose: To protect the east end of the property from traffic noise and to serve as a visual barrier.

Description: This is a three-row planting. It is 229 feet long, 16 feet wide (36 feet with buffers), occupies 0.2 acres and benefits 2.1 acres. This component runs from the Russian-olive row to the east property line.

The outer row will require 57 shrubs on a four-foot spacing. Workable species include American plums, cottonasters, lilacs, three-leaf sumacs, Nanking cherries,

and caraganas. These shrubs should be of a single species.

The middle row will require 38 medium-sized trees on a six-foot spacing. Workable species include Rocky Mountain juniper and eastern red-cedar for year-round protection, and caragana, and Russian-olive for summer only protection. Again, this row should consist of a single species.

The inside row will require 28 tall-growing trees on an eight-foot spacing. Suitable species include ponderosa pine, Siberian or Chinese elms, or eastern or plains cottonwoods. Again, the row should consist of a single species.

At least one of the three rows needs to be a conifer to provide winter protection.

This component will also require 696 feet of weed barrier weed barrier (6-foot width minimum, 8-foot width preferred) and 800 6-inch, 11-gauge wire staples).

Cost summary for Planting C:

Seedlings:

57 shrubs @ \$21.00/50:	\$ 23.94
38 Rocky Mtn. junipers @ \$28.20/30:	35.72
<u>28 ponderosa pines @ \$28.20/30:</u>	<u>26.32</u>
123 Sub-Total:	\$ 85.98
Bulk Discount (0%):	<u>0.00</u>
SEEDLING TOTAL:	\$ 85.98
Sales Tax (4.15%):	<u>3.57</u>
TOTAL, SEEDLINGS:	\$ 89.55

Materials:

800 Staples @ \$54.00/1000:	\$ 43.20
696' Weed Barrier @ \$108.00/300':	<u>250.56</u>
Sub-Total:	\$ 293.76
Sales Tax (6.9%):	<u>20.27</u>
TOTAL, MATERIALS:	\$ 314.03

Labor:

123 Seedlings planting @ \$2.00 ea.:	\$ 246.00
232 Yards weed barrier @ \$1.08/yd.:	<u>250.56</u>
TOTAL, LABOR:	\$ 496.56

GRAND TOTAL*	\$ 900.14
--------------	-----------

Thicket Plantings:

Purpose:

To provide cover and a food source for non-game wildlife.

Description: There will be two thickets: one in the northeast corner of the property and one in the southeast corner. Both are triangular in shape and extend 93 feet along the property lines. Each is 135 feet along the diagonal.

The northeast planting will be an American plum thicket, containing 272 seedlings on a 4'X4' spacing. It will require 4800 square feet of weed barrier (2.67 6'X300' rolls) and 900 6" staples.

The southeast planting will be a ponderosa pine thicket, containing 68 seedlings on an 8'X8' spacing. It will be a rectangle, 135'X32'. It will also require 4800 square feet of weed barrier and 900 6" staples.

Costs are shown for each thicket separately:

Northeast (Plum) Thicket (D):

Seedlings:

272 American plums @ \$21.00/50:	\$ 114.24
Sales Tax (4.15%):	<u>4.74</u>
TOTAL, SEEDLINGS:	\$ 118.98

Materials:

900 Staples @ \$54.00/1000:	\$ 48.60
800' Weed Barrier @ \$108.00/300':	<u>288.00</u>
Sub-Total:	\$ 336.60
Sales Tax (6.9%):	<u>23.23</u>
TOTAL, MATERIALS:	\$ 359.83

Labor:

272 Seedlings Planting @ \$2.00 ea.:	\$ 544.00
266 Yards weed barrier @ \$1.08 ea.:	<u>287.28</u>
TOTAL, LABOR:	\$ 831.28

GRAND TOTAL*	\$1310.09
--------------	-----------

Southeast (Pine) Thicket (E):

Seedlings:

68 ponderosa pines @ \$28.20/30:	\$ 63.92
Sales Tax (4.15%):	<u>2.65</u>
TOTAL, SEEDLINGS:	\$ 66.57

STEWARDSHIP INCENTIVES PLAN

10

Materials:

900 Staples @ \$54.00/1000:	\$ 48.60
800' Weed Barrier @ \$108.00/300':	<u>288.00</u>
Sub-Total:	\$ 336.60
Sales Tax (6.9%):	<u>23.23</u>
TOTAL, MATERIALS:	\$ 359.83

Labor:

68 Seedlings Planting @ \$2.00 ea.:	\$ 136.00
266 Yards weed barrier @ \$1.08 ea.:	<u>287.28</u>
TOTAL, LABOR:	\$ 423.28

GRAND TOTAL* \$ 849.68

*Based on 1997 prices. Prices are approximate and subject to change. Bulk rates are available if you do several projects at once and order enough trees. If two or three projects are done at the same time, the leftovers from each can be consolidated and the order reduced slightly.

MAINTENANCE

The use of weed barrier just about eliminates the need for maintenance, if it can be placed by mid-June (preferably June 1st). The only thing needed is an occasional inspection tour to re-anchor weed barrier that comes loose. Watering will increase survival and growth, but it is not needed.

You can expect about 15% loss during the first year a planting is in the ground. One year after planting, seedlings usually look terrible, but are recovering from shock by the end of the third year. Rabbit guards may be needed to protect the seedlings from our furry friends. By the third year, transplant losses should no longer be a problem. A seedling is considered established after surviving five years.

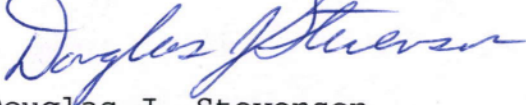
The wall-to-wall weed barrier approach will minimize grasshopper problems, but to be sure, you should mow the grass and weeds around the plantings during the early part of each season. After mid-July, quit mowing so that weeds can come up and provide some protection from winter winds.

Grass is a vigorous competitor with tree seedlings. It drinks up water and adds compounds to soil to poison competition. Seedlings grow much better if they don't have to fight it.

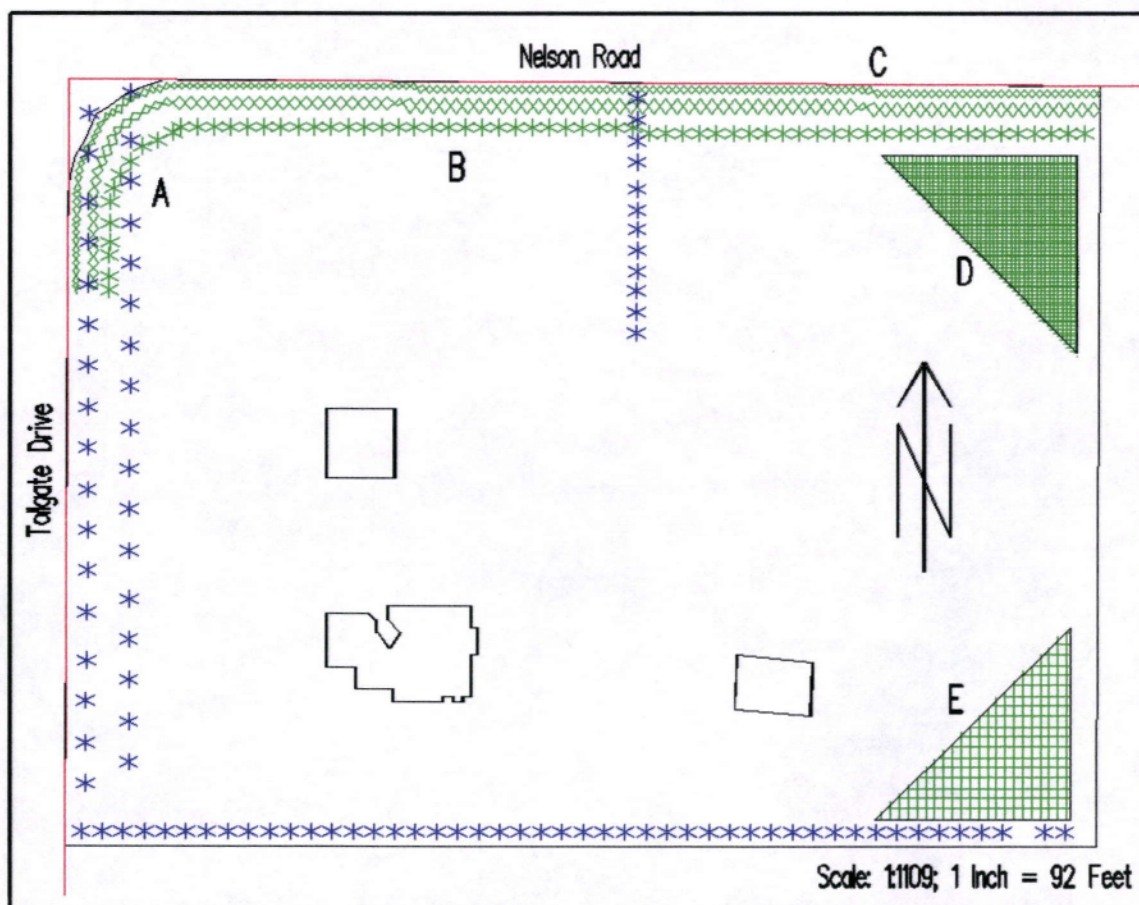
Weed barrier is a woven plastic cloth. It kills grass. Laid around tree seedlings, it provides needed relief from competition.

Maintenance is the landowner's responsibility. The above prices do not include things like re-anchoring weed barrier after a storm, or watering seedlings should drought threaten the planting during the first summer (Although, this can be arranged.).

Respectfully Submitted By:



Douglas J. Stevenson
Assistant District Forester



Ted Kearns

N1/2 NE1/4 NE1/4 NW1/4, Sec 17, T2N, R70W, S.P.M.

	Property Line		Shrubs
	Road		Junipers
	Building		Trees
			Plum Thicket
			Pine Thicket

Drawn By: Douglas J. Stevenson on PC ARC/INFO

January 13, 1997