

STEWARDSHIP INCENTIVES PLAN

for

TERRY SISSON
15155 Washington Street
Broomfield, CO 80020
(303) 252-8888

NW1/4 NW1/4 SE1/4, Sec 10, T1S, R68W, S.P.M.

(9.9 Acres)

Prepared By:

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

November 19, 1994

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.

Terry Sisson

Date

TABLE OF CONTENTS

Subject	Page
STEWARDSHIP INCENTIVES PLAN	1
TABLE OF CONTENTS	2
OBJECTIVE	3
DESCRIPTION	3
INVENTORY	4
WILDLIFE	4
PLANTING PROJECTS	4
Wildlife Thicket (Planting G)	4
Wildlife Thicket (Planting I)	5
Farmstead Windbreak (Planting A)	6
Farmstead Windbreak (Planting F)	6
Farmstead Windbreak (Planting H)	7
Farmstead Windbreak (Planting K)	7
Farmstead Windbreak (Planting E)	8
MAINTENANCE	9
MAINTAIN THE PRACTICE	10
RECOMMENDATIONS	10
MAP	11
SOIL SERIES	12

OBJECTIVE

To create a windbreak to protect a house and provide wildlife shelter areas.

DESCRIPTION

The property is located at 15155 Washington Street about 1.2 miles south of CO-7.

The house is on a low hill where it has an excellent view of the mountains. Mr. Sisson is concerned about preserving his view of the mountains. The house is located about 80 feet south of the property line fence and about 450 feet east of the west property line (the I-25 right-of-way). A 6-foot earthen berm has been constructed around the south and part of the west sides to serve as a windbreak. Mr. Sisson has already started planting Russian-olives along the western side of this and plans to add a row of maples and a ground-cover on the berm. Mr. Sisson would like additional wind protection.

There is a stand of cottonwoods just south of the property. Mr. Sisson hopes to bring small animals from this area onto his property. A windbreak along the west side would also serve as a travel lane. If this were connected to a windbreak running along the north property line, rabbits and other small animals would follow it right to the door of the house.

There is insufficient room for a windbreak along the north line where a driveway follows the property line. There seems to be an excellent chance that the neighbor will allow a planting to be placed on his side of the fence.

Annual precipitation is about 15 inches. Plant cover is entirely grass and forbs, except on the north side of the fence where the neighbor has planted several pines.

The soil is Platner and Ulm loams. This soil forms on uplands in material weathered from Pierre shale. These are deep, well-drained soils with moderate erosion hazard. They are moderately-alkaline and could pose problems for some tree species (like maples). Climax vegetation is mainly short grasses. The growing season is 140 to 155 days. Permeability is moderate, but available-water capacity is high. American plum, Rocky Mountain juniper, ponderosa pine, cottoneaster and caragana will work here.

INVENTORY

Currently, woody vegetation consists entirely of some recently-planted Russian-olives.

WILDLIFE

Hawks and rabbits use the property. An eagle routinely uses cottonwoods south of the property. Rabbits could make use of shelter thickets along the fences. Other than the eagle, no threatened or endangered species have been observed.

PLANTING PROJECTS

Wildlife Thicket (Planting G)

Purpose:

1. To provide escape cover and ameliorate the predator-lane effect of the windbreaks.
2. To shelter the southwest corner of the property, creating a protected area for ground-nesting birds.

Description: A tenth-acre thicket (SIP-8, WH2) in the northwest corner, is planned. The thicket occupies 0.1 acres and benefits 3.0 acres. American plums on an 4'X4' spacing will accomplish these goals.

The planting will be triangular, 93 feet on a side and require 250 seedlings. Below is a list of approximate costs of a 0.1-acre American plum thicket planted under the Stewardship Incentives Program:

250 Bare-root trees @ \$0.39 ea.:	\$ 97.50
1000 Staples @ \$43.40/1000:	43.40
750' Weed Barrier @ \$100.00/300':	<u>250.00</u>
SUB-TOTAL	\$ 390.90
Sales Tax (3%)	<u>11.73</u>
TOTAL, MATERIALS:	\$ 402.63
LABOR, PLANTING; 250 trees @ \$2 ea:	500.00
LABOR, LAY WEED BARRIER; 2.5 Rolls @ \$96 ea:	<u>240.00</u>
GRAND TOTAL:	\$1142.63
From Stewardship Incentives Program	<u>-280.00</u>
NET COST	\$ 862.63

Forester's Note: Based on 1994 prices. Prices are approximate and subject to change. Bulk rates are available if you do several projects at once and order enough trees. Planting G labor rates are for hand work; on all other plantings (below) labor rates are for machine site prep, planting and laying of weed barrier. There is a \$100 minimum for site prep. If you do the work yourself, you can charge your own labor as a reimbursable cost. If you are a Farmer, these costs are income tax deductible as a conservation expense on Schedule F, as are the other costs listed below. Otherwise, you may add these costs to your basis for capital gains treatment. Check with a professional tax preparer for details.

Wildlife Thicket (Planting I)

Purpose:

1. To provide escape cover and ameliorate the predator-lane effect of the windbreaks.
2. To shelter the northwest corner of the property, creating a protected area for ground-nesting birds.
3. To meet the wood-fiber production requirement of the Stewardship Incentives Program.

Description: A tenth-acre thicket (SIP-8, WH2) in the southwest corner, is planned. The thicket occupies 0.1 acres and benefits 3.0 acres. Ponderosa pines on an 8'X8' spacing will accomplish these goals.

The planting will be triangular, 93 feet on a side and require 68 seedlings. Below is a list of approximate costs of a 0.1-acre Ponderosa pine thicket planted under the Stewardship Incentives Program:

68 Large-pot trees @ \$0.91 ea.:	\$ 61.88
750' Weed Barrier @ \$100.00/300':	<u>250.00</u>
SUB-TOTAL	\$ 311.88
Sales Tax (3%)	<u>9.36</u>
TOTAL, MATERIALS:	\$ 321.24
SITE PREPARATION; 0.1 Acre @ \$100 ea.:	10.00
PLANTING; 68 trees @ \$0.50 ea.:	34.00
LABOR, LAY WEED BARRIER; 2.5 Rolls @ \$30 ea.:	<u>75.00</u>
GRAND TOTAL:	\$ 440.24
From Stewardship Incentives Program	<u>-280.00</u>
NET COST	\$ 160.24

Farmstead Windbreak (Planting A; no cost-share)

Purpose: To protect the house site from direct exposure to north and northwest winds.

Description: This is a two-row windbreak on the north side of the property line fence, running 376 feet along the property line (The extra length is to overlap the buildings and close with the windbreak on your side of the line.). It is 16 feet wide (36 feet, counting buffer strips). It occupies 0.3 acres and benefits 3.5 acres. Fifteen ponderosa pines, already existing in the row next to the fence will have weed barrier placed on them to increase their available water supply.

63 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	\$ 57.33
98 American plums @ \$0.39 ea.:	38.22
3 Rolls Weed Barrier @ \$100/300':	<u>300.00</u>
SUB-TOTAL	\$ 395.55
Sales Tax (3%)	<u>11.87</u>
TOTAL, MATERIALS:	\$ 407.42
SITE PREPARATION; 0.3 Acres @ \$100 ea.:	30.00
PLANTING; 161 trees @ \$0.50 ea.:	80.50
WEED BARRIER; 2.5 rolls @ \$30 ea.:	75.00
LABOR, WEED BARRIER; 15 6' squares @ \$4.50 ea.:	<u>67.50</u>
GRAND TOTAL	\$ 660.42

Farmstead Windbreak (Planting F)

Purpose: To protect the house site from direct exposure to west and northwest winds.

Description: This is a two-row windbreak on the south side of the property line fence, running 228 feet along the north property line fence. It is 16 feet wide (36 feet, counting buffer strips). It occupies 0.2 acres and benefits 2.1 acres.

38 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	\$ 34.58
57 American plums @ \$0.39 ea.:	22.23
1.5 Rolls Weed Barrier @ \$100/300':	<u>150.00</u>
SUB-TOTAL	\$ 206.81
Sales Tax (3%)	<u>6.20</u>
TOTAL, MATERIALS:	\$ 213.01
SITE PREPARATION; 0.2 Acres @ \$100 ea.:	20.00
PLANTING; 95 trees @ \$0.50 ea.:	47.50
WEED BARRIER; 1.5 rolls @ \$30 ea.:	<u>45.00</u>
GRAND TOTAL	\$ 325.51

From Stewardship Incentives Program:	<u>-200.00</u>
Net Cost:	\$ 125.51

Farmstead Windbreak (Planting H)

Purpose: To protect the house site from direct exposure to west winds.

Description: This is a two-row windbreak on the west side of the property, running 482 feet along the west property line fence. A third (pine) row runs 330 north from the pine thicket at the south end. It is 16 feet wide (36 feet, counting buffer strips) at the northern end and 24 feet wide (44 feet, counting buffer strips) at the south end. It occupies 0.5 acres and benefits 4.4 acres.

80 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	\$ 72.80
120 American plums @ \$0.39 ea.:	46.80
41 Large-pot ponderosa pines @ \$0.91 ea.:	37.31
3.3 Rolls Weed Barrier @ \$100/300':	<u>330.00</u>
SUB-TOTAL	\$ 486.91
Sales Tax (3%)	<u>14.61</u>
TOTAL, MATERIALS:	\$ 501.52
SITE PREPARATION; 0.5 Acres @ \$100 ea.:	50.00
PLANTING; 200 trees @ \$0.50 ea.:	100.00
WEED BARRIER; 3.3 rolls @ \$30 ea.:	<u>99.00</u>
GRAND TOTAL	\$ 750.52
From Stewardship Incentives Program:	<u>-488.00</u>
Net Cost:	\$ 262.52

Farmstead Windbreak (Planting K)

Purpose: To protect the house site from direct exposure to summer southwest winds.

Description: This is a three-row windbreak on the south side of the property, running 579 feet along the south property line fence. It is 16 feet wide (44 feet, counting buffer strips). It occupies 0.6 acres and benefits 5.3 acres.

72 Large-pot ponderosa pines @ \$0.91 ea.:	\$ 65.52
96 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	87.36
144 American plums @ \$0.39 ea.:	56.16
5.8 Rolls Weed Barrier @ \$100/300':	<u>580.00</u>
SUB-TOTAL	\$ 789.04
Sales Tax (3%)	<u>23.67</u>
TOTAL, MATERIALS:	\$ 812.71
SITE PREPARATION; 0.6 Acres @ \$100 ea.:	60.00
PLANTING; 312 trees @ \$0.50 ea.:	156.00
WEED BARRIER; 3.3 rolls @ \$30 ea.:	<u>99.00</u>
GRAND TOTAL	\$1127.71

STEWARDSHIP INCENTIVES PLAN

8

GRAND TOTAL	\$1127.71
From Stewardship Incentives Program:	<u>-600.00</u>
Net Cost:	\$ 527.71

Farmstead Windbreak (Planting E)

Purpose: To supplement the berm and existing planting in protecting the house from summer winds.

Description: This is a two-row planting on the southwest side of the existing Russian-olive row. It is 619 feet long (counting a 75-foot flange to protect the driveway), and 16 feet wide (36 feet, counting buffer strips). It occupies 0.5 acres and benefits 5.7 acres.

154 Nanking cherries @ \$0.39 ea.:	\$ 60.06
103 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	93.73
4.2 Rolls Weed Barrier @ \$100/300':	<u>420.00</u>
SUB-TOTAL	\$ 573.79
Sales Tax (3%)	<u>17.21</u>
TOTAL, MATERIALS:	\$ 591.00
SITE PREPARATION; 0.5 acrea @ \$100 ea.:	50.00
PLANTING; 136 trees @ \$0.50 ea.:	68.00
WEED BARRIER; 4.2 rolls @ \$30 ea.:	<u>126.00</u>
GRAND TOTAL	\$ 835.00
From Stewardship Incentives Program:	<u>-500.00</u>
Net Cost:	\$ 335.00

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. Tenth-acre shrub thickets can tolerate about 30% loss without replanting, but windbreaks must be replanted if they suffer even minor losses to keep from losing their effectiveness. These maintenance plantings may be cost-shared and generally pay the entire 65% (A 2500-tree planting put in a year ago at a cost of about \$8700 will cost only \$181 to maintain this coming spring. This is unusually small; 15% loss is normal, but big losses do occasionally occur.). By the third year of a planting, trans-plant losses should no longer be a problem. A seedling is considered established after surviving five years.

Gaps in a windbreak are disastrous - wind blows harder through the gap than it does on the open plain. Gaps wider than 1.5 times the specified spacing should be filled with trees at the next maintenance planting.

There are a number of things that should be done to enhance seedling survival and growth:

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. It is expensive (\$2.00 per tree for widely-spaced trees). It is cheaper if seedlings are placed close together (like plums). Weed barrier used in windbreaks can be cost-shared.

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.).

MAINTAIN THE PRACTICE

Cost-sharing rules require that a planting for which Federal money is paid, must be maintained for a period of ten years, beginning October 1st, following the date the cost-sharing check is cashed. You cannot deliberately destroy the planting and if the planting is accidentally destroyed (by fire, for example), it must be replaced (Cost-sharing may be used for replacement.).

If the property is sold, the new owner must agree to maintain the practice for the balance of the ten years, or the old owner must repay the cost-sharing money plus interest (18% per year) plus "liquidated damages (25%, one time only)."

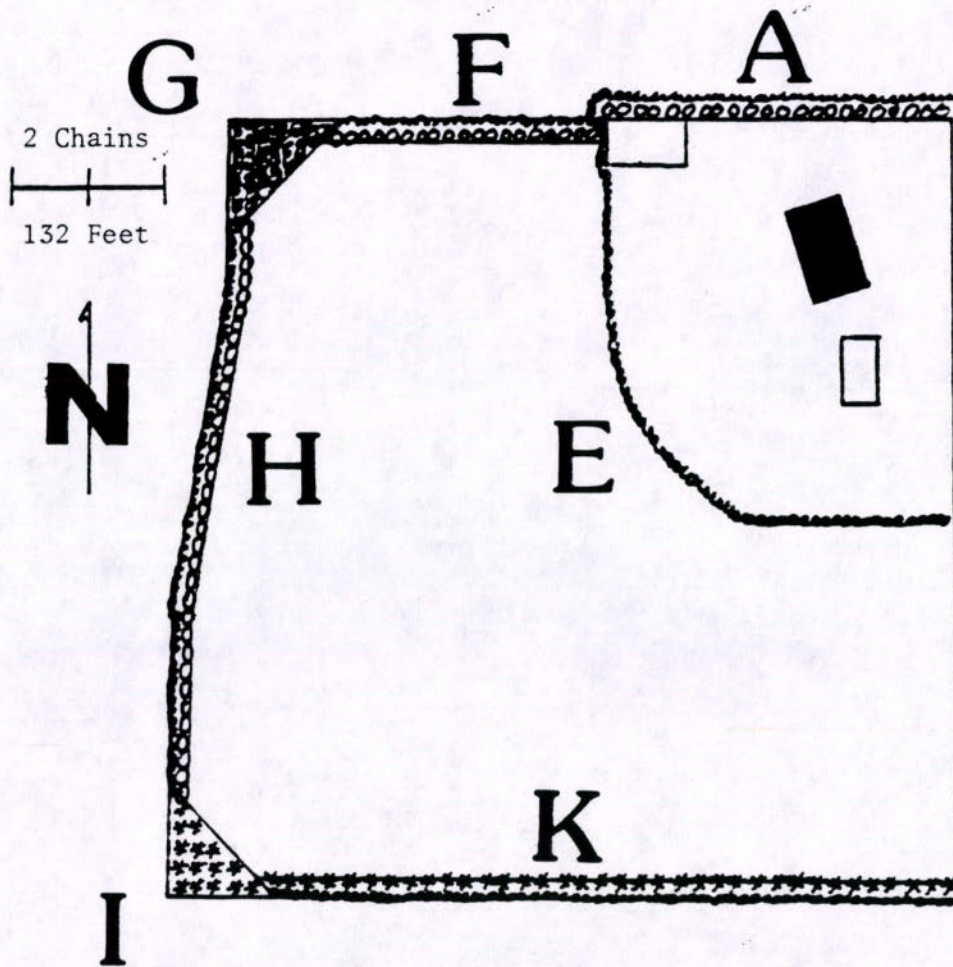
A participant may leave the program at any time by repaying the cost-sharing, plus interest, plus liquidated damages.

RECOMMENDATIONS

The plantings listed above are recommended. No particular timetable is required. Plantings are "required" only in that in order to obtain cost-sharing, a wildlife practice (the plum thick-et) and/or an afforestation planting must be planted first. There is no further requirement as to what order (or even whether) additional plantings are done.

Respectfully Submitted By:

Douglas J. Stevenson
Assistant District Forester



Terry Sisson

NW1/4 NW1/4 SE1/4, Sec 10, T1S, R68W, S.P.M.

- Property Line
- House
- Building
- ~ Shrub Row
- ~ Two-row Windbreak
- ~ Three-row Windbreak
- ▲ Thicket

Drawn By:

Douglas J. Stearn

November 18, 1994

Platner Soil Series

Sampson, John J., Soil Conservation Service
Baber, Thomas G., Soil Conservation Service

Soil Survey of Adams County, Colorado

The Platner series consists of well-drained, nearly level to gently sloping soils on uplands. These soils formed in old alluvium.

In a representative profile, the surface layer is grayish-brown loam about 9 inches thick. It is noncalcareous. The upper part of the subsoil is brown clay about 9 inches thick. It is noncalcareous. The lower part of the subsoil is light-gray clay loam about 10 inches thick. It is highly calcareous, and part of the lime is visible as splotches. The underlying material, below a depth of 28 inches, is very pale brown loam that is highly calcareous. At a depth of about 49 inches, it is a white and very pale brown sandy loam that is highly calcareous and contains some fine gravel.

Platner soils absorb water slowly, and the available water capacity is high. Permeability is slow, and the entire soil is suitable for plant roots.

Representative profile for Platner loam, 0 to 3 percent slopes, in a cultivated field, 2,500 feet east and 155 feet south of the northwest corner of section 29, T. 2 S., R. 68 W.:

- Ap - 0 to 9 inches, grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/3) when moist; moderate, medium, granular structure; slightly hard, friable; noncalcareous; neutral; abrupt, smooth boundary.
- B2t - 9 to 18 inches, brown (10YR 5/3) clay, dark brown (10YR 3/3) when moist; strong, medium, prismatic structure parting to strong, medium and fine, angular and subangular blocky structure; very hard, firm; continuous clay films on all ped faces; noncalcareous; neutral; gradual smooth boundary.
- B3ca - 18 to 28 inches, light-gray (10YR 7/2) clay loam, light brownish gray (10 YR 6/2) when moist; weak, medium, prismatic structure parting to weak, medium subangular blocky structure; very hard, firm; thin patchy clay films on faces of peds; calcareous and contains calcium disseminated and in splotches; moderately alkaline; gradual, smooth boundary.
- C1ca - 28 to 49 inches, very pale (10YR 7/3) loam, light yellowish brown (10YR 6/4) when moist; massive; hard, friable; calcareous and contains lime disseminated

and in splotches; moderately alkaline; gradual, wavy boundary.

C2ca - 49 to 60 inches, white (10YR 8/2) and very pale brown (10YR 7/3) sandy loam, very pale brown (10YR 7/3) when moist; massive; slightly hard, friable; some scattered fine gravel; moderate to strong calcic horizon with lime mostly disseminated; calcareous; strongly alkaline.

The A horizon ranges from 4 to 10 inches in thickness, from grayish brown to dark grayish brown in color, and from sandy loam to light clay loam in texture. The B horizon ranges from 10 to 36 inches in thickness.

Platner loam, 3 to 5 percent slopes (PlC). - This soil is on uplands. It has a profile similar to the one described as representative for the series, but the surface layer and subsoil are thinner. The areas are irregular in shape and range from 10 acres to 60 acres in size. Surface runoff is medium, and the hazard of water erosion is moderate. Included are small areas of Adena, Ascalon, Colby, and Stoneham soils having slopes of 3 to 5 percent.

Most areas of this soil are cultivated, and some are irrigated. A few scattered areas throughout the county are in native grass. Capability unit IIIe-1, irrigated, and IIIe-6, nonirrigated; Loamy Plains range site; tree planting suitability group 1.

Ulm Soil Series

The Ulm series consists of well-drained, nearly level to moderately sloping soils on uplands. These soils formed in loamy material derived from shall and sandstone, which are at depths of more than 40 inches.

In a representative profile, the surface layer is light brownish-gray heavy loam about 7 inches thick. It is noncalcareous. The upper part of the subsoil is brown silty clay and pale-brown clay about 15 inches thick. It is noncalcareous to slightly calcareous. The lower part of the subsoil is pale-brown, highly calcareous clay about 8 inches thick. The underlying material is light yellowish-brown clay loam. It contains a few small pieces of sandstone, is highly calcareous, and contains some lime that is visible as streaks. Bedrock is at a depth of about 48 inches.

Ulm soils absorb water at a slow to moderate rate, and the available water capacity is high. Permeability is slow, and the entire soil is suitable to plant roots.

Representative profile of Ulm loam, 3 to 5 percent slopes, in a cultivated field, 0.2 miles east and 275 feet north of the southwest corner of section 18, T. 1 S., R. 68 W.:

- Ap - 0 to 7 inches, light brownish-gray (10YR 6/2) heavy loam, dark grayish brown (10YR 4/2) when moist; weak, fine, granular structure; slightly hard, friable; noncalcareous; mildly alkaline; abrupt, smooth boundary.
- B21t - 7 to 13 inches, brown (10YR 4/2) silty clay, dark grayish brown (10YR 4/2) when moist; moderate, medium, prismatic structure parting to strong, medium, angular blocky structure; thin calcareous clay films; hard, firm; noncalcareous; mildly alkaline; clear, wavy boundary.
- B22t - 13 to 22 inches, pale-brown (10YR 6/3) clay, yellowish brown (10YR 5/4) when moist; moderate to strong, medium, angular and subangular blocky structure; thin calcareous clay films; hard, firm; calcareous; moderately alkaline; gradual, wavy boundary.
- B3ca - 22 to 30 inches, pale-brown (10YR 6/3) clay; yellowish brown (10YR 5/4) when moist; moderate, coarse, prismatic structure parting to moderate, medium, subangular blocky structure; hard, firm; calcareous and contains lime disseminated and in streaks; moderately alkaline; gradual, wavy boundary.
- Cca - 30 to 48 inches, light yellowish-brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) when moist; massive; very hard, friable; few fragments of soft partially disintegrated sandstone; calcareous and contains lime disseminated and in streaks; moderately alkaline; gradual, wavy boundary.
- R - 48 inches, shale beds; some interbedding of soft shaly sandstone; calcareous.

The A horizon ranges from 4 to 8 inches in thickness, from grayish brown to light gray in color, and from heavy fine sandy loam to light clay loam in texture. The B horizon ranges from clay loam to clay in texture and from 8 to 26 inches in thickness. Depth to lime ranges from 12 to 30 inches. Depth to bedrock ranges from 40 inches to more than 60 inches.

Ulm loam, 5 to 9 percent slopes (ULD). - This soil has a profile similar to the one described as representative for the series, but it has a thinner surface layer and subsoil. The areas are irregular in shape and range from 25 to 150 acres in size. Run-off is generally medium, but it increases if the soil does not have an adequate cover of plants. Also, the hazard of sheet and gully erosion is greater if vegetation is lacking. The hazard of soil blowing is moderate. Natural fertility is moderate to good.

Included in mapping are small areas of Renohill loam and Samsil clay loam on steeper areas.

Most areas of this soil are or have been cultivated. Many fields have been abandoned or reseeded to grass. Much of the cultivated acreage was dryfarmed. Some areas are irrigated, and some small areas remain in grass. Capability unit IVe-1, irrigated, and Vie-1, nonirrigated; Loamy Plains range site; tree planting suitability group 1.