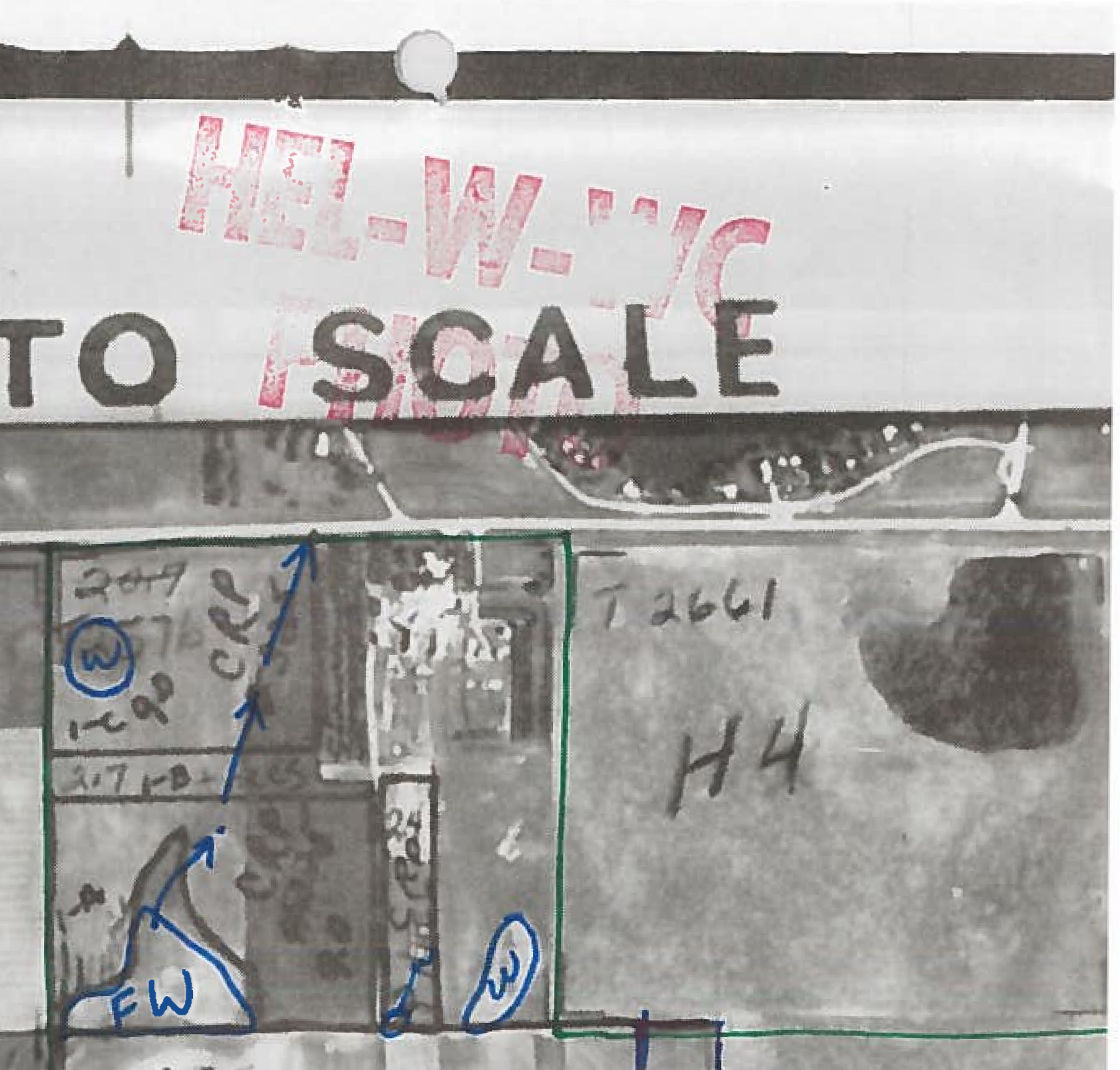
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U.S.D.A. Soil Conservation Service — SCS-026 (June 91)

HIGHLY ERODIBLE LAND AND WETLAND CONSERVATION DETERMINATION

1. Name and Address of Person

2. Date of Request: 2/1/94

3. County: Brookings

4. Name of USDA Agency or Person Requesting Determination: ASCS, FmHA

5. Farm No. and Tract No.: 970 – T2576

SECTION I - HIGHLY ERODIBLE LAND

	FIELD NO.(s)	TOTAL ACRES
6. Is soil survey now available for making a highly erodible land determination? New Soil Survey (Map #14) Yes ☒ No ☐		
7. Are there highly erodible soil map units on this farm? Yes ☒ No ☐ 33E		
8. List highly erodible fields that, according to ASCS records, were used to produce an agricultural commodity in any crop year during 1981-1985.	2, 3	0.0
9. List highly erodible fields that have been or will be converted for the production of agricultural commodities and, according to ASCS records, were not used for this purpose in any crop year during 1981-1985; and were not enrolled in a USDA set-aside or diversion program.		
10. This Highly Erodible Land determination was completed in the: Office ☒ Field ☐		

SECTION II - WETLAND

	FIELD NO.(s)	TOTAL ACRES
11. Are there hydric soils on this farm? Hydric soils are potential wetlands Yes ☒ No ☐		
12. Wetlands (W), including abandoned wetlands, or Farmed Wetlands (FW) or Farmed Wetlands Pasture (FWP). Wetlands may be farmed under natural conditions. Farmed Wetlands and Farmed Wetlands Pasture may be farmed and maintained in the same manner as they were prior to December 23, 1985, as long as they are not abandoned.	F2, 3 + Unnumb	94.0
13. Prior Converted Cropland (PC). Wetlands that were converted prior to December 23, 1985. The use, management, drainage, and alteration of prior converted cropland (PC) are not subject to the wetland conservation provisions unless the area reverts to wetland as a result of abandonment.		
14. Artificial Wetlands (AW). Artificial wetlands includes irrigation-induced wetlands. These wetlands are not subject to the wetland conservation provisions.	F3	1.0
15. Minimal Effect Wetlands (MW). These wetlands are to be farmed according to the minimal-effect agreement signed at the time the minimal-effect determination was made.		
16. Mitigation Wetlands (MIW). Wetlands on which a person is actively mitigating a frequently cropped area or a wetland converted between December 23, 1985 and November 28, 1990.		
17. Restoration with Violation (RVW-year). A restored wetland that was in violation as a result of conversion after November 28, 1990, or the planting of an agricultural commodity or forage crop.		
18. Restoration without Violation (RSW). A restored wetland converted between December 23, 1985 and November 28, 1990, on which an agricultural commodity has not been planted.		
19. Replacement Wetlands (RPW). Wetlands which are converted for purposes other than to increase production, where the wetland values are being replaced at a second site.		
20. Good Faith Wetlands (GFW+year). Wetlands on which ASCS has determined a violation to be in good faith and the wetland has been restored.		
21. Converted Wetlands (CW). Wetlands converted after December 23, 1985 and prior to November 28, 1990. In any year that an agricultural commodity is planted on these Converted Wetlands, you will be ineligible for USDA benefits.		
22. Converted Wetland (CW+year). Wetlands converted after November 28, 1990. You will be ineligible for USDA program benefits until this wetland is restored.		
23. Converted Wetland Non-Agricultural use (CWNA). Wetlands that are converted for trees, fish production, shrubs, cranberries, vineyards or building and road construction.		
24. Converted Wetland Technical Error (CWTE). Wetlands that were converted as a result of incorrect determination by SCS.		

25. The planned alteration measures on wetlands in fields _____ are considered maintenance and are in compliance with FSA.

26. The planned alteration measures on wetlands in fields _____ are not considered to be maintenance and if installed will cause the area to become a Converted Wetland (CW). See item 22 for information on CW+year.

27. The wetland determination was completed in the office ☒ field ☐ and was delivered ☐ mailed ☒ to the person on 2/10/94.

28. Remarks. Areas marked on map are wetlands. "Pre 1985 drainage systems can be maintained to original size. Improvements or new systems may convert a wetland and may jeopardize your eligibility for several USDA benefits."

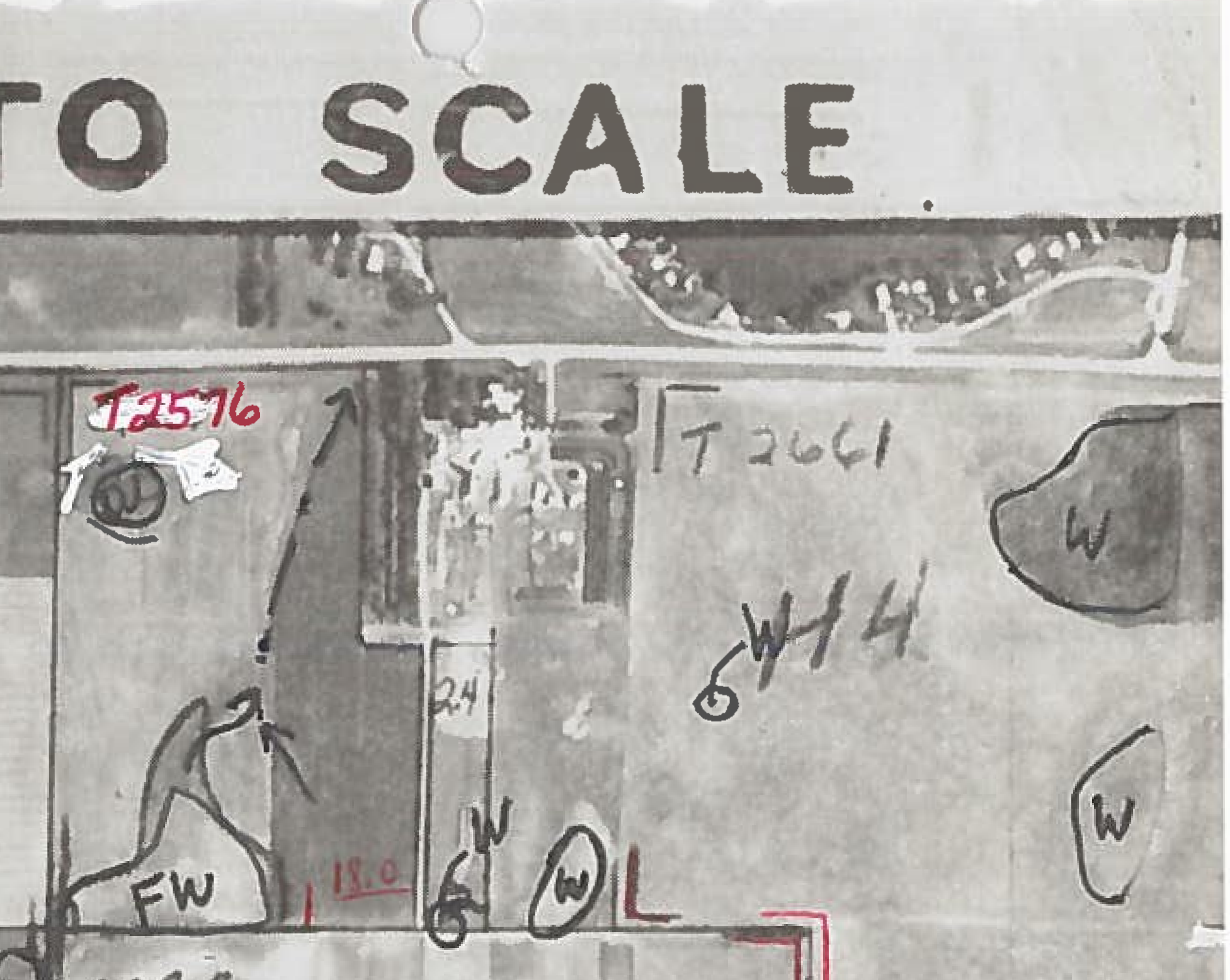
29. *I certify that the above determination is correct and adequate for use in determining eligibility for USDA program benefits, and that wetland hydrology, hydric soils, and hydrophytic vegetation under normal circumstances exist on all areas outlined as Wetlands, Farmed Wetlands, and Farmed Wetlands Pasture.*

30. Signature of SCS District Conservationist: Karen Cameron-Howell

31. Date: 2/4/94

Assistance and programs of the Soil Conservation Service available without regard to race, religion, color, sex, age, or handicap.

SCS Copy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Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–SD011-Brookings County, South Dakota					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
BoE: Buse-Langhei complex, 15 to 40 percent slopes	Buse	60	Moraines	No	—
	Langhei	25	Moraines	No	—
	Sioux	5	Outwash terraces on moraines	No	—
	Darnen	5	Fans	No	—
	Lamoure	5	Flood plains	Yes	2
BpD: Buse-Poinsett complex, 9 to 15 percent slopes	Buse	50	Moraines	No	—
	Poinsett	40	Moraines	No	—
	Waubay	8	Swales	No	—
	Parnell-Undrained	1	Potholes	Yes	2,3
	Tonka-Undrained	1	Potholes	Yes	2,3
BrD: Buse, very stony-Poinsett complex, 9 to 25 percent slopes	Buse-Stony	55	Moraines	No	—
	Poinsett	35	Moraines	No	—
	Waubay	8	Swales	No	—
	Parnell-Undrained	1	Potholes	Yes	2,3
	Tonka-Undrained	1	Potholes	Yes	2,3
Ct: Cubden-Tonka silty clay loams, coteau, 0 to 2 percent slopes	Cubden	50-60	Rims on closed depressions	No	—
	Tonka-Undrained	32-40	Closed depressions	Yes	2,3
	Badger	0-5	Drainageways	No	—
	Cubden-Moderately saline	0-4	Rims on closed depressions	No	—
	Parnell	0-3	Closed depressions	Yes	2,3
	Waubay	0-4	Swales	No	—
	Badger-Poorly drained	0-2	Drainageways	Yes	2
Pa: Parnell silty clay loam, 0 to 1 percent slopes	Parnell-Undrained	90	Potholes	Yes	2,3
	Tonka-Undrained	7	Potholes	Yes	2,3
	Cubden	1	Rims on potholes	No	—
	Hamerly	1	Rims on potholes	No	—
	McIntosh	1	Rims on potholes	No	—

Hydric Soil List - All Components–SD011-Brookings County, South Dakota					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
PbB: Poinsett-Buse-Waubay complex, 1 to 6 percent slopes	Poinsett	35-45	Plains	No	—
	Buse	25-33	Plains	No	—
	Waubay	18-22	Swales	No	—
	Cubden	0-6	Rims on drainageways	No	—
	Badger	0-7	Drainageways	No	—
	Tonka-Undrained	0-5	Closed depressions	Yes	2,3
	Parnell-Undrained	0-4	Closed depressions	Yes	2,3
PbC: Poinsett-Buse-Waubay complex, 2 to 9 percent slopes	Poinsett	35-43	Plains	No	—
	Buse	30-38	Plains	No	—
	Waubay	15-19	Swales	No	—
	Cubden	0-5	Rims on closed depressions	No	—
	Badger	0-6	Drainageways	No	—
	Tonka-Undrained	0-5	Closed depressions	Yes	2,3
	Parnell-Undrained	0-4	Closed depressions	Yes	2,3
So: Southam silty clay loam, 0 to 1 percent slopes	Southam	85-100	Depressions	Yes	2,3
	Vallers	0-8	Rims on depressions	Yes	2
	Hamerly	0-7	Rims on depressions	No	—

Data Source Information

Soil Survey Area: Brookings County, South Dakota
Survey Area Data: Version 27, Sep 17, 2019


96° 59' 55" W
96° 59' 9" W
659300
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660200
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44° 25' 43" N
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Soil Map may not be valid at this scale.
96° 59' 58" W
Map Scale: 1:4,930 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- R102AY001SD
- R102AY006SD
- R102AY010SD
- R102AY012SD
- R102AY037SD
- Not rated or not available

Soil Rating Lines

- R102AY001SD
- R102AY006SD
- R102AY010SD
- R102AY012SD
- R102AY037SD
- Not rated or not available

Soil Rating Points

- R102AY001SD
- R102AY006SD
- R102AY010SD
- R102AY012SD
- R102AY037SD
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Brookings County, South Dakota
Survey Area Data: Version 27, Sep 17, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2014—Feb 11, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

All Ecological Sites — Rangeland

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
BoE	Buse-Langhei complex, 15 to 40 percent slopes	Buse (60%)	R102AY012SD — Thin Upland	0.4	0.3%
		Langhei (25%)	R102AY012SD — Thin Upland		
		Darnen (5%)	R102AY010SD — Loamy		
		Lamoure (5%)	R102AY003SD — Subirrigated		
		Sioux (5%)	R102AY016SD — Very Shallow		
BpD	Buse-Poinsett complex, 9 to 15 percent slopes	Buse (50%)	R102AY012SD — Thin Upland	1.9	1.9%
		Poinsett (40%)	R102AY010SD — Loamy		
		Waubay (8%)	R102AY010SD — Loamy		
		Parnell, undrained (1%)	R102AY001SD — Shallow Marsh		
		Tonka, undrained (1%)	R102AY004SD — Wet Meadow		
BrD	Buse, very stony-Poinsett complex, 9 to 25 percent slopes	Buse, stony (55%)	R102AY012SD — Thin Upland	35.6	35.0%
		Poinsett (35%)	R102AY010SD — Loamy		
		Waubay (8%)	R102AY010SD — Loamy		
		Parnell, undrained (1%)	R102AY001SD — Shallow Marsh		
		Tonka, undrained (1%)	R102AY004SD — Wet Meadow		
Ct	Cubden-Tonka silty clay loams, coteau, 0 to 2 percent slopes	Cubden (55%)	R102AY006SD — Limy Subirrigated	4.5	4.4%
		Tonka, undrained (35%)	R102AY004SD — Wet Meadow		
		Badger (3%)	R102AY020SD — Loamy Overflow		
		Cubden, moderately saline (2%)	R102AY036SD — Saline Subirrigated		
		Parnell (2%)	R102AY001SD — Shallow Marsh		

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
		Waubay (2%)	R102AY020SD — Loamy Overflow		
		Badger, poorly drained (1%)	R102AY004SD — Wet Meadow		
Pa	Parnell silty clay loam, 0 to 1 percent slopes	Parnell, undrained (90%)	R102AY001SD — Shallow Marsh	1.7	1.7%
		Tonka, undrained (7%)	R102AY004SD — Wet Meadow		
		Cubden (1%)	R102AY006SD — Limy Subirrigated		
		Hamerly (1%)	R102AY006SD — Limy Subirrigated		
		McIntosh (1%)	R102AY006SD — Limy Subirrigated		
PbB	Poinsett-Buse-Waubay complex, 1 to 6 percent slopes	Poinsett (40%)	R102AY010SD — Loamy	40.3	39.7%
		Buse (30%)	R102AY012SD — Thin Upland		
		Waubay (20%)	R102AY020SD — Loamy Overflow		
		Badger (3%)	R102AY020SD — Loamy Overflow		
		Cubden (3%)	R102AY006SD — Limy Subirrigated		
		Parnell, undrained (2%)	R102AY001SD — Shallow Marsh		
		Tonka, undrained (2%)	R102AY004SD — Wet Meadow		
PbC	Poinsett-Buse-Waubay complex, 2 to 9 percent slopes	Poinsett (40%)	R102AY010SD — Loamy	11.1	11.0%
		Buse (35%)	R102AY012SD — Thin Upland		
		Waubay (15%)	R102AY020SD — Loamy Overflow		
		Badger (3%)	R102AY020SD — Loamy Overflow		
		Cubden (3%)	R102AY006SD — Limy Subirrigated		
		Parnell, undrained (2%)	R102AY001SD — Shallow Marsh		
		Tonka, undrained (2%)	R102AY004SD — Wet Meadow		
So	Southam silty clay loam, 0 to 1 percent slopes	Southam (90%)	R102AY037SD — Deep Marsh	6.1	6.0%
		Vallers (6%)	R102AY003SD — Subirrigated		

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
		Hamerly (4%)	R102AY006SD — Limy Subirrigated		
Totals for Area of Interest				**101.6**	**100.0%**