Brown County

Comprehensive Plan
2020 - 2040

Effective: November 19, 2019

Prepared under the direction of the Brown County Commission and the Brown
County Planning Commission.
By
Northeast Council of Governments
Aberdeen, SD

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Brown County Comprehensive Plan Acknowledgements

This Comprehensive Plan is a compilation of effort by many people and government entities. This document expresses the great civic pride that exists in Brown County. Everyone listed served in some capacity, over time, to help create the document draft and final approval of the plan. The governing officials of Brown County have expressed their desire for orderly and efficient growth and development in the County.

County Commission
Dennis Feickert
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Rachel Kippley
Duane Sutton
Michael Wiese

County Planning Commission
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Planning & Zoning Director
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RESOLUTION #2019-01

A RESOLUTION ADOPTING A COMPREHENSIVE PLAN FOR BROWN COUNTY,
AS PROVIDED FOR IN SDCL 11-2

Whereas, Chapter 11-2-11 of South Dakota Codified Law has empowered the Planning Commission and County Commission of Brown County to prepare a Comprehensive Plan for the development of the County; and

Whereas, the Brown County Planning Commission has developed a Comprehensive Plan for the years 2020-2040, and has held the required Public Hearing, and has made a recommendation for adoption of the Plan to the County Commission; and

Whereas, the Brown County Commission received the recommendation of the Planning Commission and has held the required Public Hearing; and

Whereas, the adoption of the Comprehensive Plan would enhance the responsible development of Brown County.

Now therefore, be it resolved by the Brown County Commission, that the Comprehensive Plan for Brown County for the years 2020-2040 be hereby adopted and effective upon 20 days after publication of this resolution.

Adopted this 15th day of October, 2019.

_____   _____
SIGNED: ATTEST:
Doug Fjeldheim   Cathy McNickle
Commission Chairman, Brown County   Auditor, Brown County

Publication Date: October 30, 2019

Effective Date: November 19, 2019

Introduction

An orderly planning effort within an area suggests the efficient development of that area. The element to convey this development is the Comprehensive Plan (hereinafter referred to as Plan) for Brown County. This Plan is to be just that – comprehensive - so it can coordinate, integrate, and set directions for the public welfare over all or most of the County in relation to its function and wellbeing. This Plan, upon adoption by County officials, will provide a guide for the direction and development of the County. It will encompass the actual physical setting and conditions within the County so future projections and recommendations, derived from existing data, trends, and objectives, can be formulated.

It must be understood that this Plan is not meant to be a static document. Unforeseeable change may take place that would alter some of the conditions and thus objectives and policies that are set forth within this document. For this reason, the Plan will, from time to time, need revision; it may need to be readopted to meet the changing needs of the community.

The planning approach within this document consists of research, analysis, and the organization of data pertinent to the aspects of the Comprehensive Plan. This Plan is general in that it summarizes policies and proposals yet does not completely specify locations or detailed regulations.

The Plan is comprised of common characteristics. The first characteristic is that it is long-term in nature. The intent of this plan is to assist in the shaping of Brown County's future by providing the means necessary to attain a prescribed future. Second, this plan is comprehensive in that it will be directed toward all of the unincorporated areas of the county, and serve as a guide to the physical development of those areas. Finally, the Plan is the official policy document that provides a consistent statement of the County's plans and policies for future development and will further guide the decisions made by the Brown County Board of County Commissioners, Planning Commission and Board of Adjustment and various other governmental officials. The Plan offers a prescription that will assist in answering potential questions regarding future land use, and zoning and subdivision regulations. These policies form a common thread throughout the plan, stressing the critical importance of compact and contiguous growth of municipalities and established growth areas. Finally, the Plan emphasizes the importance of long-term agricultural use by seeking to minimize interference with farming activities and discourage premature development, which leads to costly and inefficient public expenditures.

The Plan is designed to meet the statutory requirements of the State of South Dakota. The ability of Brown County to plan and regulate land use within its borders is granted through South Dakota Codified Law Chapters 11-2 and 11-3. Also, this Plan is intended to meet planning requirements for its implementation tools, chief among those being the county's zoning ordinance.

Technical assistance for the development of the Brown County Comprehensive Plan was provided by the Northeast Council of Governments (NECOG). NECOG is a multi-county planning organization working with and for the twelve-member counties and corresponding municipalities that compose the Council (of which Brown County is one).

Chapter One:
County Profile

Location

Brown County is located in north central South Dakota bounded to the north by Dickey County, North Dakota. The east boundary is occupied by Marshall and Day Counties, the south by Spink County, and on the west by Edmunds and McPherson Counties.

Brown County ranks 13th out of 66 South Dakota Counties in total land area, with about 1,713 square miles and 18 square miles of water. The County extends 36 miles east to west and 48 miles north to south. Agriculture is the major activity with Aberdeen serving as a regional trade and industrial area. Aberdeen, the County Seat, has Huron and Watertown as its closest population centers. Huron is located approximately 90 miles south of Aberdeen, and Watertown is located approximately 100 miles southeast. See Map 1.

Political Subdivisions

As seen on Map 2, the County is comprised of ten (10) incorporated towns: Aberdeen, Claremont, Columbia, Frederick, Groton, Hecla, Stratford, Verdon, Warner, and Westport. The County has forty three (43) townships that comprise the next level of political subdivisions for Brown County. In addition several unincorporated communities and census designated places reside within the County.

MAP 1
REGIONAL LOCATION MAP
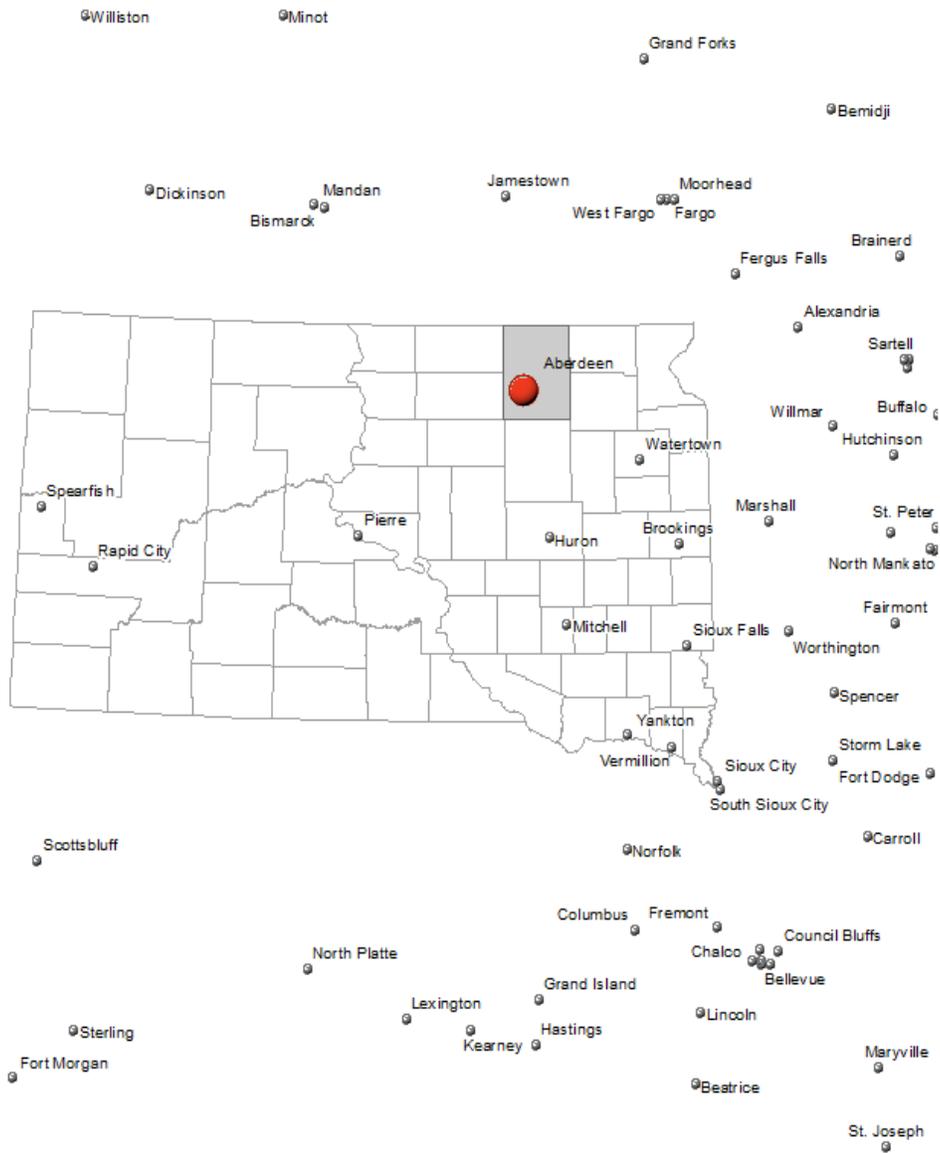
MAP 2
POLITICAL SUBDIVISIONS
OF BROWN COUNTY, SD

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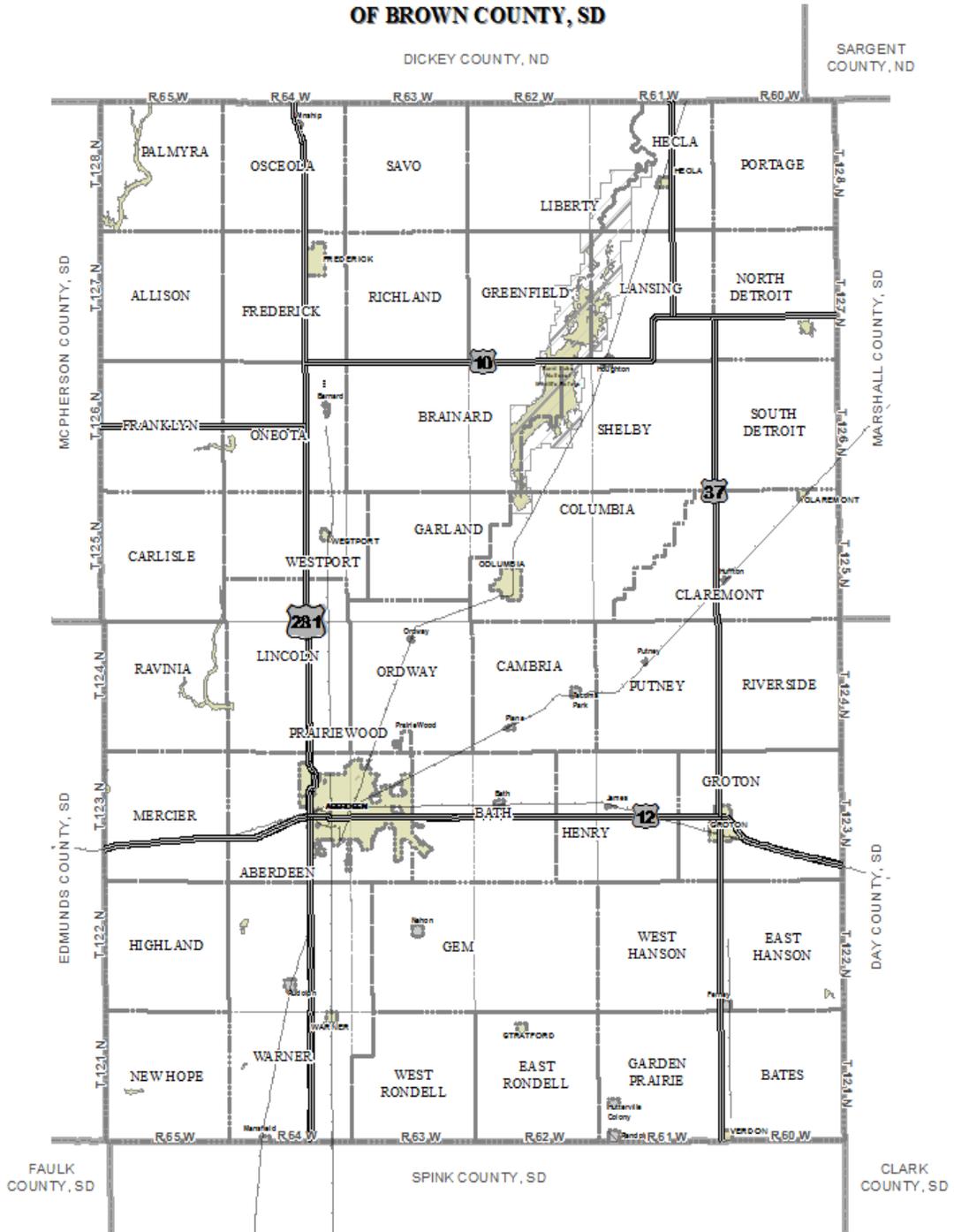
History

Prior to the 19th Century, the Ankara, commonly referred to as the Ree Indians, migrated into the Dakota Midlands in search of more productive lands as a result of long, severe and intolerable droughts encountered in the Kansas-Nebraska area. With their strong agricultural inclinations, these "Corn Eaters," as they were known, readily adapted themselves to their new environment. Although their way of life made few permanent changes upon the natural physical environment, they were instrumental in introducing farming to the region.

By the turn of the 19th Century, the Indian Empire was being invaded by trappers and traders, and the first trading post in the James River Valley was established in 1822 on the Elm River only 21 miles north of the present site of the City of Aberdeen. Hostilities restrained further exploration of the James River Valley until 1838 when treaties with the Indians opened the way for exploration of the area by the "pathfinder," John C. Fremont.

The advent of the Iron Horse expedited westward migration during mid-century stimulating business and employment in the Territory. However, in the early 1870s, continual invasions of grasshopper swarms caused agricultural devastation and a national economic panic which halted railroad development. In 1877, the railroad was instrumental in creating a chain reaction; the results of which were the development of wagon roads, the extension of stage lines, the promotion of cattle ranching, the encouragement needed to push the settlers to new frontiers. The first permanent white settlers arrived in Columbia Township to establish claims and by June 15, 1879, Columbia, originally called Richmond was established at the junction of the Elm and James Rivers.

During 1879, Brown County, named after Alfred Brown, a member of the Territorial Legislature and known as "Consolidation Brown," was opened for settlement. In May of 1880, a timber man filed the first claim for land in the township in which Aberdeen is located. In January of 1881, the first town plot comprising an area of four city blocks was filed. The town was named Aberdeen after Aberdeen, Scotland, the birthplace of Alexander Mitchell, who at the time was president of the Milwaukee Railroad. Commissioners were named by the Legislature in 1883 to select a location for the capitol of the Dakota Territory. Ordway, a booming town in Brown County, was a candidate but received no support from the Commissioners. Columbia was the County Seat of Brown County until 1887, when it was moved to Aberdeen, where it remains.

Condensed from Brown County Territorial History

Natural Resources

A close relationship exists between the physical makeup of an area in relation to all of its components; topography, soils, and water. Each of these, because of their unique qualities, have an effect on how and to what extent they can be utilized. A closer look will reveal the present state and setting of each of the items.

Physiographic Characteristics

Brown County is in a physiographic area called the Central Lowland which lies directly east of the Missouri Plateau. Two of the four subdivisions of the Central Lowland occur in Brown County and are referred to as the James River Lowlands and the Lake Dakota Plain.

The James River Lowlands takes in approximately the western one-half of Brown and a small area in the southeast corner of the County. The remainder of the County is included in the Lake Dakota Plain. See MAP 3 and 3A.

MAP 3 – South Dakota Physiographic Regions
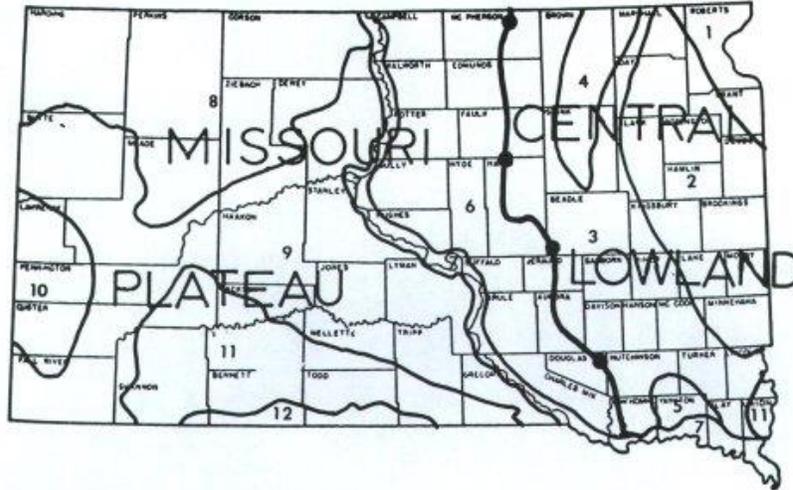
MAP 3A – Eastern South Dakota Physiographic Divisions
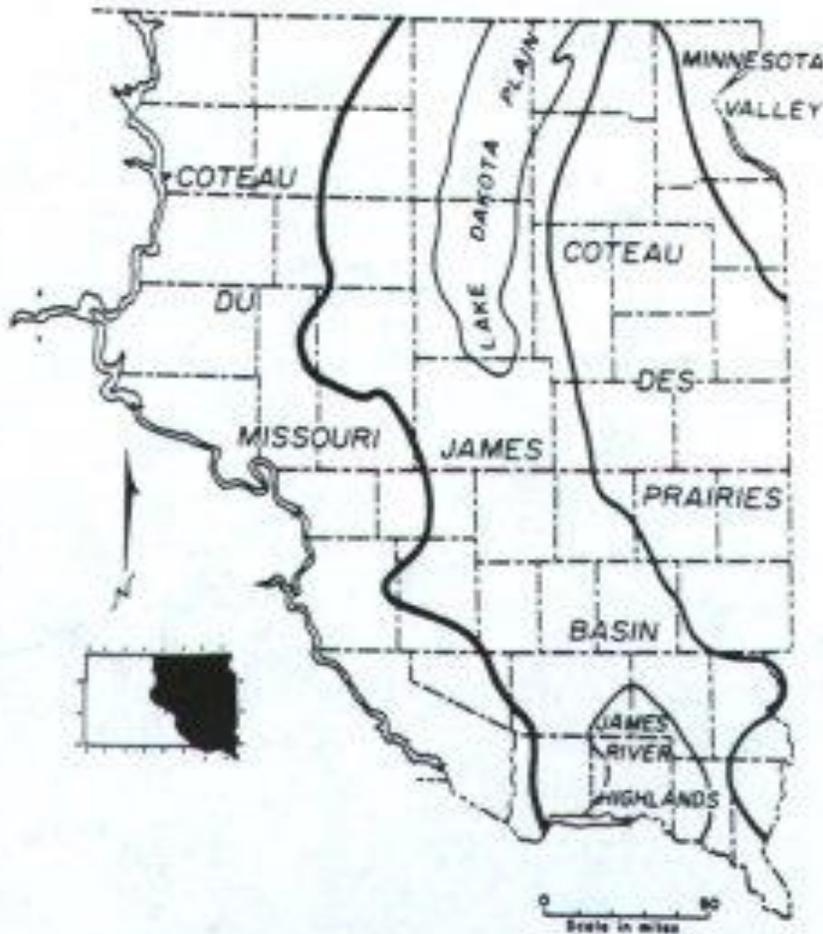
Topography

Brown County is generally flat to gently rolling with elevations ranging from less than 1,300 feet above sea level to slightly more than 1,500 feet above sea level. The western portion of the County is generally rolling, whereas the central and eastern portion is nearly level. Extensive flood plains and poor surface drainage are common problems in many areas of the County. See MAP 4.

MAP 4 - TOPOGRAPHY
BROWN COUNTY, SD
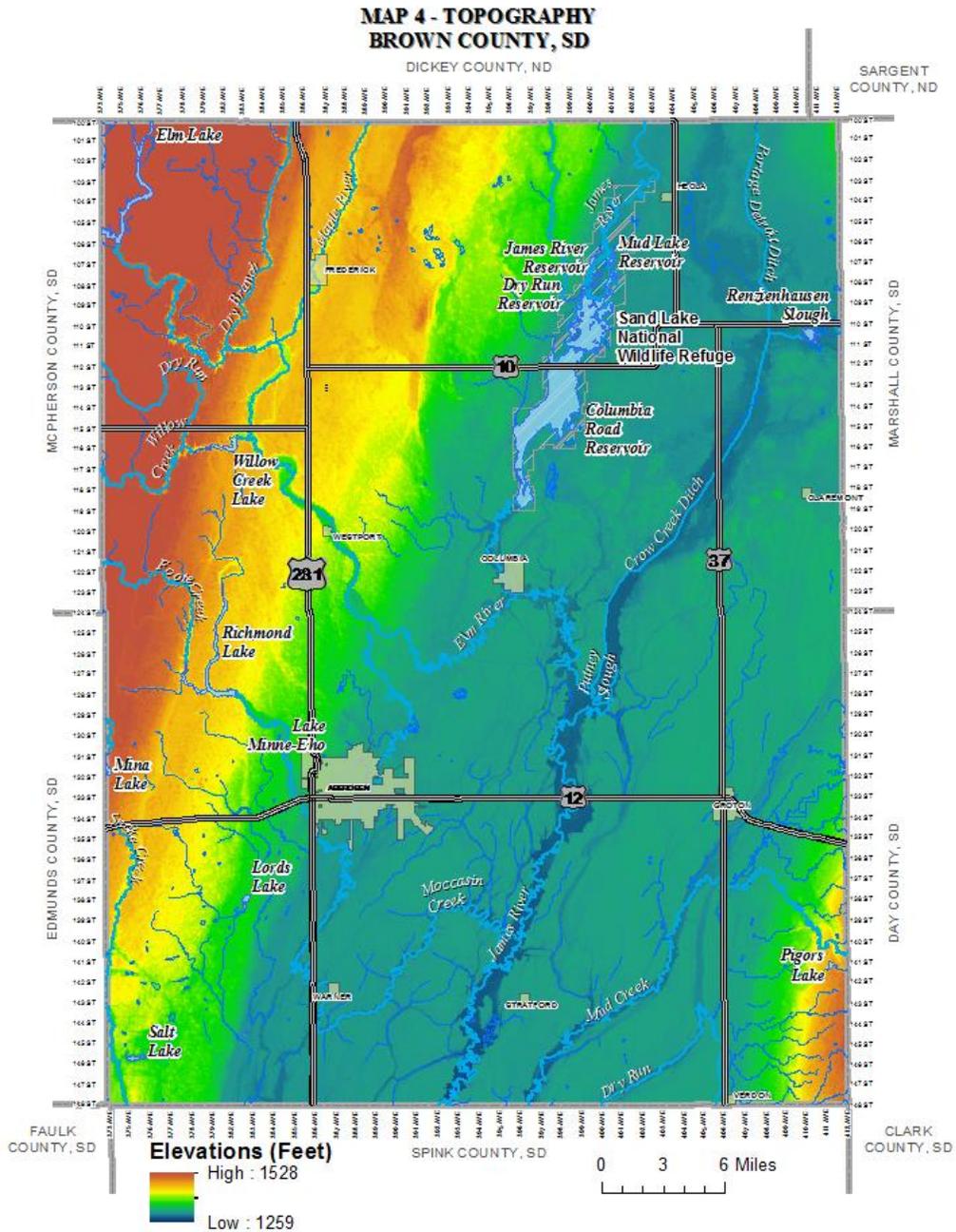
Water Resources

The county is intersected north to south by the James River which is a demarcation line separating the Glacial Lakes region from the Long Grass Prairie regions of northeast South Dakota. The James River flows very slowly over this nearly flat terrain dropping an average of less than one foot per mile through the county. Three large basins contain water during all wet periods. Sand Lake contains water even through extended dry periods. The three large basins are *Sand Lake,* made up of the Mud Lake reservoir and the Columbia Road reservoir in the north central area of the county; *Putney Slough* which includes the Lower Crow Creek drainage system and Renzienhausen Slough from the center running to the northeast area of the county; and the *Hecla Basin* which includes the now defunct Upper Crow Creek, Portage, and Hecla drainage systems in the far northeast corner of the county.

Brown County is also traversed by the Elm River that flows briskly from Elm Lake in the northwestern part of the county to the James River at Columbia. The river drops 174 feet from 1458 feet at the Elm Lake spillway to 1284 feet at the confluence of the Elm and James rivers. The strength of the flow from the Elm frequently causes a back flow condition in the James River with flooding very typical in the spring of each year. The Elm provides drainage for nearly 1,500 square miles mostly in the Forbes Hills area of North Dakota and northwestern Brown County. A third river, the Maple, enters Brown County north of Frederick and flows south to join with the Elm River $1 \, ^1/_4$ miles northwest of the intersection of US Highway 281 and East SD Highway 10. Again the elevation drop of the Elm River is sufficient to stop the Maple from flowing into the Elm and can create flooding problems upstream from the confluence. The Maple provides drainage for over 700 square miles of North Dakota directly north of Brown County. Other major bodies of water include Richmond Lake and the Willow Creek dam both of which provide western Edmunds and McPherson county drainage. Mina Lake's Snake Creek flows through southwestern Brown County as well. The Elm River valley provides the roughest terrain in Brown County and the James River valley provides the flattest terrain. See MAP 5 & 5B.

Flood Plains

Floodplains are lowlands adjacent to the channels of rivers, streams, and other watercourses where inundation periodically occurs due to extreme natural events. The flood plain has two (2) constituents – a floodway and a flood fringe. Together they comprise the flood hazard area generally referred to as the 100-year flood plain identified by the Federal Emergency Management Agency (FEMA), where the chance of experiencing a flood of such magnitude is one (1) percent every year.

Brown County presently maintains eligibility in the National Flood Insurance program. Brown County adopted the most recent National Flood Insurance rate map which has identified special flood areas (100-year flood plains) within the rural (and urban) areas of the county. Brown County has adopted and enforces a Flood Damage Prevention Ordinance. A Flood Damage Prevention Ordinance establishes restrictions on construction in the flood plain and floodway. Since Brown County has adopted the Flood Damage Prevention Ordinance, residents are able to purchase special insurance at subsidized rates. Further, the ordinance requires residential structures be flood-proofed. This is done by requiring the lowest floor of residential structures to be constructed to a standard of one (1) foot above the base flood elevation. Residential structures are prohibited from being constructed in flood ways while encroachments, including fill and new construction, are prohibited unless engineering certification demonstrates that the activity will not result in an increase in flood levels.

Map 6 identifies the specific flood hazard areas identified by FEMA. Map 6A identifies the Drainage Basin.

MAP 5 - WATER RESOURCES
BROWN COUNTY, SD

DICKEY COUNTY, ND

SARGENT COUNTY, ND

MCPHERSON COUNTY, SD

MARSHALL COUNTY, SD

EDMUNDS COUNTY, SD

DAY COUNTY, SD

Elm Lake

HECLA

James River Reservoir

Dry Run Reservoir

Mud Lake Reservoir

FREDERICK

Dry Branch

Renzienhausen Slough

Sand Lake National Wildlife Refuge

Willow Creek Lake

CLAREMONT

Columbia Road Reservoir

WESTPORT

COLUMBIA

Poole Creek

Richmond Lake

Deep James Aquifer

Mina Lake

Lake Minne-Eho

GROTON

ABERDEEN

Lords Lake

Pigors Lake

STRATFORD

WARNER

Mud Creek

Run Dry

VERDON

Salt Lake

R 65 W   R 64 W   R 63 W   R 62 W   R 61 W   R 60 W

FAULK COUNTY, SD

SPINK COUNTY, SD

CLARK COUNTY, SD

Data Source: USGS

0   3   6 Miles

MAP 5B - AQUIFER MATERIALS
BROWN COUNTY, SD

DICKEY COUNTY, ND

SARGENT COUNTY, ND

MCPHERSON COUNTY, SD

MARSHALL COUNTY, SD

EDMUNDS COUNTY, SD

DAY COUNTY, SD

FAULK COUNTY, SD

CLARK COUNTY, SD

SPINK COUNTY, SD

Elm Lake
James River Reservoir
Dry Run Reservoir
Mud Lake Reservoir
FREDERICK
HECLA
Sand Lake National Wildlife Refuge
Renzienhausen Slough
Willow Creek Lake
WESTPORT
CLAREMONT
Columbia Road Reservoir
COLUMBIA
Richmond Lake
Mina Lake
Lake Minne-Eho
ABERDEEN
GROTON
Lords Lake
Pigors Lake
WARNER
STRATFORD
Salt Lake
VERDON

Alluvium	Eolian Sands	Sand and Gravel 50-100
Dakota Formation 100+	Outwash	Sand and Gravel 100+
Deltaic Deposits	Sand and Gravel 0-50	Data Source: USGS

0   3   6 Miles

MAP 6 - FLOOD PLAIN
BROWN COUNTY, SD

Legend

■ 100 Yr Flood Zone ■ 500 Yr Flood Zone ■ Preserved Floodway

Data Source: Federal Emergency Management Agency (FEMA), 2010
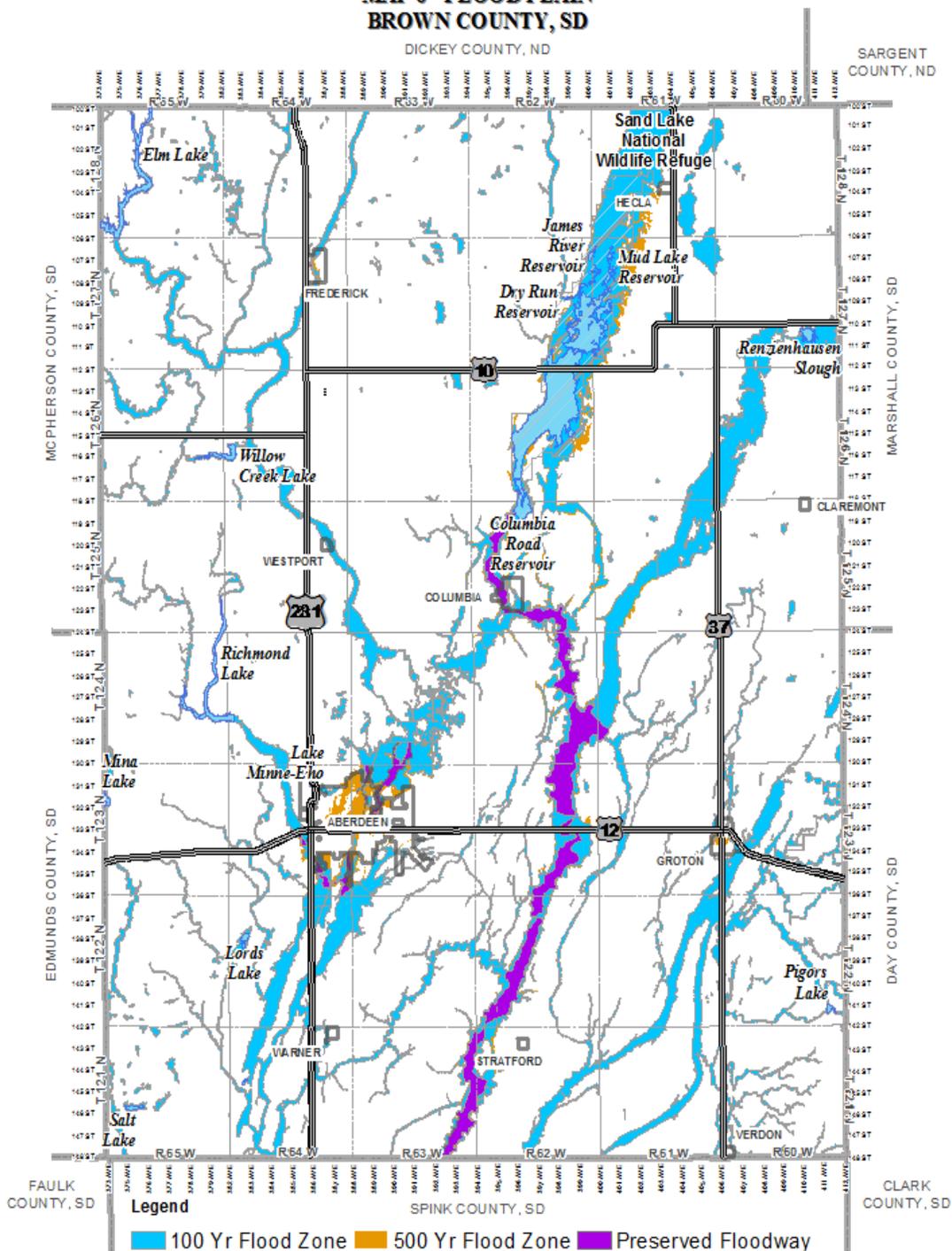
MAP 6A
EASTERN SOUTH DAKOTA
DRAINAGE BASINS

red
basin

BROWN
COUNTY

minnesota
basin

big
sioux
basin

james
basin

bad
basin

missouri
basin

white
basin

vermillion
basin

niobrara
basin

Drainage Basins Data Source: State of SD

0   10   20   40 Miles

N
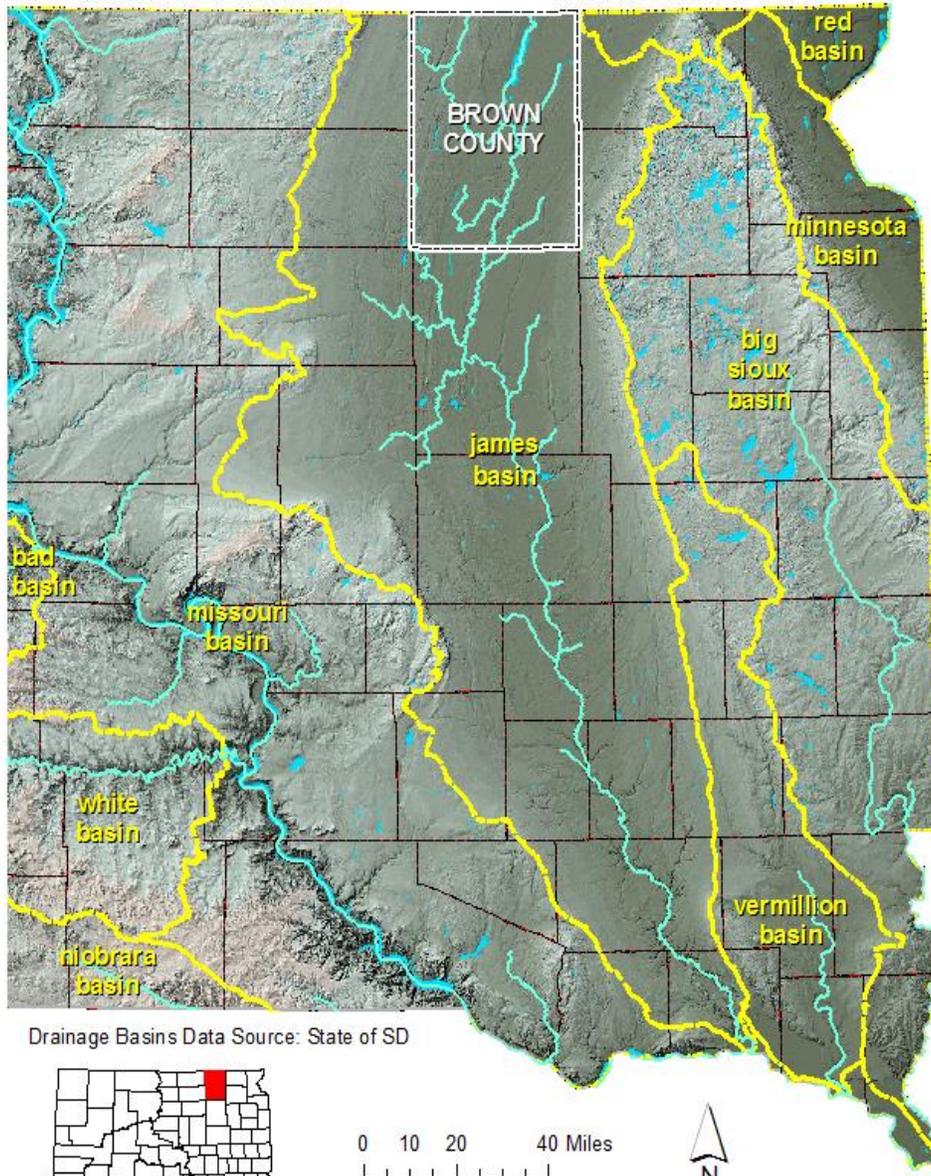
Soil Types

There are a number of soil associations, or types of soil patterns in Brown County. A soil association is landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils.

The Natural Resources Conservation Service has completed an update of the Brown County Soil Survey. Soil boundaries were provided in digital format for entry into a Geographic Information System (GIS) along with attribute information associated with the various soil types. GIS affords the opportunity to analyze these attributes as part of the site development evaluation process.

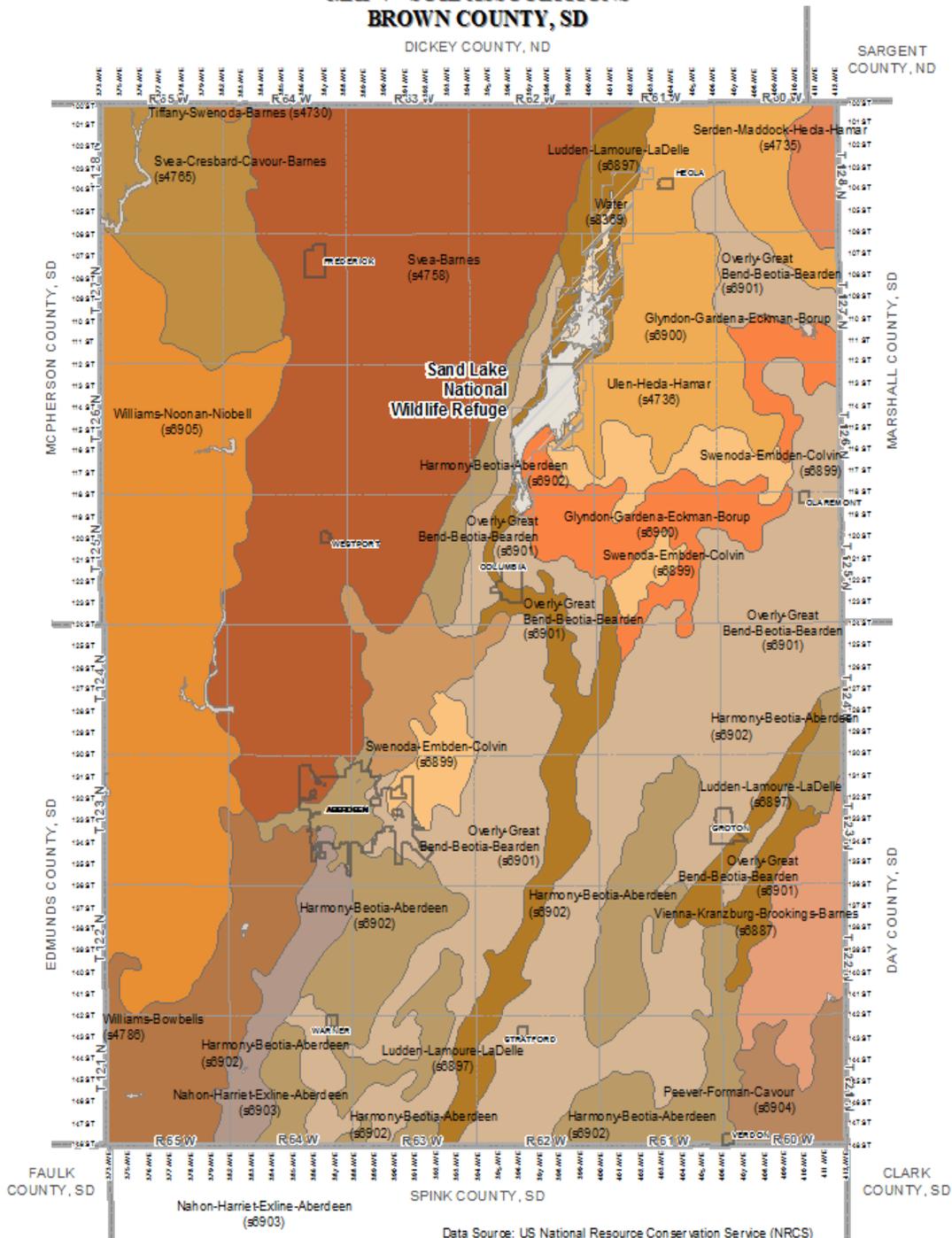A map showing soil associations is useful to people who want a general idea of soils in the county. The soil attributes provide information on agricultural productivity, erosion factors, and limitations for the use of wastewater absorption fields, lagoons, buildings, roads, and other engineering applications. The County should consider soil associations and their limitations when making decisions on future development projects. See Map 7.

MAP 7 - SOIL ASSOCIATIONS
BROWN COUNTY, SD

DICKEY COUNTY, ND

SARGENT COUNTY, ND

MCPHERSON COUNTY, SD

MARSHALL COUNTY, SD

EDMUNDS COUNTY, SD

DAY COUNTY, SD

Tiffany-Swenoda-Barnes (s4730)

Svea-Cresbard-Cavour-Barnes (s4765)

Serden-Maddock-Heda-Hamar (s4735)

Ludden-Lamoure-LaDelle (s6897)

HECLA

Water (s8369)

FREDERICK

Svea-Barnes (s4758)

Overly-Great Bend-Beotia-Bearden (s6901)

Glyndon-Gardena-Eckman-Borup (s6900)

Sand Lake National Wildlife Refuge

Ulen-Heda-Hamar (s4736)

Williams-Noonan-Niobell (s6905)

Swenoda-Embden-Colvin (s6899)

Harmony-Beotia-Aberdeen (s6902)

CLAREMONT

Overly-Great Bend-Beotia-Bearden (s6901)

Glyndon-Gardena-Eckman-Borup (s6900)

WESTPORT

Swenoda-Embden-Colvin (s6899)

COLUMBIA

Overly-Great Bend-Beotia-Bearden (s6901)

Overly-Great Bend-Beotia-Bearden (s6901)

Harmony-Beotia-Aberdeen (s6902)

Swenoda-Embden-Colvin (s6899)

Ludden-Lamoure-LaDelle (s6897)

GROTON

ABERDEEN

Overly-Great Bend-Beotia-Bearden (s6901)

Overly-Great Bend-Beotia-Bearden (s6901)

Harmony-Beotia-Aberdeen (s6902)

Harmony-Beotia-Aberdeen (s6902)

Vienna-Kranzburg-Brookings-Barnes (s6887)

Williams-Bowbells (s4786)

Harmony-Beotia-Aberdeen (s6902)

WARNER

Ludden-Lamoure-LaDelle (s6897)

STRATFORD

Nahon-Harriet-Exline-Aberdeen (s6903)

Harmony-Beotia-Aberdeen (s6902)

Harmony-Beotia-Aberdeen (s6902)

Peever-Forman-Cavour (s6904)

VERDON

FAULK COUNTY, SD

SPINK COUNTY, SD

CLARK COUNTY, SD

Nahon-Harriet-Exline-Aberdeen (s6903)

Data Source: US National Resource Conservation Service (NRCS)

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Chapter Two:
Demographics, Transportation and Land Use

Population

The study of a county's population is an essential component in the development of a comprehensive land use plan. By understanding the makeup of its population, a county is then better prepared to plan for the future needs of its citizenry.

State Trends

The State of South Dakota has had population growth for most decades looking back to 1900. The growth of population has generally been increasing at a slower pace compared to the United States. The population increases of the United States during this same time frame was around 20% in the early 1900's dropping to around 10% the past few decades. In addition, where people live has also been changing from rural to more urban.

Regional Population

Seven counties surround Brown County, six in South Dakota and one to the North in North Dakota. All seven counties have similar population and rural characteristics. Only one county, Marshall, experienced an increase in population between the 2000 and 2010 census (Table 1 and Figure 1). Although Marshall experienced a recent population increase, all seven of the counties have seen a gradual decrease since the 1930's.

Brown County, with the City of Aberdeen acts a regional hub for goods and services for many of the surrounding counties. As the regional hub, the population in Brown County has not followed the same trend lines as the region and has seen growth during the declines of the surrounding counties.

Table 1
Surrounding Counties Population Change

Year		Day	Edmunds	Faulk	Marshall	McPherson	Spink	Dickey (ND)
1900		12254	4916	3547	5942	6327	9487	6061
1910		14372	7654	6716	8021	6791	15981	9839
1920		15194	8336	6442	9596	7705	15768	10499
1930		14606	8712	6895	9540	8774	15304	10877
1940		13565	7814	5168	8880	8353	12527	9696
1950		12294	7275	4752	7835	7071	12204	9121
1960		10516	6079	4397	6663	5821	11706	8147
1970		8713	5548	3893	5965	5022	10595	6976
1980		8133	5159	3327	5404	4027	9201	7207
1990		6978	4356	2744	4844	3228	7981	6107
2000		6267	4367	2640	4576	2904	7454	5757
2010		5710	4071	2364	4656	2459	6415	5289
Change: 1900-2000	Total	-6544	-845	-1183	-1286	-3868	-3072	-772
	Percent	-48.86%	-11.17%	-25.57%	-22.99%	-54.10%	-21.43%	-5.02%
Change: 1990-2000	Total	-557	-296	-276	80	-445	-1039	-468
	Percent	-8.89%	-6.78%	-10.45%	1.75%	-15.32%	-13.94%	-8.13%

Source: 1900-2010 (U.S. Bureau of the Census, Decennial Censuses).

Figure 1
Surrounding Counties Population Trends
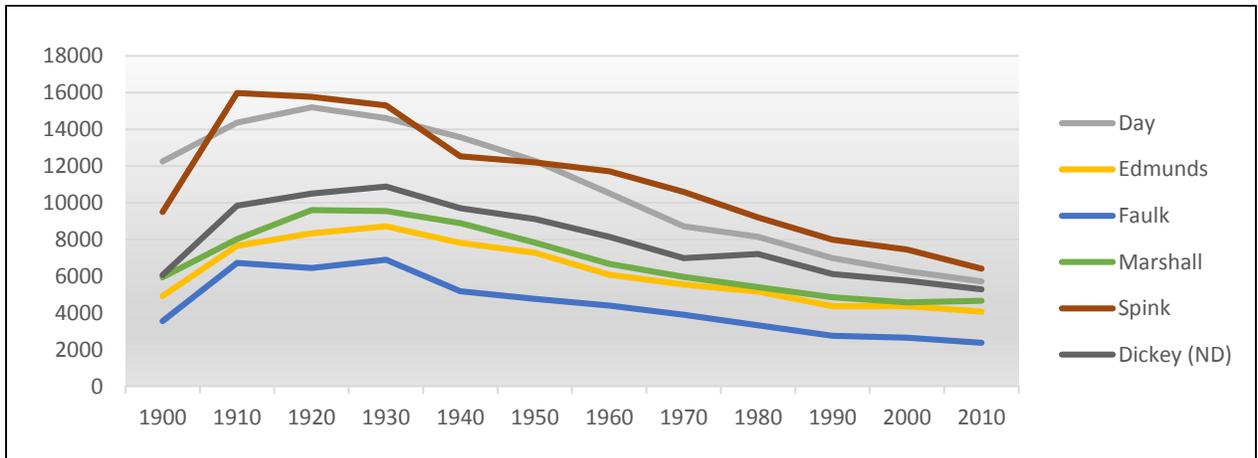
Source: 1900-2010 (U.S. Bureau of the Census, Decennial Censuses).
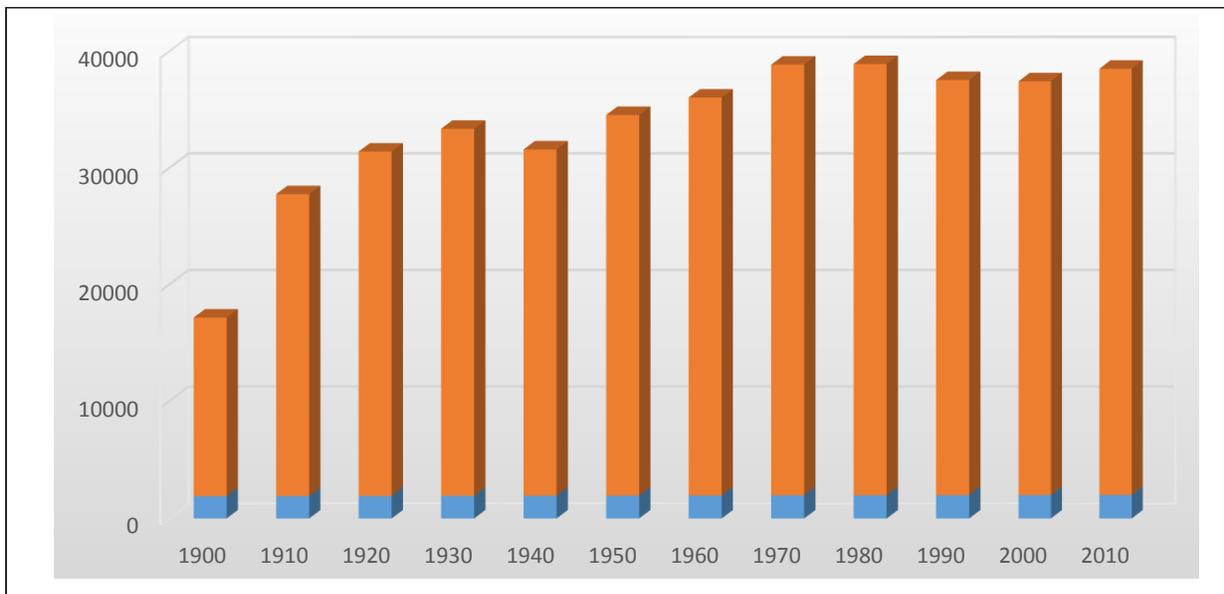
Brown County

The population of the county is 36,531 (2010 Census). Table 2 displays the percent change between the decennial censuses. Figure 2 displays information on the population trends for Brown County from 1900 to 2010. Brown County has increased in population by seven (7.1) percent since 1960 (2,425 persons). This increase occurred despite a decrease in population of 1,502 individuals between 1980 and 2000.

Table 2
Brown County Population Change

Year	Population	Percent Change
1900	15,286	
1910	25,867	69.22%
1920	29,509	14.08%
1930	31,458	6.60%
1940	29,676	-5.66%
1950	32,617	9.91%
1960	34,106	4.57%
1970	36,920	8.25%
1980	36,962	0.11%
1990	35,580	-3.74%
2000	35,460	-0.34%
2010	36,531	3.02%

Source: 1900-2010 U.S. Census Bureau

Figure 2
Brown County Population Trends

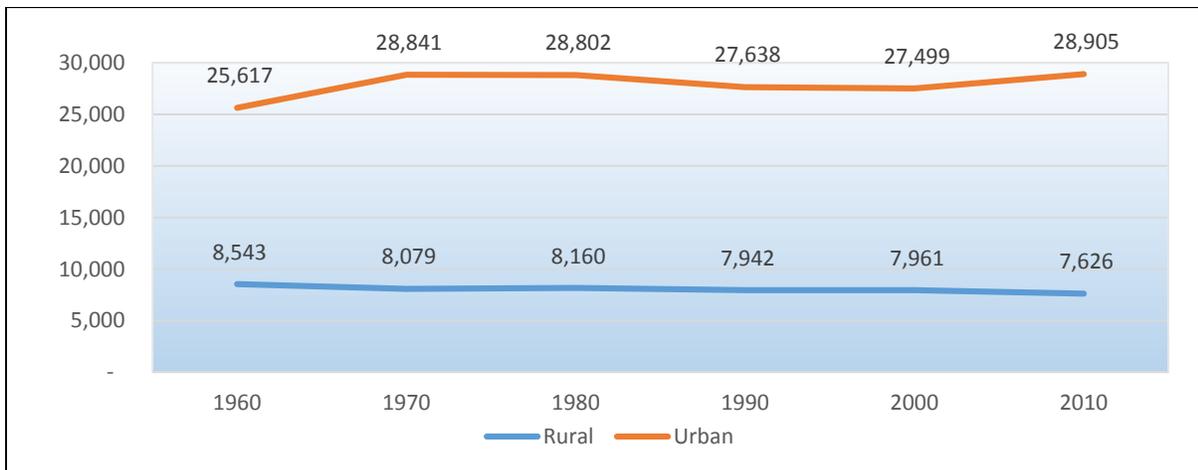Source: 1900-2010 U.S. Census Bureau

Table 3 and Figure 3 detail Brown County population trends by dividing the county into two (2) data subsets. They include the communities and the rural area. The population share of the rural areas within Brown County has declined since 1950 (4%, 863 persons). The decline in rural areas within Brown County is not unique as many counties in South Dakota show a decline in this population base. However, the decrease in rural area population is less than surrounding counties. This can likely be attributed the economic growth in Aberdeen, and the availability of residential development around Aberdeen, growth in residences around lakes, and in planned developments. With four lane access to the Interstate and railroad lines in the county, the City of Aberdeen will likely remain a key industrial and commercial hub for the state. This may add pressure in rural areas for more non-agricultural residences.

Table 3
Brown County Population Analysis
Urban (Communities) vs. Rural Area Proportions

Census Years	Rural Population	Percent Rural	Urban Population	Percent Urban	Total Brown County
1950-1960	8,489	24.89%	25,617	75.11%	34,106
1960-1970	8,079	21.88%	28,841	78.12%	36,920
1970-1980	8,160	22.08%	28,802	77.92%	36,962
1980-1990	7,942	22.32%	27,638	77.68%	35,580
1990-2000	7,961	22.45%	27,499	77.55%	35,460
2000-2010	7,626	20.88%	28,905	79.12%	36,531

Source: 1960-2010 U.S. Census Bureau

Figure 3
Population Trends
Brown County Urban (Communities) vs Rural Area

Source: 1960-2010 U.S. Census Bureau

The "communities" subset is defined to include Aberdeen, Claremont, Columbia, Frederick, Groton, Hecla, Stratford, Verdon, Warner and Westport. Between 1950 and 2010 the population share of the communities in Brown County increased by four (4%, 3,288 person) percent. The growth, largely

attributable to the growth of the City of Aberdeen is responsible for shifting the weighing the urban versus rural ratio to seventy-nine percent urban in 2010. As indicated in Table 4 between 2000 and 2010, with the exception of the City of Aberdeen, the population of the remaining communities was relatively stable with moderate increases for three communities (Groton, Warner and Westport) and decreases for six communities (Claremont, Columbia, Frederick, Hecla, Stratford and Verdon). Because the City of Aberdeen serves as an employment center with two postsecondary education facilities, the population of Aberdeen represents a larger share of the county population as of 2010.

Table 4
Brown County Population Analysis
Brown County Communities and Rural Area Proportions

	Population 2000	Proportion of Brown County 2000	Population 2010	Proportion of Brown County 2010	Change in Proportion 2000-2010
Aberdeen	24658	69.5%	26091	71.4%	1.9%
Claremont	130	0.4%	127	0.3%	0.0%
Columbia	140	0.4%	136	0.4%	0.0%
Frederick	255	0.7%	199	0.5%	-0.2%
Groton	1356	3.8%	1458	4.0%	0.2%
Hecla	314	0.9%	227	0.6%	-0.3%
Stratford	96	0.3%	72	0.2%	-0.1%
Verdon	6	0.0%	5	0.0%	0.0%
Warner	419	1.2%	457	1.3%	0.1%
Westport	125	0.4%	133	0.4%	0.0%
Rural	7,961	22.5%	7,626	20.9%	-1.6%
Total	35,460		36,531		

Source: US Census Bureau 2000-2010

Figure 4 and 5 shows the age distribution of Brown County residents in 2000 and 2010. Several conclusions about the county's age distribution trends become apparent after reviewing the 2000 and 2010 Census age statistics. Analysis of this data exposes numerous trends.

Between 2000 and 2010, the number of Brown County's children age 0 to 9 increased by 7.6 percent (341 individuals). Although this increase nearly mirrored the increase in individuals age 20 to 29 (398 individuals), the increase in children of this age may be attributed to the fertility ratio. Upon examination of the fertility ratio, (the number of children under the age of five compared to the number of women in their childbearing years, ages 15 to 44) one can see an increase in Brown County's potential birthrate. The fertility ratio in 2010 increased nearly twenty-three (22.8) percent, 3.65 births per 10 women ages 15 to 44 in 2010 compared to 2.97 births per 10 women in their childbearing years in 2000. The data shows that there were fewer women in their childbearing years in 2010 as opposed to 2000 however those women were proportionally having more children. Despite the increase in fertility rate, the number of individuals age 0 to 19 actually decreased by 149 individuals. This decrease may be directly correlated to the decrease in individuals age 20 to 44.

Numerous push-pull factors led to a complicated decrease in individuals between the ages of 20 and 44. The City of Aberdeen continues to serve as a job center for Brown County and the expanded trade area. In the same way the diverse economy attracts and retains those searching for jobs, Northern State University and Presentation College attracts residents seeking postsecondary education. Generally post-secondary institutions attract residents in their early to mid-twenties, it can be expected that many graduates stay in or near Aberdeen after graduation. Three primary factors account for the decrease in population of 20 to 44 year olds in the last decade. Similar to most rural communities in the State, Brown County experienced flight of its 10 to 19 year olds from the 2000 Census. Secondly, in assessing the decrease in 35 to 44 year olds one must not discount the economic factors surrounding the country in the preceding decade. Manufacturing accounts for a large proportion of employment in Aberdeen. Locally employment remained steadier than in other parts of the country; however Aberdeen businesses did feel the financial effects of the slowed economy. New construction slowed and unemployment increased prior to the 2010 census. Finally, the simplest and likely most prominent factor in the decrease of 20 to 44 year olds was natural. Statistically, the number of individuals between 35 and 44 in 2000 closely correlate to the number of 45 to 54 year olds in 2010. This data suggests that Brown County is retaining a large percentage of its work force.

The greatest losses in any age group for Brown County were felt in the 35 to 44 year old cohort. This cohort decreased by 1,219 individuals between 2000 and 2010, equating to a decrease of nearly twenty-three (23.3) percent. This breakdown further explains the increase fertility rate when considering that a higher proportion of the population used to calculate fertility rate is younger. Further, the decrease in population of 35 to 44 year olds reflects the decrease in population of residents in their teens as it is most likely that this age group comprises the parents of teenagers.

The most significant increases in population occurred amongst 45 to 64 year olds over the past decade. The increase speaks to the ability of the region to attract and retain those individuals approaching the final years of their work career. This increase also reflects the aging of rural communities nationally. This cohort includes baby-boom and baby bust era individuals. The population of individuals between the ages of 45 and 64 increased by nearly twenty-five (24.8) percent (1,932 individuals) between 2000 and 2010. The most dramatic increase was amongst the 55 to 59 year old age group (796 individuals) which accounted for a forty-eight (48.1) percent increase.

The population of individuals over the age of 65 also increased significantly over the past decade. The national trend of people living longer due to advances in the medical field affects this increase. However, regionally, the availability and quality of medical care has increased in Aberdeen over the past decade. This has not only allowed its residents to live longer, but attracted residents that may have lived outside of Brown County but within the region to live in Brown County. The overall population of residents in Brown County over the age of 65 increased slightly by two (2.2) percent (129 individuals) between 2000 and 2010. The only age groups above 65 years old experiencing a population decrease over the past decade were those between the ages of 70 and 79 years old.
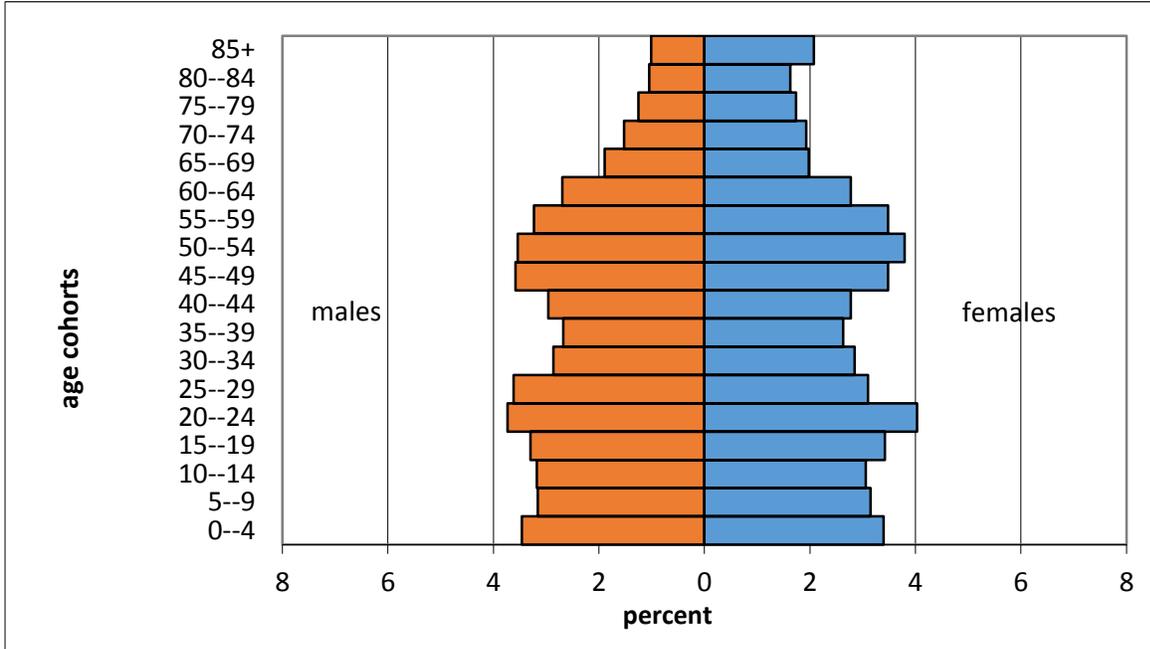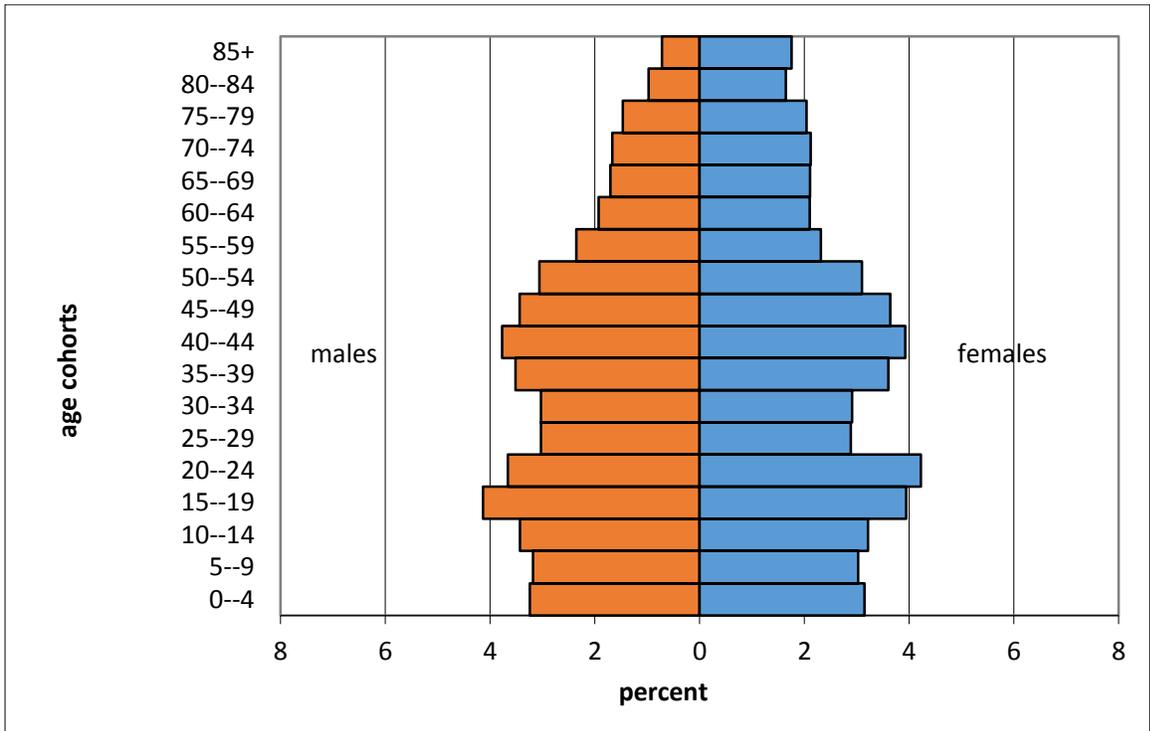
Figure 4
Brown County 2010 Age Distribution

Figure 5
Brown County 2000 Age Distribution

25

All of the communities, rural area, and Lakes have the potential to contribute to the county's future population base. Table 5 exhibit population projections for Brown County. The population projections were based on recent population trends utilizing U.S. Census Data and local observations. It should be noted that the population projections set forth here are not definite statements of the future but are dependent upon the actions taken by the local citizens and government.

Table 5
Brown County Population Projections

	2000	2010	2017	2020	2025	2030
Aberdeen	24,658	26,091	27,066	27,472	28,296	29,145
Claremont	130	127	82	80	81	82
Columbia	140	136	148	150	152	153
Frederick	255	199	201	203	205	207
Groton	1,356	1,458	1,965	1,970	2,009	2,050
Hecla	314	227	191	185	183	181
Stratford	96	72	79	80	81	82
Verdon	6	5	4	4	4	4
Warner	419	457	463	469	476	483
Westport	125	133	147	152	154	155
Rural	7,961	7,626	8,291	8,250	8,208	8,167
Total	35,460	36,531	38,637	39,015	39,849	40,709

Housing

Housing is not easily analyzed nor is it easy to come up with simple solutions to address housing needs. Housing is critically tied to population characteristics, employment levels, community growth rates, social problems, transportation, water supply, sewage systems, environmental issues, and many other conditions. County residents require adequate housing that includes safe and sanitary facilities. Housing is a critical component for the success and growth of the community.

The number of housing units in the unincorporated areas of Brown County totaled sixteen thousand seven hundred six (16,706) in 2010 (Table 6). The rural housing stock is comprised primarily of owner occupied single-family residences and is clearly defined when reviewing the owner occupied rates of all locations vs. the City of Aberdeen in Table 6.

Table 6
Brown County Housing Units Occupancy Status

Vacant housing units include units for sale, for rent and other vacant status.

	2000 # of Housing Units	2010 # of Housing Units	2010 Occupied	2010 Seasonal or Recreational	2010 Vacant, For Rent/Sale or Other	Owner Occupied Units	Owner Occupied %	Renter Occupied Units	Renter Occupied %
Aberdeen	11,259	12,158	11,418	52	688	6,839	59.9%	4,579	40.1%
Claremont	75	61	53	1	7	46	86.8%	7	13.2%
Columbia	76	80	70	3	7	60	85.7%	10	14.3%
Frederick	140	119	101	5	13	74	73.3%	27	26.7%
Groton	581	630	576	5	49	411	71.4%	165	28.6%
Hecla	170	155	127	19	9	107	84.3%	20	15.7%
Stratford	42	41	30	4	7	25	83.3%	5	16.7%
Verdon	4	4	2	-	2	1	50.0%	1	50.0%
Warner	153	171	166	-	5	143	86.1%	23	13.9%
Westport	52	51	48	-	3	43	89.6%	5	10.4%
Rural	3,309	3,236	2,898	140	198	2,548	87.9%	350	12.1%
Brown	15,861	16,706	15,489	229	988	10297	66.5%	5192	33.5%

Source: US Census Bureau 2000-2010 DP1, SF1

Table 7
Brown County Structure Permits 2014-2018

Year of Permit	Houses	Mobile Homes	Accessory Buildings
2018	7	3	36
2017	6	5	34
2016	13	8	54
2015	14	5	58
2014	22	1	56
Totals	62	22	238

Source: Brown County Planning & Zoning

Table 7 illustrates that while the number of new homes has been decreasing, the number of accessory buildings built has been significant. It reflects the importance of having a suitable storage/repair space for the required equipment in the agricultural community.

Residential construction is expected to continue at a pace consistent with past trends. Residential development is often related to regional economic conditions, mortgage interest rates, flooding conditions, zoning requirements and/or lack of supply of developable lots. Based upon the future land use policies within this plan, county residents will still continue to have the choice of either an urban, small town, or rural lifestyle.

Concerning the age of housing structures in Brown County, fifty (50) percent of all housing structures were built prior to 1970 and that means that half of the structures are over 50 years of age. When removing all Aberdeen housing structures the percent of homes constructed prior to 1970 drops to forty two (42) percent. Numerical values for the amount of housing found within the different ages are indicated on Table 8.

Table 8
Brown County Age of Housing Structures

Year Structure Built	Brown County	% of Structures	Brown Excluding Aberdeen	% of Structures	Aberdeen
2014 or later	295	1.66%	91	1.87%	204
2010-2013	932	5.25%	209	4.30%	723
2000-2009	1,913	10.77%	696	14.33%	1,217
1990-1999	1,759	9.90%	800	16.47%	959
1980-1989	1,282	7.22%	167	3.44%	1,115
1970-1979	2,838	15.98%	740	15.24%	2,098
1960-1969	1,994	11.23%	464	9.56%	1,530
1950-1959	1,692	9.53%	354	7.29%	1,338
1940-1949	1,170	6.59%	157	3.23%	1,013
1939 or earlier	3,887	21.88%	1,178	24.26%	2,709
Total Housing Units	17,762		4,856		12,906

Source: US Census 2013-2017 ACS Selected Housing Characteristics, DP04

The value of housing units very closely hinges upon the age and condition of housing. Table 9 breaks down by dollar value, the number of units in each grouping. It is noted that in Brown County the $150,000 - $199,999 area is where the largest number of housing units are found and in Aberdeen the largest number of housing units are between 100,000 - $149,999. The values for all of Brown County housing units are slightly higher than when looking at only Aberdeen. The median value per house is $152,900 for all of Brown County and $144,000 for the City of Aberdeen.

Table 9
Brown County Value of Housing Units

Value Owner-Occupied Units	Brown (All)		Aberdeen	
Less than $50,000	1,205	11.2%	644	9.1%
$50,000 to $99,999	1,917	17.8%	1,348	19.0%
$100,000 to $149,999	2,110	19.6%	1,761	24.8%
$150,000 to $199,999	2,195	20.4%	1,544	21.8%
$200,000 to $299,999	1,739	16.2%	1,004	14.2%
$300,000 to $499,999	1,329	12.3%	702	9.9%
$500,000 to $999,999	240	2.2%	72	1.0%
$1,000,000 or more	30	0.3%	15	0.2%
Total Owner Occupied Units	10,765		7,090	
Median (dollars)	$ 152,900		$ 144,000	

Source: US Census 2013-2017 ACS Selected Housing Characteristics, DP04

Agriculture

Since Brown County's inception it has relied heavily on the agricultural economy. The majority of land in the county is still used for crop production, specifically corn, soybeans and wheat, yet farms have dramatically changed from the first settlers. The introduction of new farming technologies and equipment allows larger pieces of land to be farmed more efficiently. These changes have reduced the number of farms in the county, while the average size of farm has increased. In 1900 Brown County had an average farm size of 471 acres and in 2017 the average farm size is 1,047 acres. The number of farms in 1900 in Brown County was 1,921 and in 2017 that number has decreased to 1,034. (Table 10).

Although the size and number of farms has changed substantially from the early 1900's, the past fifteen years has shown far more consistency. The size and numbers of farms has gone up and down over this period of time and this is most likely due to changes in the economic conditions of the agricultural sector during each five year period.

Table 10
Brown County Farms

	2002	2007	2012	2017	Total Difference	Percent Difference
Total Farms	1,155	1,036	1,056	1,034	(121)	-10.48%
Farmland (acres)	1,155,342	1,085,020	1,078,794	1,083,014	(72,328)	-6.26%
Average Size (acres)	1,000	1,047	1,022	1,047	47	4.70%

Source: USDA National Agricultural Statistics Service

As the size and number farms has remained steady over the past fifteen years the harvested commodities has not. Although the types of harvested commodities that are produced in Brown County have not changed the amount of acres that has been used for each commodity has seen significant changes to more corn and soybeans and large reductions to wheat and sunflowers. Another noticeable change is that the per bushel yield from all harvested commodities has increased. This is another sign of the new farming technologies and efficiencies that have been undertaken by the agricultural sector. (Table 11)

Table 11
Brown County Harvested Commodities

	2002		2007		2012		2017	
Harvested commodities	Acres	Bushels	Acres	Bushels	Acres	Bushels	Acres	Bushels
Corn, grain or seed	194,803	23,132,408	258,225	34,276,041	350,820	47,899,190	319,973	49,433,618
Soybeans	313,255	11,437,204	225,947	8,508,358	318,992	11,649,110	381,167	15,471,367
Wheat - All	93,481	2,758,701	62,474	2,609,975	25,301	1,263,163	13,635	629,173
Wheat - Spring	89,801	2,620,377	56,878	2,303,868	22,144	1,074,941	13,324	620,073
Wheat - Winter	withheld	withheld	5,596	306,107	3,157	188,222	311	9,100
Oats	2,135	82,343	1,648	118,959	936	65,185	2,035	149,512
Barley	1,569	50,008	withheld	withheld	600	19,024	withheld	withheld

	2002		2007		2012		2017	
Harvested commodities	Acres	Pounds	Acres	Pounds	Acres	Pounds	Acres	Pounds
Sunflower seed - All	4,490	5,466,163	1,753	1,281,390	604	785,473	476	852,000

	2002		2007		2012		2017	
Harvested commodities	Acres	Tons	Acres	Tons	Acres	Tons	Acres	Tons
All Hay-including alfalfa & other	95,611	163,275	63,216	145,166	37,090	60,363	43,171	75,566
Corn for silage, or green chop	11,480	115,832	7,334	104,493	9,363	62,387	8,372	103,277

Source: USDA National Agricultural Statistics Service

Another noticeable change in Brown County's Agriculture production is the reduction in the number of livestock within the County. During the years listed in Table 12, the livestock inventory in Brown County decreased forty-five (45) percent. Since the last reported numbers in 2012 there has been an increase statewide in the use of Concentrated Animal Facility Operations (CAFO). While the number of individual agriculture producers raising livestock is decreasing the total livestock inventory may begin to see increases if more CAFO's are developed.

In 2014, as part of the South Dakota Department of Agriculture's efforts to enhance economic development opportunities and better support local control of development, a County site analysis was conducted in Brown County. The analysis assists was completed to assist counties in identifying potential rural properties with site development opportunities. The analysis and subsequent report provided Brown County with information and research-based resources to foster well informed decisions regarding the future of their county. It also helped identify and plan for potential challenges that may arise should those opportunities be pursued.

The site analysis identified potential sites for CAFO and Agricultural related Industrial (AID) Sites that would already have access to existing infrastructure and meet general zoning requirements. Future developments of CAFO and AID sites are not limited to those listed in the report, but it did provide the County with a preliminary review of possible opportunities and for future agricultural growth.

Table 12
Brown County Livestock Numbers

Livestock Inventory (number)	2002	2007	2012	2017
Cattle and calves	94,573	72,197	54,706	60,352
Beef cows	37,332	30,667	23,854	28,206
Milk cows	2,768	2,106	679	2,587
Hogs and pigs	34,029	34,491	14,500	withheld
Sheep and lambs	18,627	24,171	2,533	2,309
Any Poultry - Layers	1,385	1,029	1,228	1,697

Source: USDA National Agricultural Statistics Service

Economics

As mentioned earlier the Brown County economy is heavily dependent on the agriculture sector. With that reliance on the economy the County is more susceptible to changes in the economy due to fluctuating commodity prices and weather. Although Agriculture is an important economic driver the City of Aberdeen has a strong economy and a solid diversification of jobs as shown in Table 13.

Brown County's economic strength is also demonstrated in Table 14. The County has a higher Family Median Income ($73,439) and Per Capita Income ($31,493) along with a lower Family Poverty Rate (7.6%) than both the State of South Dakota and the National numbers.

Table 13
Brown County Occupation Categories

Occupation	Total	Percent
Management, business, science and arts occupations	6,895	33.2%
Service occupations	3,303	15.9%
Sales and office occupations	4,980	24.0%
Natural resources, construction and maintenance operations	2,109	10.2%
Production, transportation and material moving occupations	3,451	16.6%
Total Civilian Employed population 16 years and older	20,738	

Source: U.S. Census 2013-2017 ACS

Table 14
Brown County Income and Poverty

Median Family Income	U.S.	South Dakota	Brown County
2017	$ 70,850	$ 69,425	$ 73,439
2010	$ 62,982	$ 58,958	$ 58,683
2000	$ 50,046	$ 43,237	$ 45,087
Per Capita Income	U.S.	South Dakota	Brown County
2017	$ 31,177	$ 28,761	$ 31,493
2010	$ 27,334	$ 24,110	$ 23,878
2000	$ 21,587	$ 17,562	$ 18,728
Families Below Pov Level %	U.S.	South Dakota	Brown County
2017	10.5	8.9	7.6
2010	10.1	8.7	5.6
2000	9.2	9.3	7.0

Source: U.S. Census 2013-2017 ACS

Brown County's educational attainment is very similar to the state and national averages (Table 15). However, the County has a higher rate of students achieving a high school degree or above and also has higher percentage of individuals with either an Associates, Bachelors or Graduate degree than the state or national percentages. The number of individuals with post-secondary degrees is likely aided by having two post-secondary institutions located in Brown County (Northern State University and Presentation College).

Table 15
Education Attainment Over Age 25 by Percent

	U.S.	South Dakota	Brown County
No High School Degree	12.6	8.6	7.9
High School Graduate	27.3	30.5	30.6
Some College No Degree	20.8	21.8	21.5
Associates	8.3	11.3	11.1
Bachelors	19.1	19.5	20.2
Graduate	11.8	8.3	8.6

Source: U.S. Census 2013-2017 ACS

Transportation

A well-conceived transportation system is one of the most important features of a comprehensive land use plan. The transportation plan attempts to program road and street use to prevent congested and unsafe street design. Through long-term planning of designated street types, new developments can be coordinated and potential problems minimized.

County Transportation System

Brown County's transportation system is generally laid in a one-mile rectilinear grid system with a majority of the roads having sixty-six (66) foot right-of-ways. The public right-of-ways for County, State and Federal Highways with a bituminous or concrete surface generally exceed sixty-six (66) feet in right-of-way. The township highway system represents the largest road system within the county.

Street Classification

Roads within the county support diverse volumes of traffic. Thus, before a transportation plan can be implemented, the determination and development of the County's existing road system according to classification must be undertaken. The development of these classifications will be specifically related to the function that the road is expected to perform. Developmental expectations are dependent upon the varying amount and type of traffic.

The following generally recognized hierarchy of road classifications would be used to assist in the development of intermediate and long range transportation needs.

Arterials – Arterial streets serve as primary circulation routes. These roads generally carry the majority of traffic volume within the county. Their basic function is to facilitate movement of medium and long distance, high-speed traffic between regions and communities with a minimum of impediments. Since arterials serve for traffic movement between regions and sub areas, all direct access to abutting property should be restricted. Further, parallel service roads should be added, where appropriate, to maintain traffic carrying capabilities of the thoroughfare. U.S. Highways 12 and 281, and South Dakota Highway 10 and 37 are considered arterials.
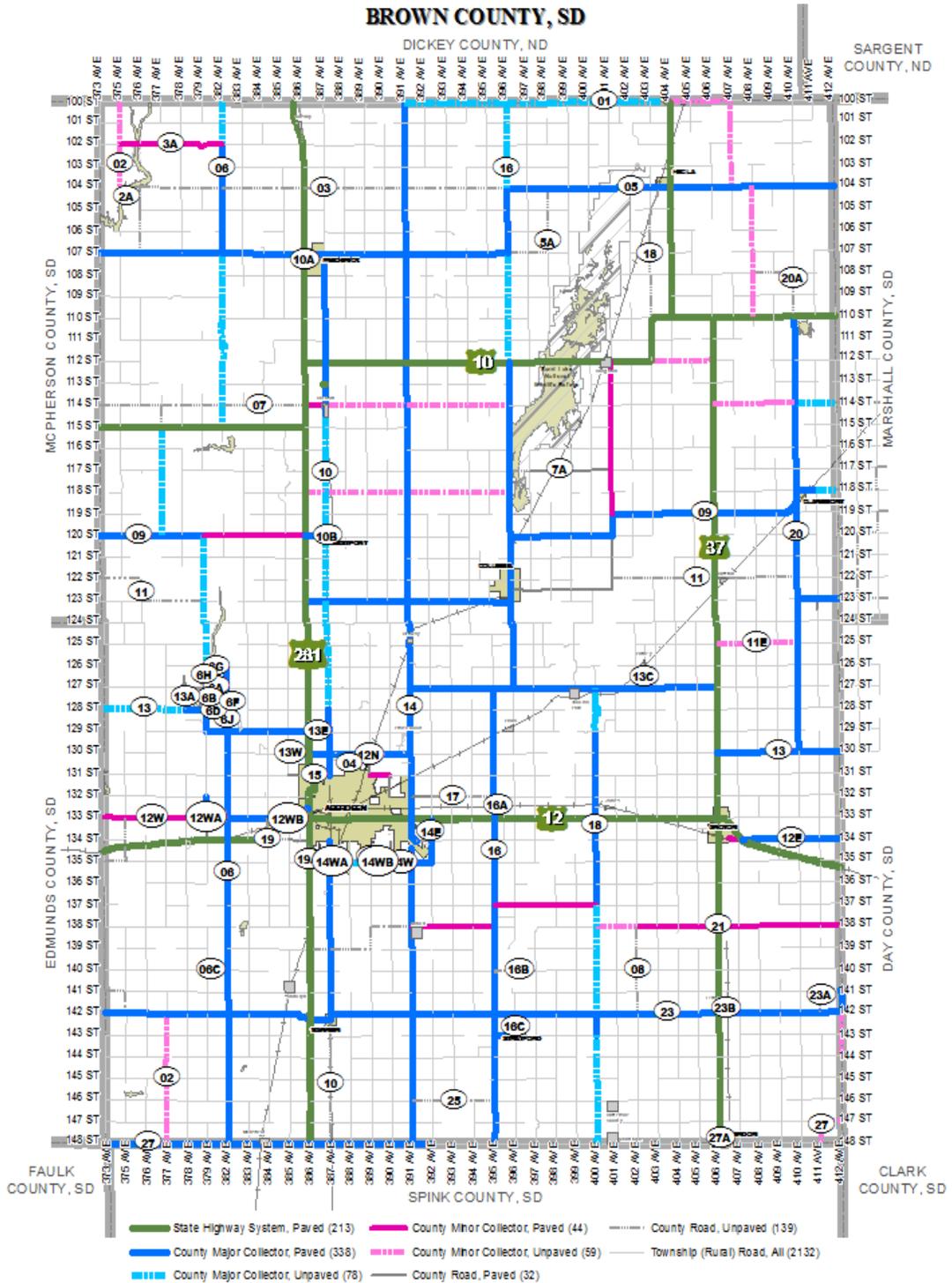
Collectors - form an intermediate category between arterial and local roads. Collectors serve as a link between arterial and local roads by "collecting" traffic from local roads and transferring it to arterial roads. Collectors may further be classified into major and minor collector categories. Presently, the Brown County paved and unpaved Highway System serves as the major and minor collectors.

Local Streets - primarily provide access to abutting properties. They are not designed to carry large amounts of through traffic and are primarily characterized by short trip length and low traffic flow. Townships roads in Brown County are the primarily designated as local streets.
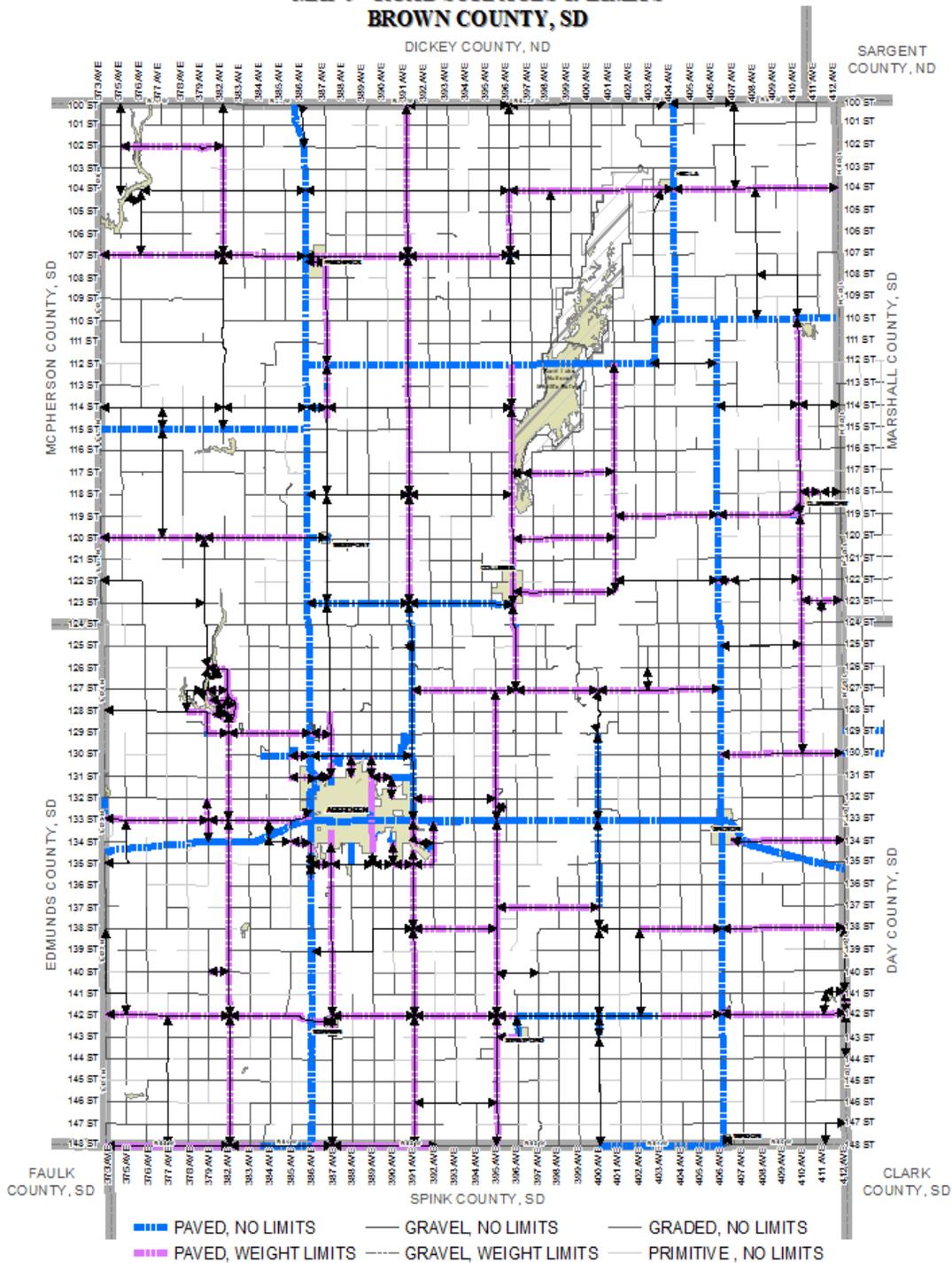
Major Street Plan

The Major Street Plan shown on Map 8 classifies roads as arterial, collector, or local. The plan is designed to effectively move traffic through the county and between major attraction points and Map 9 identifies the paved, gravel, graded and primitive road segments.

MAP 8 - TRANSPORTATION CLASSES
BROWN COUNTY, SD

DICKEY COUNTY, ND

SARGENT COUNTY, ND

MCPHERSON COUNTY, SD

MARSHALL COUNTY, SD

EDMUNDS COUNTY, SD

DAY COUNTY, SD

FAULK COUNTY, SD

CLARK COUNTY, SD

SPINK COUNTY, SD

State Highway System, Paved (213)
County Major Collector, Paved (338)
County Major Collector, Unpaved (78)
County Minor Collector, Paved (44)
County Minor Collector, Unpaved (59)
County Road, Paved (32)
County Road, Unpaved (139)
Township (Rural) Road, All (2132)

MAP 9 - ROAD SURFACES & LIMITS
BROWN COUNTY, SD

Land Use

General land use issues, including growth and development patterns, economic development, and environmental sensitivity, are important issues in Brown County. We want to maintain an attractive and efficient environment for the benefits of it citizens, and create a physical land use pattern that is supportive of the community's social, environmental and economic aspirations. The goal is to establish environmentally sensitive, economically sound, and fiscally responsible future land use and growth patterns. The objective being that we provide growth and development with maintaining a high quality of life. See Map 10.

Guidelines:
1) Identify and map accurate physical conditions and resources within the County, including topography, floodplains, wetlands, and other limitations of development; utilize this information in making land use decisions;
2) Identify, protect and maintain agricultural areas in specific locations;
3) Encourage value-added agricultural industries, businesses and diverse agricultural operations to locate in the County;
4) Approve the future development of land uses and densities based on the proximity and availability of adequate community facilities (including fire protection, ambulance and medical services, etc.), and available or proposed infrastructure (including roads, water and sewer/septic);
5) Direct urban level, or more intensive commercial, residential and other land uses into areas with available and existing services and infrastructure;
6) Establish a land use pattern that will enhance and preserve environment, maintain the visual quality of the County, and preserve those natural areas and features which contribute to the County's character and atmosphere, while allowing phased growth and controlled development to occur;
7) Consider approval of new development in areas most suitable for development, outside of sensitive areas such as well heads, floodplains, historic sites, wildlife habitats, etc.;
8) Encourage the County to grow "from the inside out" – as an expansion of existing urban centers and the logical and cost effective expansion of utilities and other infrastructure systems;
9) Encourage "cluster" types of development;
10) Establish buffer areas to ensure residential areas are separated from incompatible land uses; use buffers to separate all incompatible land uses, and to serve as a framework for County-wide open space systems;

MAP 10 - LAND COVER MAP
BROWN COUNTY, SD

Map Source: USDA 2011 National
Landcover Dataset

DICKEY COUNTY, ND

SARGENT
COUNTY, ND

MCPHERSON COUNTY, SD

MARSHALL COUNTY, SD

EDMUNDS COUNTY, SD

DAY COUNTY, SD

HECLA

FREDERICK

10

CLAREMONT

WESTPORT

COLUMBIA

281

37

ABERDEEN

12

GROTON

WARNER

STRATFORD

VERDON

FAULK
COUNTY, SD

CLARK
COUNTY, SD

Open Water	Barren Land	Herbaceuous
Developed, Open Space	Deciduous Forest	Hay/Pasture
Developed, Low Intensity	Evergreen Forest	Cultivated Crops
Developed, Medium Intensity	Mixed Forest	Woody Wetlands
Developed, High Intensity	Shrub/Scrub	Emergent Wetlands

Joint Jurisdictional (Extraterritorial Zoning)

The County recognizes the rights of and obligations of municipalities to plan for their individual development. South Dakota Codified Laws enable municipalities to adopt zoning regulations for areas within their corporate limits and, with county approval; they may exercise zoning powers in areas up to six (6) miles outside of their municipal boundaries. For municipalities to exercise these extraterritorial zoning powers, the county must rescind its zoning authority or the county and city need to jointly administer this jurisdiction. Presently, there are multiple municipalities with areas of joint jurisdictional zoning within the County.

If communities do not want to go through the formalized relations of joint jurisdictional zoning, another approach is to have effective communication between the governing bodies. Coordination between Brown County and the incorporated municipalities will be essential if the goals, objectives, policies, and recommendations within this plan are to be realized. Without a coordinated approach, urban/rural sprawl and scattered development could simply push the problem out beyond the extraterritorial jurisdiction.   A high priority should, therefore, be placed on resolving any land use policy conflicts which might exist between the County and the incorporated communities.

Chapter Three:
Township Profiles

The following chapter will provide basic information for the 44 townships located in Brown County. Decennial census data for population and housing and a map of the political boundaries is provided Map 2.

Historical census population and housing data for each township is provided to display the trends occurring in the townships; population and housing data is provided from the last three decennial census Table 16. This data only accounts for the residents and housing units outside of city incorporated limits, so as cities annex land the township size shrinks and subsequently often their population and housing numbers are reduced.

Table 16
Township Profiles

		Aberdeen	Allison	Bates	Bath	Brainard	Cambria	Carlisle	Claremont	Columbia	East Hanson	East Rondell	Franklyn	Frederick	Garden Prairie
population	1990	1669	26	44	593	119	124	58	165	127	139	91	45	86	155
	2000	1472	18	53	628	111	122	47	149	113	115	102	47	77	186
	2010	934	20	42	735	99	125	35	121	107	116	91	37	61	188
housing units	1990	609	15	21	219	51	62	21	64	61	56	32	18	33	46
	2000	571	15	18	244	52	68	16	62	58	54	36	17	31	52
	2010	378	13	17	284	50	75	18	58	52	55	37	16	31	27
	Sq. Miles	39.03	35.89	35.76	41.81	56.21	36.25	36.23	54	48.24	35.99	35.9	35.98	35.77	36.02

		Gem	Greenfield	Groton	Hecla	Henry	Highland	Lansing	Liberty	Lincoln	Mercier	New Hope	North Detroit	Oneota	Ordway
population	1990	225	72	111	49	123	92	63	91	1042	140	126	84	127	233
	2000	226	64	116	56	126	78	52	64	1235	145	99	69	137	265
	2010	217	40	118	45	129	86	58	68	1274	174	96	44	124	300
housing units	1990	85	27	43	23	45	35	36	49	372	52	40	32	52	89
	2000	82	31	45	28	53	34	31	42	463	56	38	30	52	100
	2010	86	25	54	23	50	36	30	39	487	78	42	24	50	112
	Sq. Miles	66.2	36.0	46.3	24.3	36.1	36.2	36.1	47.0	48.2	36.1	36.2	36.1	36.2	41.4

		Palmyra	Portage	Prairiewood	Putney	Ravinia	Richland	Riverside	Savo	Shelby	South Detroit	Warner	West Hansen	Westport	West Rondell
population	1990	35	82	186	102	247	62	70	68	137	100	499	73	106	87
	2000	31	64	237	106	283	57	67	65	133	86	497	55	115	95
	2010	34	58	266	104	373	77	58	71	96	65	580	61	107	81
housing units	1990	53	33	63	45	180	26	31	32	61	48	178	31	40	29
	2000	47	25	97	45	170	30	30	31	62	43	195	29	42	33
	2010	43	26	118	39	205	28	33	29	55	33	224	28	45	34
	Sq. Miles	35.7	35.8	0.6	36.2	36.1	36.0	36.0	35.6	52.1	36.2	80.1	36.0	28.9	34.1

Chapter Four:
Goals, Objectives and Policies

Goal 1: Organized development for growth while preserving agricultural integrity.

Objective 1: Preserve agricultural integrity

Policy 1:   Utilizing the existing development areas with regard to utilities & services currently in place for uses of new development.
Policy 2:   Development within Joint Jurisdictional Area (JJA) should be first consideration.
Policy 3:   Development areas outside this area may require a "right-to-farm" easement and to be filed with Register of Deeds Office.
Policy 4:   Encouragement of new industrial & commercial development in compatible land use areas.
Policy 5:   Deter development which adversely impacts the flooding potential in the County and requiring mitigation or adversely impacts soil stability.

Goal 2: Provisions for safe economical services and utilities for growth in development areas.

Objective 1: Safe economical services for areas of new growth

Policy 1:   Ensure developers recognize and implement required guarantees of installation of facilities, services and infrastructure prior to approval of new developments. Attention must be given in providing these on the most safe and economical way.

Goal 3: Provide for safe, efficient, cost effective transportation systems for current & future movement of goods and services.

Objective 1: Effective transportation systems

Policy 1:   Utilize existing structures for continuity of size, shape and safety for further development.
Policy 2:   Developers are required to supply all necessary plans to support the required safety an environment needs for a new development.

Goal 4: Protect Natural Resources

Objective 1: Protection of existing natural resources

Policy 1:   Require new developments to comply with local, county, state and federal laws, regulations, guidelines and ordinances in regards to wetlands, lakes, rivers and streams.
Policy 2:   Require developers to do no harm or adversely affect any and all water sources.
Policy 3:   Retain runoff with open natural drainage systems.
Policy 4:   Encourage infill development and redevelopment where appropriate.

Goal 5: Promote and Preserve rural heritage

Objective 1: Maintain rural heritage

Policy 1:   Promote agriculture to the county by enhancing knowledge of agriculture industry and its rich history.

Goal 6: Communication

Objective 1: Good communication with developers

Policy 1:   Communication is a priority in making sure the community, developer and county are promptly and accurately informed of plans and impact of development within the county and city boundaries.

Goal 7: General Work Plan – On-going Actions

1. Designate and plan growth areas with individual service areas. Planning should include land use designations, identification of infrastructure and capacity needs, funding, and common policies and standards.
2. Review the progress toward implementing the comprehensive plan as needed.
3. When the county comprehensive plan is updated in the future, update and amend accordingly any intergovernmental agreements to reflect future updates to the county comprehensive plan.
4. Update the existing zoning ordinance so that it is consistent with the Growth Strategy.
5. Create sub-area plans for key growth areas as needed.
6. Retain agricultural zoning for the majority of the undeveloped lands in the county.
7. Support agricultural industries that are directly and indirectly related to agriculture such as, but not limited to, veterinary services, livestock sales and auctions services, seed and fertilizer facilities, and farm equipment services.
8. Review subdivision regulations to include an option for cluster developments, with emphasis on continuing agricultural operations.
9. Facilitate farmers and ranchers working together in an ongoing effort to develop strategies to preserve agriculture, including addressing estate issues to keep land holdings together.
10. Protect existing agricultural operations from nuisance complaints by adjacent subdivisions with right to farm policies.
11. Consider incorporating a right-to-farm statement on all pertinent land use plats so that future land owners are made aware of the program.
12. Consider delineating hazardous or sensitive places on plats and/or site plans, which include, but are not limited to areas of slope movement, fire hazard, aquifer recharge, steep terrain, non-reclaimed mined lands, unstable soils, shallow ground water, hazardous waste deposits, and floodplains. Discourage unsafe development in these areas.
13. Consider developing regulations for mineral resource practices so as to minimize disruption to ground and surface water courses, fish and wildlife habitat, and historical sites.
14. Continue to integrate a natural resource review process throughout the county.

15. Establish joint City-County standards for road development in growth areas.
16. Assist, and/or collaborate with, municipalities to plan for roadways in their growth areas.
17. Regulate floodplain development in accordance with FEMA guidelines and county policies.
18. Periodically review the Comprehensive Plan as rural water systems in the county are modified and expanded.
19. Maintain open lines of communication with the county's rural water providers.

Chapter Four:
Plan Implementation

The preceding chapters have presented the fundamental elements of the comprehensive planning process including demographic and economic data, past and present development trends, transportation systems and environmental resources. An analysis of these elements provided a framework for preparing a plan consisting of goals and policies to assist in shaping the physical development of the county.

The Comprehensive Plan is a policy guide to decisions about the future spatial distribution of rural land uses and a visualization of how these land use patterns should occur. The plan is the foundation or basis under which legislative documents operate. Zoning and subdivision regulations are specific and detailed legislative measures intended to carry out the policies and recommendations of the Comprehensive Plan. These and other implementation tools are discussed in the following sections.

The best possible way to implement a comprehensive plan is to utilize all of the administrative tools available in order to influence development in a positive manner. There are many tools which can be utilized, including zoning regulations, policy plans, capital improvements plans, and well rounded community involvement.

Local Governing and Advisory Boards. The key players in the implementation of a Comprehensive Plan are the Planning Commission and the County Commission. It is the duty of the governing bodies of Brown County and its municipalities to encourage progress by utilizing all of the tools available, so that orderly growth and development can take place. With public input, the Planning Commission and the County Commission can create a balance between industry, commerce, and housing, and can utilize all of the resources available to facilitate civic improvement.

Zoning Regulations. Zoning is the most commonly used legal mechanism to achieve the goals and policies of a comprehensive plan. The county's zoning ordinance regulates land use activities in the unincorporated area. The Comprehensive Plan stresses the importance of avoiding scattered and sprawl development in the rural area.

Capital Improvements Planning. The purpose of capital improvements planning is to provide local government officials with a guide for budgeting for major improvements which will benefit the community. Before future development can be considered, the County must review current infrastructure and identify any deficiencies which need to be corrected prior to the development. It is the intention of the County to review and upgrade as needed existing infrastructure and transportation routes on an ongoing basis.

Appendix A

LIST OF MAPS

LIST OF TABLES

LIST OF FIGURES